EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.C – Green research and innovation
C.2 – Horizon Europe Energy

GRANT AGREEMENT

Project 101083460 — WIMBY

PREAMBLE

This **Agreement** ('the Agreement') is **between** the following parties:

on the one part,

the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and

on the other part,

1. 'the coordinator':

VRIJE UNIVERSITEIT BRUSSEL (VUB), PIC 999902094, established in PLEINLAAN 2, BRUSSEL 1050, Belgium,

and the following other beneficiaries, if they sign their 'accession form' (see Annex 3 and Article 40):

2. **DANMARKS TEKNISKE UNIVERSITET (DTU)**, PIC 999990655, established in ANKER ENGELUNDSVEJ 1 BYGNING 101 A, KGS LYNGBY 2800, Denmark,

3. **INTERNATIONALES INSTITUT FUER ANGEWANDTE SYSTEMANALYSE (IIASA)**, PIC 999452596, established in Schlossplatz 1, LAXENBURG 2361, Austria,

4. **UNIVERSITAET FUER BODENKULTUR WIEN (BOKU)**, PIC 999987357, established in GREGOR MENDEL STRASSE 33, WIEN 1180, Austria,

5. **UNIVERSITETET I OSLO (UiO)**, PIC 999975814, established in PROBLEMVEIEN 5-7, OSLO 0313, Norway,

6. **NAZKA MAPPS BVBA (NAZKA)**, PIC 952237749, established in RAVESTEINSTRAAT 48 A, BOORTMEERBEEK 3191, Belgium,

7. **KELSO INSTITUTE EUROPE GEMEINNUTZIGE GMBH (KIE)**, PIC 888244424, established in KREUZBERGSTRASSE 76, BERLIN 10965, Germany,

8. **DEEP BLUE SRL (DEEP BLUE)**, PIC 998325941, established in VIA ENNIO QUIRINO VISCONTI 8, ROMA 00193, Italy,

9. **UNIVERSITEIT UTRECHT (UU)**, PIC 999985805, established in HEIDELBERGLAAN 8, UTRECHT 3584 CS, Netherlands,

10. **POLITECNICO DI TORINO (POLITO)**, PIC 999977754, established in CORSO DUCA DEGLI ABRUZZI 24, TORINO 10129, Italy,

11. **UNIVERSITA DEGLI STUDI DI PALERMO (UNIPA)**, PIC 999734284, established in PIAZZA MARINA 61, PALERMO 90133, Italy,

12. **APREN-ASSOCIACAO PORTUGUESA DE ENERGIAS RENOVAVEIS (APREN)**, PIC 928041778, established in AVENIDA SIDONIO PAIS 18 R C ESQ, LISBOA 1050 215, Portugal,

13. **MULTICONSULT NORGE AS (MCN)**, PIC 910046241, established in NEDRE SKOYEN VEI 2, OSLO 0276, Norway,

Unless otherwise specified, references to 'beneficiary' or 'beneficiaries' include the coordinator and affiliated entities (if any).

If only one beneficiary signs the grant agreement ('mono-beneficiary grant'), all provisions referring to the 'coordinator' or the 'beneficiaries' will be considered — mutatis mutandis — as referring to the beneficiary.

The parties referred to above have agreed to enter into the Agreement.

By signing the Agreement and the accession forms, the beneficiaries accept the grant and agree to implement the action under their own responsibility and in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

The Agreement is composed of:

Preamble

Terms and Conditions (including Data Sheet)

Annex 1 Description of the action[1]

Annex 2 Estimated budget for the action

Annex 2a Additional information on unit costs and contributions (if applicable)

Annex 3 Accession forms (if applicable)[2]

Annex 3a Declaration on joint and several liability of affiliated entities (if applicable)[3]

Annex 4 Model for the financial statements

Annex 5 Specific rules (if applicable)

[1] Template published on Portal Reference Documents.
[2] Template published on Portal Reference Documents.
[3] Template published on Portal Reference Documents.

TERMS AND CONDITIONS

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DATA SHEET

1. General data

Project summary:

Project summary
Wind power is one of the fastest-growing, most mature and cost-competitive renewable energy technologies. But its deployment faces significant challenges due to a lack of understanding of the (distribution of) complex (positive and negative) impacts and their interplay with low local acceptance. WIMBY addresses these challenges by fostering the societal engagement of citizens and stakeholders so that wind energy gains substantially more popular support, thereby enabling its role in Europe's decarbonisation goals. To do so, WIMBY translates the results of in-depth models to assess the potential for the development of wind parks into useful and comprehensive information and tools for stakeholders, facilitating decision making towards lower impact and more participative wind energy deployment. To thoroughly assess location-dependent potential impacts, conflicts and synergies of wind power deployment on the natural and social environment, WIMBY combines high resolution spatially explicit techno-economic models under multiple regulatory frameworks, with models to assess environmental, security and health impacts on the one hand, and models to determine potential synergies in ecosystems on the other. WIMBY follows a citizens' science approach for dissemination supported through a Web-GIS interactive forum that improves upon the content and functionality of the New European Wind Atlas. On a community level, we study four geographically, climatically and socio-economically diverse pilot cases across the EU, where detailed modelling and an immersive 3D platform and a Multi-Criteria Satisfaction Analysis framework are employed in workshops with stakeholders of potential projects. Throughout the project, WIMBY deepens the knowledge of the drivers and barriers for social acceptance and develops guidelines to raise public understanding and engagement with wind power, especially promoting the uptake of new generations of large(r) wind power turbines and farms.

Keywords:

- Renewable electricity
- Wind

Project number: 101083460

Project name: Wind In My Backyard: Using holistic modelling tools to advance social awareness and engagement on large wind power installations in the EU

Project acronym: WIMBY

Call: HORIZON-CL5-2021-D3-03

Topic: HORIZON-CL5-2021-D3-03-05

Type of action: HORIZON Research and Innovation Actions

Granting authority: European Climate, Infrastructure and Environment Executive Agency

Grant managed through EU Funding & Tenders Portal: Yes (eGrants)

Project starting date: fixed date: 1 January 2023

Project end date: 31 December 2025

Project duration: 36 months

Consortium agreement: Yes

2. Participants

List of participants:

N°	Role	Short name	Legal name	Ctry	PIC	Total eligible costs (BEN and AE)	Max grant amount
1	COO	VUB	VRIJE UNIVERSITEIT BRUSSEL	BE	999902094	495 625.00	495 625.00
2	BEN	DTU	DANMARKS TEKNISKE UNIVERSITET	DK	999990655	408 750.00	408 750.00

N°	Role	Short name	Legal name	Ctry	PIC	Total eligible costs (BEN and AE)	Max grant amount
3	BEN	IIASA	INTERNATIONALES INSTITUT FUER ANGEWANDTE SYSTEMANALYSE	AT	999452596	206 250.00	206 250.00
4	BEN	BOKU	UNIVERSITAET FUER BODENKULTUR WIEN	AT	999987357	692 715.00	692 715.00
5	BEN	UiO	UNIVERSITETET I OSLO	NO	999975814	173 497.50	173 497.50
6	BEN	NAZKA	NAZKA MAPPS BVBA	BE	952237749	106 825.00	106 825.00
7	BEN	KIE	KELSO INSTITUTE EUROPE GEMEINNUTZIGE GMBH	DE	888244424	345 968.75	345 968.75
8	BEN	DEEP BLUE	DEEP BLUE SRL	IT	998325941	287 875.00	287 875.00
9	BEN	UU	UNIVERSITEIT UTRECHT	NL	999985805	298 312.50	298 312.50
10	BEN	POLITO	POLITECNICO DI TORINO	IT	999977754	70 165.00	70 165.00
11	BEN	UNIPA	UNIVERSITA DEGLI STUDI DI PALERMO	IT	999734284	50 625.00	50 625.00
12	BEN	APREN	APREN-ASSOCIACAO PORTUGUESA DE ENERGIAS RENOVAVEIS	PT	928041778	88 908.75	88 908.75
13	BEN	MCN	MULTICONSULT NORGE AS	NO	910046241	120 937.50	120 937.50
14	AP	ETH Zürich	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	CH	999979015	0.00	0.00
15	AP	PSI	PAUL SCHERRER INSTITUT	CH	999994923	0.00	0.00
16	AP	UCL	UNIVERSITY COLLEGE LONDON	UK	999975620	0.00	0.00
Total						3 346 455.00	3 346 455.00

Coordinator:

– VRIJE UNIVERSITEIT BRUSSEL (VUB)

3. Grant

Maximum grant amount, total estimated eligible costs and contributions and funding rate:

Total eligible costs (BEN and AE)	Funding rate (%)	Maximum grant amount (Annex 2)	Maximum grant amount (award decision)
3 346 455.00	100	3 346 455.00	3 346 455.00

Grant form: Budget-based

Grant mode: Action grant

Budget categories/activity types:

- A. Personnel costs
  - A.1 Employees, A.2 Natural persons under direct contract, A.3 Seconded persons
  - A.4 SME owners and natural person beneficiaries
- B. Subcontracting costs
- C. Purchase costs
  - C.1 Travel and subsistence
  - C.2 Equipment
  - C.3 Other goods, works and services
- D. Other cost categories
  - D.2 Internally invoiced goods and services
- E. Indirect costs

Cost eligibility options:

- In-kind contributions eligible costs
- Parental leave
- Project-based supplementary payments
- Average personnel costs (unit cost according to usual cost accounting practices)
- Limitation for subcontracting
- Travel and subsistence:
  - Travel: Actual costs
  - Accommodation: Actual costs
  - Subsistence: Actual costs
- Equipment: depreciation only
- Indirect cost flat-rate: 25% of the eligible direct costs (categories A-D, except volunteers costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any)
- VAT: Yes
- Other ineligible costs

Budget flexibility: Yes (no flexibility cap)

4. Reporting, payments and recoveries

4.1 Continuous reporting (art 21)

Deliverables: see Funding & Tenders Portal Continuous Reporting tool

4.2 Periodic reporting and payments

Reporting and payment schedule (art 21, 22):

Reporting					Payments	
Reporting periods			Type	Deadline	Type	Deadline (time to pay)
RP No	Month from	Month to				
					Initial prefinancing	30 days from entry into force/10 days before starting date – whichever is the latest
1	1	18	Periodic report	60 days after end of reporting period	Interim payment	90 days from receiving periodic report
2	19	36	Periodic report	60 days after end of reporting period	Final payment	90 days from receiving periodic report

Prefinancing payments and guarantees:

Prefinancing payment	
Type	**Amount**
Prefinancing 1 (initial)	2 677 164.00

Reporting and payment modalities (art 21, 22):

Mutual Insurance Mechanism (MIM): Yes

MIM contribution: 5% of the maximum grant amount (167 322.75), retained from the initial prefinancing

Restrictions on distribution of initial prefinancing: The prefinancing may be distributed only if the minimum number of beneficiaries set out in the call condititions (if any) have acceded to the Agreement and only to beneficiaries that have acceded.

Interim payment ceiling (if any): 90% of the maximum grant amount

Exception for revenues: Yes

No-profit rule: Yes

Late payment interest: ECB + 3.5%

Bank account for payments:

BE10001340957504

Conversion into euros: Double conversion

Reporting language: Language of the Agreement

4.3 Certificates (art 24):

Certificates on the financial statements (CFS):

Conditions:

Schedule: only at final payment, if threshold is reached

Standard threshold (beneficiary-level):

- financial statement: requested EU contribution to costs ≥ EUR 430 000.00

Special threshold for beneficiaries with a systems and process audit(see Article 24): financial statement: requested EU contribution to costs ≥ EUR 725 000.00

4.4 Recoveries (art 22)

First-line liability for recoveries:

Beneficiary termination: Beneficiary concerned

Final payment: Each beneficiary for their own debt

After final payment: Beneficiary concerned

Joint and several liability for enforced recoveries (in case of non-payment):

Individual financial responsibility: Each beneficiary is liable only for its own debts (and those of its affiliated entities, if any)

5. Consequences of non-compliance, applicable law & dispute settlement forum

Suspension and termination:

Additional suspension grounds (art 31)

Additional termination grounds (art 32)

Applicable law (art 43):

Standard applicable law regime: EU law + law of Belgium

Dispute settlement forum (art 43):

Standard dispute settlement forum:

EU beneficiaries: EU General Court + EU Court of Justice (on appeal)

Non-EU beneficiaries: Courts of Brussels, Belgium (unless an international agreement provides for the enforceability of EU court judgements)

6. Other

Specific rules (Annex 5): Yes

Standard time-limits after project end:

Confidentiality (for X years after final payment): 5

Record-keeping (for X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Reviews (up to X years after final payment): 2

Audits (up to X years after final payment): 2

Extension of findings from other grants to this grant (no later than X years after final payment): 2

Impact evaluation (up to X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

CHAPTER 1 GENERAL

ARTICLE 1 — SUBJECT OF THE AGREEMENT

This Agreement sets out the rights and obligations and terms and conditions applicable to the grant awarded for the implementation of the action set out in Chapter 2.

ARTICLE 2 — DEFINITIONS

For the purpose of this Agreement, the following definitions apply:

Actions — The project which is being funded in the context of this Agreement.

Grant — The grant awarded in the context of this Agreement.

EU grants — Grants awarded by EU institutions, bodies, offices or agencies (including EU executive agencies, EU regulatory agencies, EDA, joint undertakings, etc.).

Participants — Entities participating in the action as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties.

Beneficiaries (BEN) — The signatories of this Agreement (either directly or through an accession form).

Affiliated entities (AE) — Entities affiliated to a beneficiary within the meaning of Article 187 of EU Financial Regulation 2018/1046[4] which participate in the action with similar rights and obligations as the beneficiaries (obligation to implement action tasks and right to charge costs and claim contributions).

Associated partners (AP) — Entities which participate in the action, but without the right to charge costs or claim contributions.

Purchases — Contracts for goods, works or services needed to carry out the action (e.g. equipment, consumables and supplies) but which are not part of the action tasks (see Annex 1).

Subcontracting — Contracts for goods, works or services that are part of the action tasks (see Annex 1).

In-kind contributions — In-kind contributions within the meaning of Article 2(36) of EU Financial

[4] For the definition, see Article 187 Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 ('EU Financial Regulation') (OJ L 193, 30.7.2018, p. 1): "**affiliated entities** [are]:
(a) entities that form a sole beneficiary [(i.e. where an entity is formed of several entities that satisfy the criteria for being awarded a grant, including where the entity is specifically established for the purpose of implementing an action to be financed by a grant)];
(b) entities that satisfy the eligibility criteria and that do not fall within one of the situations referred to in Article 136(1) and 141(1) and that have a link with the beneficiary, in particular a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation".

Regulation 2018/1046, i.e. non-financial resources made available free of charge by third parties.

Fraud — Fraud within the meaning of Article 3 of EU Directive 2017/1371[5] and Article 1 of the Convention on the protection of the European Communities' financial interests, drawn up by the Council Act of 26 July 1995[6], as well as any other wrongful or criminal deception intended to result in financial or personal gain.

Irregularities — Any type of breach (regulatory or contractual) which could impact the EU financial interests, including irregularities within the meaning of Article 1(2) of EU Regulation 2988/95[7].

Grave professional misconduct — Any type of unacceptable or improper behaviour in exercising one's profession, especially by employees, including grave professional misconduct within the meaning of Article 136(1)(c) of EU Financial Regulation 2018/1046.

Applicable EU, international and national law — Any legal acts or other (binding or non-binding) rules and guidance in the area concerned.

Portal — EU Funding & Tenders Portal; electronic portal and exchange system managed by the European Commission and used by itself and other EU institutions, bodies, offices or agencies for the management of their funding programmes (grants, procurements, prizes, etc.).

CHAPTER 2 ACTION

ARTICLE 3 — ACTION

The grant is awarded for the action **101083460** — **WIMBY** ('action'), as described in Annex 1.

ARTICLE 4 — DURATION AND STARTING DATE

The duration and the starting date of the action are set out in the Data Sheet (see Point 1).

CHAPTER 3 GRANT

ARTICLE 5 — GRANT

5.1 Form of grant

The grant is an action grant[8] which takes the form of a budget-based mixed actual cost grant (i.e. a

[5] Directive (EU) 2017/1371 of the European Parliament and of the Council of 5 July 2017 on the fight against fraud to the Union's financial interests by means of criminal law (OJ L 198, 28.7.2017, p. 29).

[6] OJ C 316, 27.11.1995, p. 48.

[7] Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

[8] For the definition, see Article 180(2)(a) EU Financial Regulation 2018/1046: '**action grant**' means an EU grant to finance "an action intended to help achieve a Union policy objective".

grant based on actual costs incurred, but which may also include other forms of funding, such as unit costs or contributions, flat-rate costs or contributions, lump sum costs or contributions or financing not linked to costs).

5.2 Maximum grant amount

The maximum grant amount is set out in the Data Sheet (see Point 3) and in the estimated budget (Annex 2).

5.3 Funding rate

The funding rate for costs is 100% of the action's eligible costs.

Contributions are not subject to any funding rate.

5.4 Estimated budget, budget categories and forms of funding

The estimated budget for the action is set out in Annex 2.

It contains the estimated eligible costs and contributions for the action, broken down by participant and budget category.

Annex 2 also shows the types of costs and contributions (forms of funding)[9] to be used for each budget category.

If unit costs or contributions are used, the details on the calculation will be explained in Annex 2a.

5.5 Budget flexibility

The budget breakdown may be adjusted — without an amendment (see Article 39) — by transfers (between participants and budget categories), as long as this does not imply any substantive or important change to the description of the action in Annex 1.

However:

- changes to the budget category for volunteers (if used) always require an amendment
- changes to budget categories with lump sums costs or contributions (if used; including financing not linked to costs) always require an amendment
- changes to budget categories with higher funding rates or budget ceilings (if used) always require an amendment
- addition of amounts for subcontracts not provided for in Annex 1 either require an amendment or simplified approval in accordance with Article 6.2
- other changes require an amendment or simplified approval, if specifically provided for in Article 6.2
- flexibility caps: not applicable.

[9] See Article 125 EU Financial Regulation 2018/1046.

ARTICLE 6 — ELIGIBLE AND INELIGIBLE COSTS AND CONTRIBUTIONS

In order to be eligible, costs and contributions must meet the **eligibility** conditions set out in this Article.

6.1 General eligibility conditions

The **general eligibility conditions** are the following:

(a) for actual costs:

(i) they must be actually incurred by the beneficiary

(ii) they must be incurred in the period set out in Article 4 (with the exception of costs relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)

(iii) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(iv) they must be incurred in connection with the action as described in Annex 1 and necessary for its implementation

(v) they must be identifiable and verifiable, in particular recorded in the beneficiary's accounts in accordance with the accounting standards applicable in the country where the beneficiary is established and with the beneficiary's usual cost accounting practices

(vi) they must comply with the applicable national law on taxes, labour and social security and

(vii) they must be reasonable, justified and must comply with the principle of sound financial management, in particular regarding economy and efficiency

(b) for unit costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the units must:

- be actually used or produced by the beneficiary in the period set out in Article 4 (with the exception of units relating to the submission of the final periodic report, which may be used or produced afterwards; see Article 21)

- be necessary for the implementation of the action and

(iii) the number of units must be identifiable and verifiable, in particular supported by records and documentation (see Article 20)

(c) for flat-rate costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the costs or contributions to which the flat-rate is applied must:

- be eligible
- relate to the period set out in Article 4 (with the exception of costs or contributions relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)

(d) for lump sum costs or contributions (if any):

(i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2

(ii) the work must be properly implemented by the beneficiary in accordance with Annex 1

(iii) the deliverables/outputs must be achieved in the period set out in Article 4 (with the exception of deliverables/outputs relating to the submission of the final periodic report, which may be achieved afterwards; see Article 21)

(e) for unit, flat-rate or lump sum costs or contributions according to usual cost accounting practices (if any):

(i) they must fulfil the general eligibility conditions for the type of cost concerned

(ii) the cost accounting practices must be applied in a consistent manner, based on objective criteria, regardless of the source of funding

(f) for financing not linked to costs (if any): the results must be achieved or the conditions must be fulfilled as described in Annex 1.

In addition, for direct cost categories (e.g. personnel, travel & subsistence, subcontracting and other direct costs) only costs that are directly linked to the action implementation and can therefore be attributed to it directly are eligible. They must not include any indirect costs (i.e. costs that are only indirectly linked to the action, e.g. via cost drivers).

In-kind contributions provided by third parties free of charge may be declared as eligible direct costs by the beneficiaries which use them (under the same conditions as if they were their own, provided that they concern only direct costs and that the third parties and their in-kind contributions are set out in Annex 1 (or approved ex post in the periodic report, if their use does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants; 'simplified approval procedure').

6.2 Specific eligibility conditions for each budget category

For each budget category, the **specific eligibility conditions** are as follows:

Direct costs

A. Personnel costs

A.1 Costs for employees (or equivalent) are eligible as personnel costs if they fulfil the general eligibility conditions and are related to personnel working for the beneficiary under an employment contract (or equivalent appointing act) and assigned to the action.

They must be limited to salaries (including net payments during parental leave), social security contributions, taxes and other costs linked to the remuneration, if they arise from national law or the employment contract (or equivalent appointing act) and be calculated on the basis of the costs actually incurred, in accordance with the following method:

{daily rate for the person

multiplied by

number of day-equivalents worked on the action (rounded up or down to the nearest half-day)}.

The daily rate must be calculated as:

{annual personnel costs for the person

divided by

215}.

The number of day-equivalents declared for a person must be identifiable and verifiable (see Article 20).

The actual time spent on parental leave by a person assigned to the action may be deducted from the 215 days indicated in the above formula.

The total number of day-equivalents declared in EU grants, for a person for a year, cannot be higher than 215, minus time spent on parental leave (if any).

For personnel which receives supplementary payments for work in projects (project-based remuneration), the personnel costs must be calculated at a rate which:

- corresponds to the actual remuneration costs paid by the beneficiary for the time worked by the person in the action over the reporting period
- does not exceed the remuneration costs paid by the beneficiary for work in similar projects funded by national schemes (‘national projects reference’)
- is defined based on objective criteria allowing to determine the amount to which the person is entitled

and

- reflects the usual practice of the beneficiary to pay consistently bonuses or supplementary payments for work in projects funded by national schemes.

The national projects reference is the remuneration defined in national law, collective labour agreement or written internal rules of the beneficiary applicable to work in projects funded by national schemes.

If there is no such national law, collective labour agreement or written internal rules or if the project-based remuneration is not based on objective criteria, the national project reference will be the average

remuneration of the person in the last full calendar year covered by the reporting period, excluding remuneration paid for work in EU actions.

If the beneficiary uses average personnel costs (unit cost according to usual cost accounting practices), the personnel costs must fulfil the general eligibility conditions for such unit costs and the daily rate must be calculated:

- using the actual personnel costs recorded in the beneficiary's accounts and excluding any costs which are ineligible or already included in other budget categories; the actual personnel costs may be adjusted on the basis of budgeted or estimated elements, if they are relevant for calculating the personnel costs, reasonable and correspond to objective and verifiable information

and

- according to usual cost accounting practices which are applied in a consistent manner, based on objective criteria, regardless of the source of funding.

A.2 and **A.3 Costs for natural persons working under a direct contract** other than an employment contract and costs for **seconded persons by a third party against payment** are also eligible as personnel costs, if they are assigned to the action, fulfil the general eligibility conditions and:

(a) work under conditions similar to those of an employee (in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed) and

(b) the result of the work belongs to the beneficiary (unless agreed otherwise).

They must be calculated on the basis of a rate which corresponds to the costs actually incurred for the direct contract or secondment and must not be significantly different from those for personnel performing similar tasks under an employment contract with the beneficiary.

A.4 The work of **SME owners** for the action (i.e. owners of beneficiaries that are small and medium-sized enterprises[10] not receiving a salary) or **natural person beneficiaries** (i.e. beneficiaries that are natural persons not receiving a salary) may be declared as personnel costs, if they fulfil the general eligibility conditions and are calculated as unit costs in accordance with the method set out in Annex 2a.

B. Subcontracting costs

Subcontracting costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible, if they are calculated on the basis of the costs actually incurred, fulfil the general eligibility conditions and are awarded using the

[10] For the definition, see Commission Recommendation 2003/361/EC: micro, small or medium-sized enterprise (SME) are enterprises

- engaged in an economic activity, irrespective of their legal form (including, in particular, self- employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity) and

- employing fewer than 250 persons (expressed in 'annual working units' as defined in Article 5 of the Recommendation) and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

beneficiary's usual purchasing practices — provided these ensure subcontracts with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

Beneficiaries that are 'contracting authorities/entities' within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

Subcontracting may cover only a limited part of the action.

The tasks to be subcontracted and the estimated cost for each subcontract must be set out in Annex 1 and the total estimated costs of subcontracting per beneficiary must be set out in Annex 2 (or may be approved ex post in the periodic report, if the use of subcontracting does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants; 'simplified approval procedure').

C. Purchase costs

Purchase costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible if they fulfil the general eligibility conditions and are bought using the beneficiary's usual purchasing practices — provided these ensure purchases with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

Beneficiaries that are 'contracting authorities/entities' within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

C.1 Travel and subsistence

Purchases for **travel, accommodation** and **subsistence** must be calculated as follows:

- travel: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel
- accommodation: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel
- subsistence: on the basis of the costs actually incurred and in line with the beneficiary's usual practices on travel .

C.2 Equipment

Purchases of **equipment, infrastructure or other assets** used for the action must be declared as depreciation costs, calculated on the basis of the costs actually incurred and written off in accordance with international accounting standards and the beneficiary's usual accounting practices.

Only the portion of the costs that corresponds to the rate of actual use for the action during the action duration can be taken into account.

Costs for **renting or leasing** equipment, infrastructure or other assets are also eligible, if they do not exceed the depreciation costs of similar equipment, infrastructure or assets and do not include any financing fees.

C.3 Other goods, works and services

Purchases of **other goods, works and services** must be calculated on the basis of the costs actually incurred.

Such goods, works and services include, for instance, consumables and supplies, promotion, dissemination, protection of results, translations, publications, certificates and financial guarantees, if required under the Agreement.

D. Other cost categories

D.2 Internally invoiced goods and services

Costs for internally invoiced goods and services directly used for the action may be declared as unit cost according to usual cost accounting practices, if and as declared eligible in the call conditions, if they fulfil the general eligibility conditions for such unit costs and the amount per unit is calculated:

- using the actual costs for the good or service recorded in the beneficiary's accounts, attributed either by direct measurement or on the basis of cost drivers, and excluding any cost which are ineligible or already included in other budget categories; the actual costs may be adjusted on the basis of budgeted or estimated elements, if they are relevant for calculating the costs, reasonable and correspond to objective and verifiable information

and

- according to usual cost accounting practices which are applied in a consistent manner, based on objective criteria, regardless of the source of funding.

'Internally invoiced goods and services' means goods or services which are provided within the beneficiary's organisation directly for the action and which the beneficiary values on the basis of its usual cost accounting practices.

This cost will not be taken into account for the indirect cost flat-rate.

Indirect costs

E. Indirect costs

Indirect costs will be reimbursed at the flat-rate of 25% of the eligible direct costs (categories A-D, except volunteers costs, subcontracting costs, financial support to third parties and exempted specific cost categories, if any).

Contributions

Not applicable

6.3 Ineligible costs and contributions

The following costs or contributions are **ineligible**:

(a) costs or contributions that do not comply with the conditions set out above (Article 6.1 and 6.2), in particular:

(i) costs related to return on capital and dividends paid by a beneficiary

(ii) debt and debt service charges

(iii) provisions for future losses or debts

(iv) interest owed

(v) currency exchange losses

(vi) bank costs charged by the beneficiary's bank for transfers from the granting authority

(vii) excessive or reckless expenditure

(viii) deductible or refundable VAT (including VAT paid by public bodies acting as public authority)

(ix) costs incurred or contributions for activities implemented during grant agreement suspension (see Article 31)

(x) in-kind contributions by third parties: not applicable

(b) costs or contributions declared under other EU grants (or grants awarded by an EU Member State, non-EU country or other body implementing the EU budget), except for the following cases:

(i) Synergy actions: not applicable

(ii) if the action grant is combined with an operating grant[11] running during the same period and the beneficiary can demonstrate that the operating grant does not cover any (direct or indirect) costs of the action grant

(c) costs or contributions for staff of a national (or regional/local) administration, for activities that are part of the administration's normal activities (i.e. not undertaken only because of the grant)

(d) costs or contributions (especially travel and subsistence) for staff or representatives of EU institutions, bodies or agencies

(e) other :

(i) country restrictions for eligible costs: not applicable

(ii) costs or contributions declared specifically ineligible in the call conditions.

6.4 Consequences of non-compliance

If a beneficiary declares costs or contributions that are ineligible, they will be rejected (see Article 27).

This may also lead to other measures described in Chapter 5.

[11] For the definition, see Article 180(2)(b) of EU Financial Regulation 2018/1046: '**operating grant**' means an EU grant to finance "the functioning of a body which has an objective forming part of and supporting an EU policy".

CHAPTER 4 GRANT IMPLEMENTATION

SECTION 1 CONSORTIUM: BENEFICIARIES, AFFILIATED ENTITIES AND OTHER PARTICIPANTS

ARTICLE 7 — BENEFICIARIES

The beneficiaries, as signatories of the Agreement, are fully responsible towards the granting authority for implementing it and for complying with all its obligations.

They must implement the Agreement to their best abilities, in good faith and in accordance with all the obligations and terms and conditions it sets out.

They must have the appropriate resources to implement the action and implement the action under their own responsibility and in accordance with Article 11. If they rely on affiliated entities or other participants (see Articles 8 and 9), they retain sole responsibility towards the granting authority and the other beneficiaries.

They are jointly responsible for the *technical* implementation of the action. If one of the beneficiaries fails to implement their part of the action, the other beneficiaries must ensure that this part is implemented by someone else (without being entitled to an increase of the maximum grant amount and subject to an amendment; see Article 39). The *financial* responsibility of each beneficiary in case of recoveries is governed by Article 22.

The beneficiaries (and their action) must remain eligible under the EU programme funding the grant for the entire duration of the action. Costs and contributions will be eligible only as long as the beneficiary and the action are eligible.

The **internal roles and responsibilities** of the beneficiaries are divided as follows:

(a) Each beneficiary must:

(i) keep information stored in the Portal Participant Register up to date (see Article 19)

(ii) inform the granting authority (and the other beneficiaries) immediately of any events or circumstances likely to affect significantly or delay the implementation of the action (see Article 19)

(iii) submit to the coordinator in good time:

- the prefinancing guarantees (if required; see Article 23)
- the financial statements and certificates on the financial statements (CFS) (if required; see Articles 21 and 24.2 and Data Sheet, Point 4.3)
- the contribution to the deliverables and technical reports (see Article 21)
- any other documents or information required by the granting authority under the Agreement

(iv) submit via the Portal data and information related to the participation of their affiliated entities.

(b) The coordinator must:

(i) monitor that the action is implemented properly (see Article 11)

(ii) act as the intermediary for all communications between the consortium and the granting authority, unless the Agreement or granting authority specifies otherwise, and in particular:

- submit the prefinancing guarantees to the granting authority (if any)
- request and review any documents or information required and verify their quality and completeness before passing them on to the granting authority
- submit the deliverables and reports to the granting authority
- inform the granting authority about the payments made to the other beneficiaries (report on the distribution of payments; if required, see Articles 22 and 32)

(iii) distribute the payments received from the granting authority to the other beneficiaries without unjustified delay (see Article 22).

The coordinator may not delegate or subcontract the above-mentioned tasks to any other beneficiary or third party (including affiliated entities).

However, coordinators which are public bodies may delegate the tasks set out in Point (b)(ii) last indent and (iii) above to entities with 'authorisation to administer' which they have created or which are controlled by or affiliated to them. In this case, the coordinator retains sole responsibility for the payments and for compliance with the obligations under the Agreement.

Moreover, coordinators which are 'sole beneficiaries'[12] (or similar, such as European research infrastructure consortia (ERICs)) may delegate the tasks set out in Point (b)(i) to (iii) above to one of their members. The coordinator retains sole responsibility for compliance with the obligations under the Agreement.

The beneficiaries must have **internal arrangements** regarding their operation and co-ordination, to ensure that the action is implemented properly.

If required by the granting authority (see Data Sheet, Point 1), these arrangements must be set out in a written **consortium agreement** between the beneficiaries, covering for instance:

- the internal organisation of the consortium
- the management of access to the Portal
- different distribution keys for the payments and financial responsibilities in case of recoveries (if any)
- additional rules on rights and obligations related to background and results (see Article 16)

[12] For the definition, see Article 187(2) EU Financial Regulation 2018/1046: "Where several entities satisfy the criteria for being awarded a grant and together form one entity, that entity may be treated as the **sole beneficiary**, including where it is specifically established for the purpose of implementing the action financed by the grant."

- settlement of internal disputes
- liability, indemnification and confidentiality arrangements between the beneficiaries.

The internal arrangements must not contain any provision contrary to this Agreement.

ARTICLE 8 — AFFILIATED ENTITIES

Not applicable

ARTICLE 9 — OTHER PARTICIPANTS INVOLVED IN THE ACTION

9.1 Associated partners

The following entities which cooperate with a beneficiary will participate in the action as 'associated partners':

- **EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH (ETH Zürich)**, PIC 999979015
- **PAUL SCHERRER INSTITUT (PSI)**, PIC 999994923
- **UNIVERSITY COLLEGE LONDON (UCL)**, PIC 999975620

Associated partners must implement the action tasks attributed to them in Annex 1 in accordance with Article 11. They may not charge costs or contributions to the action and the costs for their tasks are not eligible.

The tasks must be set out in Annex 1.

The beneficiaries must ensure that their contractual obligations under Articles 11 (proper implementation), 12 (conflict of interests), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the associated partners.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the associated partners.

9.2 Third parties giving in-kind contributions to the action

Other third parties may give in-kind contributions to the action (i.e. personnel, equipment, other goods, works and services, etc. which are free-of-charge) if necessary for the implementation.

Third parties giving in-kind contributions do not implement any action tasks. They may not charge costs or contributions to the action, but the costs for the in-kind contributions are eligible and may be charged by the beneficiaries which use them, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries' costs.

The third parties and their in-kind contributions should be set out in Annex 1.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF,

Court of Auditors (ECA), etc.) can exercise their rights also towards the third parties giving in-kind contributions.

9.3 Subcontractors

Subcontractors may participate in the action, if necessary for the implementation.

Subcontractors must implement their action tasks in accordance with Article 11. The costs for the subcontracted tasks (invoiced price from the subcontractor) are eligible and may be charged by the beneficiaries, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries' costs.

The beneficiaries must ensure that their contractual obligations under Articles 11 (proper implementation), 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the subcontractors.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the subcontractors.

9.4 Recipients of financial support to third parties

If the action includes providing financial support to third parties (e.g. grants, prizes or similar forms of support), the beneficiaries must ensure that their contractual obligations under Articles 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping)also apply to the third parties receiving the support (recipients).

The beneficiaries must also ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the recipients.

ARTICLE 10 — PARTICIPANTS WITH SPECIAL STATUS

10.1 Non-EU participants

Participants which are established in a non-EU country (if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)

- for the submission of certificates under Article 24: to use qualified external auditors which are independent and comply with comparable standards as those set out in EU Directive 2006/43/EC[13]

- for the controls under Article 25: to allow for checks, reviews, audits and investigations

[13] Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts or similar national regulations (OJ L 157, 9.6.2006, p. 87).

(including on-the-spot checks, visits and inspections) by the bodies mentioned in that Article (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.).

Special rules on dispute settlement apply (see Data Sheet, Point 5).

10.2 Participants which are international organisations

Participants which are international organisations (IOs; if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)

- for the submission of certificates under Article 24: to use either independent public officers or external auditors which comply with comparable standards as those set out in EU Directive 2006/43/EC

- for the controls under Article 25: to allow for the checks, reviews, audits and investigations by the bodies mentioned in that Article, taking into account the specific agreements concluded by them and the EU (if any).

For such participants, nothing in the Agreement will be interpreted as a waiver of their privileges or immunities, as accorded by their constituent documents or international law.

Special rules on applicable law and dispute settlement apply (see Article 43 and Data Sheet, Point 5).

10.3 Pillar-assessed participants

Pillar-assessed participants (if any) may rely on their own systems, rules and procedures, in so far as they have been positively assessed and do not call into question the decision awarding the grant or breach the principle of equal treatment of applicants or beneficiaries.

'Pillar-assessment' means a review by the European Commission on the systems, rules and procedures which participants use for managing EU grants (in particular internal control system, accounting system, external audits, financing of third parties, rules on recovery and exclusion, information on recipients and protection of personal data; see Article 154 EU Financial Regulation 2018/1046).

Participants with a positive pillar assessment may rely on their own systems, rules and procedures, in particular for:

- record-keeping (Article 20): may be done in accordance with internal standards, rules and procedures

- currency conversion for financial statements (Article 21): may be done in accordance with usual accounting practices

- guarantees (Article 23): for public law bodies, prefinancing guarantees are not needed

- certificates (Article 24):

    - certificates on the financial statements (CFS): may be provided by their regular internal

or external auditors and in accordance with their internal financial regulations and procedures

- certificates on usual accounting practices (CoMUC): are not needed if those practices are covered by an ex-ante assessment

and use the following specific rules, for:

- recoveries (Article 22): in case of financial support to third parties, there will be no recovery if the participant has done everything possible to retrieve the undue amounts from the third party receiving the support (including legal proceedings) and non-recovery is not due to an error or negligence on its part

- checks, reviews, audits and investigations by the EU (Article 25): will be conducted taking into account the rules and procedures specifically agreed between them and the framework agreement (if any)

- impact evaluation (Article 26): will be conducted in accordance with the participant's internal rules and procedures and the framework agreement (if any)

- grant agreement suspension (Article 31): certain costs incurred during grant suspension are eligible (notably, minimum costs necessary for a possible resumption of the action and costs relating to contracts which were entered into before the pre-information letter was received and which could not reasonably be suspended, reallocated or terminated on legal grounds)

- grant agreement termination (Article 32): the final grant amount and final payment will be calculated taking into account also costs relating to contracts due for execution only after termination takes effect, if the contract was entered into before the pre-information letter was received and could not reasonably be terminated on legal grounds

- liability for damages (Article 33.2): the granting authority must be compensated for damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement only if the damage is due to an infringement of the participant's internal rules and procedures or due to a violation of third parties' rights by the participant or one of its employees or individual for whom the employees are responsible.

Participants whose pillar assessment covers procurement and granting procedures may also do purchases, subcontracting and financial support to third parties (Article 6.2) in accordance with their internal rules and procedures for purchases, subcontracting and financial support.

Participants whose pillar assessment covers data protection rules may rely on their internal standards, rules and procedures for data protection (Article 15).

The participants may however not rely on provisions which would breach the principle of equal treatment of applicants or beneficiaries or call into question the decision awarding the grant, such as in particular:

- eligibility (Article 6)

- consortium roles and set-up (Articles 7-9)

- security and ethics (Articles 13, 14)
- IPR (including background and results, access rights and rights of use), communication, dissemination and visibility (Articles 16 and 17)
- information obligation (Article 19)
- payment, reporting and amendments (Articles 21, 22 and 39)
- rejections, reductions, suspensions and terminations (Articles 27, 28, 29-32)

If the pillar assessment was subject to remedial measures, reliance on the internal systems, rules and procedures is subject to compliance with those remedial measures.

Participants whose assessment has not yet been updated to cover (the new rules on) data protection may rely on their internal systems, rules and procedures, provided that they ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subject
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the personal data.

Participants must inform the coordinator without delay of any changes to the systems, rules and procedures that were part of the pillar assessment. The coordinator must immediately inform the granting authority.

Pillar-assessed participants that have also concluded a framework agreement with the EU, may moreover — under the same conditions as those above (i.e. not call into question the decision awarding the grant or breach the principle of equal treatment of applicants or beneficiaries) — rely on the provisions set out in that framework agreement.

SECTION 2 RULES FOR CARRYING OUT THE ACTION

ARTICLE 11 — PROPER IMPLEMENTATION OF THE ACTION

11.1 Obligation to properly implement the action

The beneficiaries must implement the action as described in Annex 1 and in compliance with the provisions of the Agreement, the call conditions and all legal obligations under applicable EU, international and national law.

11.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 12 — CONFLICT OF INTERESTS

12.1 Conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the Agreement could be compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other direct or indirect interest (‘conflict of interests’).

They must formally notify the granting authority without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The granting authority may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

12.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28) and the grant or the beneficiary may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 13 — CONFIDENTIALITY AND SECURITY

13.1 Sensitive information

The parties must keep confidential any data, documents or other material (in any form) that is identified as sensitive in writing (‘sensitive information’) — during the implementation of the action and for at least until the time-limit set out in the Data Sheet (see Point 6).

If a beneficiary requests, the granting authority may agree to keep such information confidential for a longer period.

Unless otherwise agreed between the parties, they may use sensitive information only to implement the Agreement.

The beneficiaries may disclose sensitive information to their personnel or other participants involved in the action only if they:

(a) need to know it in order to implement the Agreement and

(b) are bound by an obligation of confidentiality.

The granting authority may disclose sensitive information to its staff and to other EU institutions and bodies.

It may moreover disclose sensitive information to third parties, if:

(a) this is necessary to implement the Agreement or safeguard the EU financial interests and

(b) the recipients of the information are bound by an obligation of confidentiality.

The confidentiality obligations no longer apply if:

(a) the disclosing party agrees to release the other party

(b) the information becomes publicly available, without breaching any confidentiality obligation

(c) the disclosure of the sensitive information is required by EU, international or national law.

Specific confidentiality rules (if any) are set out in Annex 5.

13.2 Classified information

The parties must handle classified information in accordance with the applicable EU, international or national law on classified information (in particular, Decision 2015/444[14] and its implementing rules).

Deliverables which contain classified information must be submitted according to special procedures agreed with the granting authority.

Action tasks involving classified information may be subcontracted only after explicit approval (in writing) from the granting authority.

Classified information may not be disclosed to any third party (including participants involved in the action implementation) without prior explicit written approval from the granting authority.

Specific security rules (if any) are set out in Annex 5.

13.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 14 — ETHICS AND VALUES

14.1 Ethics

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles.

Specific ethics rules (if any) are set out in Annex 5.

14.2 Values

The beneficiaries must commit to and ensure the respect of basic EU values (such as respect for

[14] Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities).

Specific rules on values (if any) are set out in Annex 5.

14.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 15 — DATA PROTECTION

15.1 Data processing by the granting authority

Any personal data under the Agreement will be processed under the responsibility of the data controller of the granting authority in accordance with and for the purposes set out in the Portal Privacy Statement.

For grants where the granting authority is the European Commission, an EU regulatory or executive agency, joint undertaking or other EU body, the processing will be subject to Regulation 2018/1725[15].

15.2 Data processing by the beneficiaries

The beneficiaries must process personal data under the Agreement in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679[16]).

They must ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subjects
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the data.

[15] Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

[16] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (‘GDPR’) (OJ L 119, 4.5.2016, p. 1).

The beneficiaries may grant their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the Agreement. The beneficiaries must ensure that the personnel is under a confidentiality obligation.

The beneficiaries must inform the persons whose data are transferred to the granting authority and provide them with the Portal Privacy Statement.

15.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 16 — INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS —ACCESS RIGHTS AND RIGHTS OF USE

16.1 Background and access rights to background

The beneficiaries must give each other and the other participants access to the background identified as needed for implementing the action, subject to any specific rules in Annex 5.

'Background' means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is:

(a) held by the beneficiaries before they acceded to the Agreement and

(b) needed to implement the action or exploit the results.

If background is subject to rights of a third party, the beneficiary concerned must ensure that it is able to comply with its obligations under the Agreement.

16.2 Ownership of results

The granting authority does not obtain ownership of the results produced under the action.

'Results' means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights.

16.3 Rights of use of the granting authority on materials, documents and information received for policy, information, communication, dissemination and publicity purposes

The granting authority has the right to use non-sensitive information relating to the action and materials and documents received from the beneficiaries (notably summaries for publication, deliverables, as well as any other material, such as pictures or audio-visual material, in paper or electronic form) for policy, information, communication, dissemination and publicity purposes — during the action or afterwards.

The right to use the beneficiaries' materials, documents and information is granted in the form of a royalty-free, non-exclusive and irrevocable licence, which includes the following rights:

(a) **use for its own purposes** (in particular, making them available to persons working for the granting authority or any other EU service (including institutions, bodies, offices, agencies, etc.) or EU Member State institution or body; copying or reproducing them in whole or in part, in unlimited numbers; and communication through press information services)

(b) **distribution to the public** (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes)

(c) **editing or redrafting** (including shortening, summarising, inserting other elements (e.g. meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation)

(d) **translation**

(e) **storage** in paper, electronic or other form

(f) **archiving**, in line with applicable document-management rules

(g) the right to authorise **third parties** to act on its behalf or sub-license to third parties the modes of use set out in Points (b), (c), (d) and (f), if needed for the information, communication and publicity activity of the granting authority

(h) **processing**, analysing, aggregating the materials, documents and information received and **producing derivative works**.

The rights of use are granted for the whole duration of the industrial or intellectual property rights concerned.

If materials or documents are subject to moral rights or third party rights (including intellectual property rights or rights of natural persons on their image and voice), the beneficiaries must ensure that they comply with their obligations under this Agreement (in particular, by obtaining the necessary licences and authorisations from the rights holders concerned).

Where applicable, the granting authority will insert the following information:

> "© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the [name of granting authority] under conditions."

16.4 Specific rules on IPR, results and background

Specific rules regarding intellectual property rights, results and background (if any) are set out in Annex 5.

16.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

ARTICLE 17 — COMMUNICATION, DISSEMINATION AND VISIBILITY

17.1 Communication — Dissemination — Promoting the action

Unless otherwise agreed with the granting authority, the beneficiaries must promote the action and its results by providing targeted information to multiple audiences (including the media and the public), in accordance with Annex 1 and in a strategic, coherent and effective manner.

Before engaging in a communication or dissemination activity expected to have a major media impact, the beneficiaries must inform the granting authority.

17.2 Visibility — European flag and funding statement

Unless otherwise agreed with the granting authority, communication activities of the beneficiaries related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):

Funded by the
European Union

Co-funded by the
European Union

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support.

When displayed in association with other logos (e.g. of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.

For the purposes of their obligations under this Article, the beneficiaries may use the emblem without first obtaining approval from the granting authority. This does not, however, give them the right to

exclusive use. Moreover, they may not appropriate the emblem or any similar trademark or logo, either by registration or by any other means.

17.3 Quality of information — Disclaimer

Any communication or dissemination activity related to the action must use factually accurate information.

Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

> "Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them."

17.4 Specific communication, dissemination and visibility rules

Specific communication, dissemination and visibility rules (if any) are set out in Annex 5.

17.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 18 — SPECIFIC RULES FOR CARRYING OUT THE ACTION

18.1 Specific rules for carrying out the action

Specific rules for implementing the action (if any) are set out in Annex 5.

18.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

SECTION 3 GRANT ADMINISTRATION

ARTICLE 19 — GENERAL INFORMATION OBLIGATIONS

19.1 Information requests

The beneficiaries must provide — during the action or afterwards and in accordance with Article 7 — any information requested in order to verify eligibility of the costs or contributions declared, proper implementation of the action and compliance with the other obligations under the Agreement.

The information provided must be accurate, precise and complete and in the format requested, including electronic format.

19.2 Participant Register data updates

The beneficiaries must keep — at all times, during the action or afterwards — their information stored in the Portal Participant Register up to date, in particular, their name, address, legal representatives, legal form and organisation type.

19.3 Information about events and circumstances which impact the action

The beneficiaries must immediately inform the granting authority (and the other beneficiaries) of any of the following:

(a) **events** which are likely to affect or delay the implementation of the action or affect the EU's financial interests, in particular:

(i) changes in their legal, financial, technical, organisational or ownership situation (including changes linked to one of the exclusion grounds listed in the declaration of honour signed before grant signature)

(ii) linked action information: not applicable

(b) **circumstances** affecting:

(i) the decision to award the grant or

(ii) compliance with requirements under the Agreement.

19.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 20 — RECORD-KEEPING

20.1 Keeping records and supporting documents

The beneficiaries must — at least until the time-limit set out in the Data Sheet (see Point 6) — keep records and other supporting documents to prove the proper implementation of the action in line with the accepted standards in the respective field (if any).

In addition, the beneficiaries must — for the same period — keep the following to justify the amounts declared:

(a) for actual costs: adequate records and supporting documents to prove the costs declared (such as contracts, subcontracts, invoices and accounting records); in addition, the beneficiaries' usual accounting and internal control procedures must enable direct reconciliation between the amounts declared, the amounts recorded in their accounts and the amounts stated in the supporting documents

(b) for flat-rate costs and contributions (if any): adequate records and supporting documents to prove the eligibility of the costs or contributions to which the flat-rate is applied

(c) for the following simplified costs and contributions: the beneficiaries do not need to keep specific records on the actual costs incurred, but must keep:

(i) for unit costs and contributions (if any): adequate records and supporting documents to prove the number of units declared

(ii) for lump sum costs and contributions (if any): adequate records and supporting documents to prove proper implementation of the work as described in Annex 1

(iii) for financing not linked to costs (if any): adequate records and supporting documents to prove the achievement of the results or the fulfilment of the conditions as described in Annex 1

(d) for unit, flat-rate and lump sum costs and contributions according to usual cost accounting practices (if any): the beneficiaries must keep any adequate records and supporting documents to prove that their cost accounting practices have been applied in a consistent manner, based on objective criteria, regardless of the source of funding, and that they comply with the eligibility conditions set out in Articles 6.1 and 6.2.

Moreover, the following is needed for specific budget categories:

(e) for personnel costs: time worked for the beneficiary under the action must be supported by declarations signed monthly by the person and their supervisor, unless another reliable time-record system is in place; the granting authority may accept alternative evidence supporting the time worked for the action declared, if it considers that it offers an adequate level of assurance

(f) additional record-keeping rules: not applicable

The records and supporting documents must be made available upon request (see Article 19) or in the context of checks, reviews, audits or investigations (see Article 25).

If there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Article 25), the beneficiaries must keep these records and other supporting documentation until the end of these procedures.

The beneficiaries must keep the original documents. Digital and digitalised documents are considered originals if they are authorised by the applicable national law. The granting authority may accept non-original documents if they offer a comparable level of assurance.

20.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 21 — REPORTING

21.1 Continuous reporting

The beneficiaries must continuously report on the progress of the action (e.g. **deliverables, milestones, outputs/outcomes, critical risks, indicators,** etc; if any), in the Portal Continuous Reporting tool and in accordance with the timing and conditions it sets out (as agreed with the granting authority).

Standardised deliverables (e.g. progress reports not linked to payments, reports on cumulative expenditure, special reports, etc; if any) must be submitted using the templates published on the Portal.

21.2 Periodic reporting: Technical reports and financial statements

In addition, the beneficiaries must provide reports to request payments, in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2):

- for additional prefinancings (if any): an **additional prefinancing report**
- for interim payments (if any) and the final payment: a **periodic report**.

The prefinancing and periodic reports include a technical and financial part.

The technical part includes an overview of the action implementation. It must be prepared using the template available in the Portal Periodic Reporting tool.

The financial part of the additional prefinancing report includes a statement on the use of the previous prefinancing payment.

The financial part of the periodic report includes:

- the financial statements (individual and consolidated; for all beneficiaries/affiliated entities)
- the explanation on the use of resources (or detailed cost reporting table, if required)
- the certificates on the financial statements (CFS) (if required; see Article 24.2 and Data Sheet, Point 4.3).

The **financial statements** must detail the eligible costs and contributions for each budget category and, for the final payment, also the revenues for the action (see Articles 6 and 22).

All eligible costs and contributions incurred should be declared, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Amounts that are not declared in the individual financial statements will not be taken into account by the granting authority.

By signing the financial statements (directly in the Portal Periodic Reporting tool), the beneficiaries confirm that:

- the information provided is complete, reliable and true
- the costs and contributions declared are eligible (see Article 6)
- the costs and contributions can be substantiated by adequate records and supporting documents (see Article 20) that will be produced upon request (see Article 19) or in the context of checks, reviews, audits and investigations (see Article 25)
- for the final periodic report: all the revenues have been declared (if required; see Article 22).

Beneficiaries will have to submit also the financial statements of their affiliated entities (if any). In case of recoveries (see Article 22), beneficiaries will be held responsible also for the financial statements of their affiliated entities.

21.3 Currency for financial statements and conversion into euros

The financial statements must be drafted in euro.

Beneficiaries with general accounts established in a currency other than the euro must convert the costs recorded in their accounts into euro, at the average of the daily exchange rates published in the C series of the *Official Journal of the European Union* (ECB website), calculated over the corresponding reporting period.

If no daily euro exchange rate is published in the *Official Journal* for the currency in question, they must be converted at the average of the monthly accounting exchange rates published on the European Commission website (InforEuro), calculated over the corresponding reporting period.

Beneficiaries with general accounts in euro must convert costs incurred in another currency into euro according to their usual accounting practices.

21.4 Reporting language

The reporting must be in the language of the Agreement, unless otherwise agreed with the granting authority (see Data Sheet, Point 4.2).

21.5 Consequences of non-compliance

If a report submitted does not comply with this Article, the granting authority may suspend the payment deadline (see Article 29) and apply other measures described in Chapter 5.

If the coordinator breaches its reporting obligations, the granting authority may terminate the grant or the coordinator's participation (see Article 32) or apply other measures described in Chapter 5.

ARTICLE 22 — PAYMENTS AND RECOVERIES — CALCULATION OF AMOUNTS DUE

22.1 Payments and payment arrangements

Payments will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

They will be made in euro to the bank account indicated by the coordinator (see Data Sheet, Point 4.2) and must be distributed without unjustified delay (restrictions may apply to distribution of the initial prefinancing payment; see Data Sheet, Point 4.2).

Payments to this bank account will discharge the granting authority from its payment obligation.

The cost of payment transfers will be borne as follows:

- the granting authority bears the cost of transfers charged by its bank
- the beneficiary bears the cost of transfers charged by its bank

- the party causing a repetition of a transfer bears all costs of the repeated transfer.

Payments by the granting authority will be considered to have been carried out on the date when they are debited to its account.

22.2 Recoveries

Recoveries will be made, if — at beneficiary termination, final payment or afterwards — it turns out that the granting authority has paid too much and needs to recover the amounts undue.

Each beneficiary's financial responsibility in case of recovery is in principle limited to their own debt and undue amounts of their affiliated entities.

In case of enforced recoveries (see Article 22.4), affiliated entities will be held liable for repaying debts of their beneficiaries, if required by the granting authority (see Data Sheet, Point 4.4).

22.3 Amounts due

22.3.1 Prefinancing payments

The aim of the prefinancing is to provide the beneficiaries with a float.

It remains the property of the EU until the final payment.

For **initial prefinancings** (if any), the amount due, schedule and modalities are set out in the Data Sheet (see Point 4.2).

For **additional prefinancings** (if any), the amount due, schedule and modalities are also set out in the Data Sheet (see Point 4.2). However, if the statement on the use of the previous prefinancing payment shows that less than 70% was used, the amount set out in the Data Sheet will be reduced by the difference between the 70% threshold and the amount used.

The contribution to the Mutual Insurance Mechanism will be retained from the prefinancing payments (at the rate and in accordance with the modalities set out in the Data Sheet, see Point 4.2) and transferred to the Mechanism.

Prefinancing payments (or parts of them) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.2 Amount due at beneficiary termination — Recovery

In case of beneficiary termination, the granting authority will determine the provisional amount due for the beneficiary concerned. Payments (if any) will be made with the next interim or final payment.

The **amount due** will be calculated in the following step:

Step 1 — Calculation of the total accepted EU contribution

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the 'accepted EU contribution' for the beneficiary for all reporting periods, by calculating the 'maximum EU contribution to costs' (applying the funding rate to the accepted costs of the beneficiary), taking into account requests for a lower contribution to costs and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the 'total accepted EU contribution' for the beneficiary.

The **balance** is then calculated by deducting the payments received (if any; see report on the distribution of payments in Article 32), from the total accepted EU contribution:

{total accepted EU contribution for the beneficiary

minus

{prefinancing and interim payments received (if any)}}.

If the balance is **positive**, the amount will be included in the next interim or final payment to the consortium.

If the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount due, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered and ask this amount to be paid to the coordinator (**confirmation letter**).

If payment is not made to the coordinator by the date specified in the confirmation letter, the granting authority may call on the Mutual Insurance Mechanism to intervene, if continuation of the action is guaranteed and the conditions set out in the rules governing the Mechanism are met.

In this case, it will send a **beneficiary recovery letter**, together with a **debit note** with the terms and date for payment.

The debit note for the beneficiary will include the amount calculated for the affiliated entities which also had to end their participation (if any).

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

The amounts will later on also be taken into account for the next interim or final payment.

22.3.3 Interim payments

Interim payments reimburse the eligible costs and contributions claimed for the implementation of the action during the reporting periods (if any).

Interim payments (if any) will be made in accordance with the schedule and modalities set out the Data Sheet (see Point 4.2).

Payment is subject to the approval of the periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **interim payment** will be calculated by the granting authority in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the interim payment ceiling

Step 1 — Calculation of the total accepted EU contribution

The granting authority will calculate the 'accepted EU contribution' for the action for the reporting period, by first calculating the 'maximum EU contribution to costs' (applying the funding rate to the accepted costs of each beneficiary), taking into account requests for a lower contribution to costs, and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions from beneficiary termination (if any). The resulting amount is the 'total accepted EU contribution'.

Step 2 — Limit to the interim payment ceiling

The resulting amount is then capped to ensure that the total amount of prefinancing and interim payments (if any) does not exceed the interim payment ceiling set out in the Data Sheet (see Point 4.2).

Interim payments (or parts of them) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.4 Final payment — Final grant amount — Revenues and Profit — Recovery

The final payment (payment of the balance) reimburses the remaining part of the eligible costs and contributions claimed for the implementation of the action (if any).

The final payment will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

Payment is subject to the approval of the final periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **final grant amount for the action** will be calculated in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the maximum grant amount

Step 3 — Reduction due to the no-profit rule

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the 'accepted EU contribution' for the action for all reporting periods, by calculating the 'maximum EU contribution to costs' (applying the funding rate to the total accepted costs of each beneficiary), taking into account requests for a lower contribution to costs, CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the 'total accepted EU contribution'.

Step 2 — Limit to the maximum grant amount

If the resulting amount is higher than the maximum grant amount set out in Article 5.2, it will be limited to the latter.

Step 3 — Reduction due to the no-profit rule

If the no-profit rule is provided for in the Data Sheet (see Point 4.2), the grant must not produce a profit (i.e. surplus of the amount obtained following Step 2 plus the action's revenues, over the eligible costs and contributions approved by the granting authority).

'Revenue' is all income generated by the action, during its duration (see Article 4), for beneficiaries that are profit legal entities (— with the exception of income generated by the exploitation of results, which are not considered as revenues).

If there is a profit, it will be deducted in proportion to the final rate of reimbursement of the eligible costs approved by the granting authority (as compared to the amount calculated following Steps 1 and 2 minus the contributions).

The **balance** (final payment) is then calculated by deducting the total amount of prefinancing and interim payments already made (if any), from the final grant amount:

{final grant amount

minus

{prefinancing and interim payments made (if any)}}.

If the balance is **positive**, it will be **paid** to the coordinator.

The amount retained for the Mutual Insurance Mechanism (see above) will be released and **paid** to the coordinator (in accordance with the rules governing the Mechanism).

The final payment (or part of it) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency,

offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

If — despite the release of the Mutual Insurance Mechanism contribution — the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to recover, the final grant amount, the amount to be recovered and the reasons why
- requesting a report on the distribution of payments to the beneficiaries within 30 days of receiving notification and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received) and the coordinator has submitted the report on the distribution of payments, it will calculate the **share of the debt per beneficiary**, by:

(a) identifying the beneficiaries for which the amount calculated as follows is negative:

{{{total accepted EU contribution for the beneficiary

divided by

total accepted EU contribution for the action}

multiplied by

final grant amount for the action},

minus

{prefinancing and interim payments received by the beneficiary (if any)}}

and

(b) dividing the debt:

{{amount calculated according to point (a) for the beneficiary concerned

divided by

the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to point (a)}

multiplied by

the amount to be recovered}.

and confirm the amount to be recovered from each beneficiary concerned (**confirmation letter**), together with **debit notes** with the terms and date for payment.

The debit notes for beneficiaries will include the amounts calculated for their affiliated entities (if any).

If the coordinator has not submitted the report on the distribution of payments, the granting authority will **recover** the full amount from the coordinator (**confirmation letter** and **debit note** with the terms and date for payment).

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.3.5 Audit implementation after final payment — Revised final grant amount — Recovery

If — after the final payment (in particular, after checks, reviews, audits or investigations; see Article 25) — the granting authority rejects costs or contributions (see Article 27) or reduces the grant (see Article 28), it will calculate the **revised final grant amount** for the beneficiary concerned.

The **beneficiary revised final grant amount** will be calculated in the following step:

Step 1 — Calculation of the revised total accepted EU contribution

Step 1 — Calculation of the revised total accepted EU contribution

The granting authority will first calculate the 'revised accepted EU contribution' for the beneficiary, by calculating the 'revised accepted costs' and 'revised accepted contributions'.

After that, it will take into account grant reductions (if any). The resulting 'revised total accepted EU contribution' is the beneficiary revised final grant amount.

If the revised final grant amount is lower than the beneficiary's final grant amount (i.e. its share in the final grant amount for the action), it will be **recovered** in accordance with the following procedure:

The **beneficiary final grant amount** (i.e. share in the final grant amount for the action) is calculated as follows:

{{total accepted EU contribution for the beneficiary

divided by

total accepted EU contribution for the action}

multiplied by

final grant amount for the action}.

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered (**confirmation letter**), together with a **debit note** with the terms and the date for payment.

Recoveries against affiliated entities (if any) will be handled through their beneficiaries.

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.4 Enforced recovery

If payment is not made by the date specified in the debit note, the amount due will be recovered:

(a) by offsetting the amount — without the coordinator or beneficiary's consent — against any amounts owed to the coordinator or beneficiary by the granting authority.

In exceptional circumstances, to safeguard the EU financial interests, the amount may be offset before the payment date specified in the debit note.

For grants where the granting authority is the European Commission or an EU executive agency, debts may also be offset against amounts owed by other Commission services or executive agencies.

(b) financial guarantee(s): not applicable

(c) joint and several liability of beneficiaries: not applicable

(d) by holding affiliated entities jointly and severally liable (if any, see Data Sheet, Point 4.4)

(e) by taking legal action (see Article 43) or, provided that the granting authority is the European Commission or an EU executive agency, by adopting an enforceable decision under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 100(2) of EU Financial Regulation 2018/1046.

If the Mutual Insurance Mechanism was called on by the granting authority to intervene, recovery will be continued in the name of the Mutual Insurance Mechanism. If two debit notes were sent, the second one (in the name of the Mutual Insurance Mechanism) will be considered to replace the first one (in the name of the granting authority). Where the MIM intervened, offsetting, enforceable decisions or any other of the above-mentioned forms of enforced recovery may be used mutatis mutandis.

The amount to be recovered will be increased by **late-payment interest** at the rate set out in Article 22.5, from the day following the payment date in the debit note, up to and including the date the full payment is received.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2015/2366[17] applies.

For grants where the granting authority is an EU executive agency, enforced recovery by offsetting or enforceable decision will be done by the services of the European Commission (see also Article 43).

22.5 Consequences of non-compliance

[17] Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC (OJ L 337, 23.12.2015, p. 35).

22.5.1 If the granting authority does not pay within the payment deadlines (see above), the beneficiaries are entitled to **late-payment interest** at the rate applied by the European Central Bank (ECB) for its main refinancing operations in euros ('reference rate'), plus the rate specified in the Data Sheet (Point 4.2). The reference rate is the rate in force on the first day of the month in which the payment deadline expires, as published in the C series of the *Official Journal of the European Union*.

If the late-payment interest is lower than or equal to EUR 200, it will be paid to the coordinator only on request submitted within two months of receiving the late payment.

Late-payment interest is not due if all beneficiaries are EU Member States (including regional and local government authorities or other public bodies acting on behalf of a Member State for the purpose of this Agreement).

If payments or the payment deadline are suspended (see Articles 29 and 30), payment will not be considered as late.

Late-payment interest covers the period running from the day following the due date for payment (see above), up to and including the date of payment.

Late-payment interest is not considered for the purposes of calculating the final grant amount.

22.5.2 If the coordinator breaches any of its obligations under this Article, the grant may be reduced (see Article 29) and the grant or the coordinator may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 23 — GUARANTEES

Not applicable

ARTICLE 24 — CERTIFICATES

24.1 Operational verification report (OVR)

Not applicable

24.2 Certificate on the financial statements (CFS)

If required by the granting authority (see Data Sheet, Point 4.3), the beneficiaries must provide certificates on their financial statements (CFS), in accordance with the schedule, threshold and conditions set out in the Data Sheet.

The coordinator must submit them as part of the periodic report (see Article 21).

The certificates must be drawn up using the template published on the Portal, cover the costs declared on the basis of actual costs and costs according to usual cost accounting practices (if any), and fulfil the following conditions:

(a) be provided by a qualified approved external auditor which is independent and complies with Directive 2006/43/EC[18] (or for public bodies: by a competent independent public officer)

(b) the verification must be carried out according to the highest professional standards to ensure that the financial statements comply with the provisions under the Agreement and that the costs declared are eligible.

The certificates will not affect the granting authority's right to carry out its own checks, reviews or audits, nor preclude the European Court of Auditors (ECA), the European Public Prosecutor's Office (EPPO) or the European Anti-Fraud Office (OLAF) from using their prerogatives for audits and investigations under the Agreement (see Article 25).

If the costs (or a part of them) were already audited by the granting authority, these costs do not need to be covered by the certificate and will not be counted for calculating the threshold (if any).

24.3 Certificate on the compliance of usual cost accounting practices (CoMUC)

Not applicable

24.4 Systems and process audit (SPA)

Beneficiaries which:

- use unit, flat rate or lump sum costs or contributions according to documented (i.e. formally approved and in writing) usual costs accounting practices (if any) or

- have formalised documentation on the systems and processes for calculating their costs and contributions (i.e. formally approved and in writing), have participated in at least 150 actions under Horizon 2020 or the Euratom Research and Training Programme (2014-2018 or 2019-2020) and participate in at least 3 ongoing actions under Horizon Europe or the Euratom Research and Training Programme (2021-2025 or 2026-2027)

may apply to the granting authority for a systems and process audit (SPA).

This audit will be carried out as follows:

Step 1 – Application by the beneficiary.

Step 2 – If the application is accepted, the granting authority will carry out the systems and process audit, complemented by an audit of transactions (on a sample of the beneficiary's Horizon Europe or the Euratom Research and Training Programme financial statements).

Step 3 – The audit result will take the form of a risk assessment classification for the beneficiary: low, medium or high.

Low-risk beneficiaries will benefit from less (or less in-depth) ex-post audits (see Article 25) and a higher threshold for submitting certificates on the financial statements (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3).

[18] Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts or similar national regulations (OJ L 157, 9.6.2006, p. 87).

24.5 Consequences of non-compliance

If a beneficiary does not submit a certificate on the financial statements (CFS) or the certificate is rejected, the accepted EU contribution to costs will be capped to reflect the CFS threshold.

If a beneficiary breaches any of its other obligations under this Article, the granting authority may apply the measures described in Chapter 5.

ARTICLE 25 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS

25.1 Granting authority checks, reviews and audits

25.1.1 Internal checks

The granting authority may — during the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing costs and contributions, deliverables and reports.

25.1.2 Project reviews

The granting authority may carry out reviews on the proper implementation of the action and compliance with the obligations under the Agreement (general project reviews or specific issues reviews).

Such project reviews may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiary concerned and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent, outside experts. If it uses outside experts, the coordinator or beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The coordinator or beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The granting authority may request beneficiaries to provide such information to it directly. Sensitive information and documents will be treated in accordance with Article 13.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with the outside experts.

For **on-the-spot visits**, the beneficiary concerned must allow access to sites and premises (including to the outside experts) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a **project review report** will be drawn up.

The granting authority will formally notify the project review report to the coordinator or beneficiary concerned, which has 30 days from receiving notification to make observations.

Project reviews (including project review reports) will be in the language of the Agreement.

25.1.3 Audits

The granting authority may carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Such audits may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the beneficiary concerned and will be considered to start on the date of the notification.

The granting authority may use its own audit service, delegate audits to a centralised service or use external audit firms. If it uses an external firm, the beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. Sensitive information and documents will be treated in accordance with Article 13.

For **on-the-spot** visits, the beneficiary concerned must allow access to sites and premises (including for the external audit firm) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a **draft audit report** will be drawn up.

The auditors will formally notify the draft audit report to the beneficiary concerned, which has 30 days from receiving notification to make observations (contradictory audit procedure).

The **final audit report** will take into account observations by the beneficiary concerned and will be formally notified to them.

Audits (including audit reports) will be in the language of the Agreement.

25.2 European Commission checks, reviews and audits in grants of other granting authorities

Where the granting authority is not the European Commission, the latter has the same rights of checks, reviews and audits as the granting authority.

25.3 Access to records for assessing simplified forms of funding

The beneficiaries must give the European Commission access to their statutory records for the periodic assessment of simplified forms of funding which are used in EU programmes.

25.4 OLAF, EPPO and ECA audits and investigations

The following bodies may also carry out checks, reviews, audits and investigations — during the action or afterwards:

- the European Anti-Fraud Office (OLAF) under Regulations No 883/2013[19] and No 2185/96[20]

- the European Public Prosecutor's Office (EPPO) under Regulation 2017/1939

- the European Court of Auditors (ECA) under Article 287 of the Treaty on the Functioning of the EU (TFEU) and Article 257 of EU Financial Regulation 2018/1046.

If requested by these bodies, the beneficiary concerned must provide full, accurate and complete information in the format requested (including complete accounts, individual salary statements or other personal data, including in electronic format) and allow access to sites and premises for on-the-spot visits or inspections — as provided for under these Regulations.

To this end, the beneficiary concerned must keep all relevant information relating to the action, at least until the time-limit set out in the Data Sheet (Point 6) and, in any case, until any ongoing checks, reviews, audits, investigations, litigation or other pursuits of claims have been concluded.

25.5 Consequences of checks, reviews, audits and investigations — Extension of results of reviews, audits or investigations

25.5.1 Consequences of checks, reviews, audits and investigations in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to rejections (see Article 27), grant reduction (see Article 28) or other measures described in Chapter 5.

Rejections or grant reductions after the final payment will lead to a revised final grant amount (see Article 22).

Findings in checks, reviews, audits or investigations during the action implementation may lead to a request for amendment (see Article 39), to change the description of the action set out in Annex 1.

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations in any EU grant may also lead to consequences in other EU grants awarded under similar conditions ('extension to other grants').

Moreover, findings arising from an OLAF or EPPO investigation may lead to criminal prosecution under national law.

25.5.2 Extension from other grants

Results of checks, reviews, audits or investigations in other grants may be extended to this grant, if:

(a) the beneficiary concerned is found, in other EU grants awarded under similar conditions, to have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and

[19] Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18/09/2013, p. 1).

[20] Council Regulation (Euratom, EC) No 2185/1996 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15/11/1996, p. 2).

(b) those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — within the time-limit for audits set out in the Data Sheet (see Point 6).

The granting authority will formally notify the beneficiary concerned of the intention to extend the findings and the list of grants affected.

If the extension concerns **rejections of costs or contributions**: the notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings

(b) the request to submit revised financial statements for all grants affected

(c) the correction rate for extrapolation, established on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected, if the beneficiary concerned:

(i) considers that the submission of revised financial statements is not possible or practicable or

(ii) does not submit revised financial statements.

If the extension concerns **grant reductions**: the notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings and

(b) the **correction rate for extrapolation**, established on the basis of the systemic or recurrent errors and the principle of proportionality.

The beneficiary concerned has **60 days** from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method/rate**.

On the basis of this, the granting authority will analyse the impact and decide on the implementation (i.e. start rejection or grant reduction procedures, either on the basis of the revised financial statements or the announced/alternative method/rate or a mix of those; see Articles 27 and 28).

25.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 26 — IMPACT EVALUATIONS

26.1 Impact evaluation

The granting authority may carry out impact evaluations of the action, measured against the objectives and indicators of the EU programme funding the grant.

Such evaluations may be started during implementation of the action and until the time-limit set out

in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiaries and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent outside experts.

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

26.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the granting authority may apply the measures described in Chapter 5.

CHAPTER 5 CONSEQUENCES OF NON-COMPLIANCE

SECTION 1 REJECTIONS AND GRANT REDUCTION

ARTICLE 27 — REJECTION OF COSTS AND CONTRIBUTIONS

27.1 Conditions

The granting authority will — at beneficiary termination, interim payment, final payment or afterwards — reject any costs or contributions which are ineligible (see Article 6), in particular following checks, reviews, audits or investigations (see Article 25).

The rejection may also be based on the extension of findings from other grants to this grant (see Article 25).

Ineligible costs or contributions will be rejected.

27.2 Procedure

If the rejection does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the rejection, the amounts and the reasons why. The coordinator or beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the rejection (payment review procedure).

If the rejection leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

27.3 Effects

If the granting authority rejects costs or contributions, it will deduct them from the costs or contributions declared and then calculate the amount due (and, if needed, make a recovery; see Article 22).

ARTICLE 28 — GRANT REDUCTION

28.1 Conditions

The granting authority may — at beneficiary termination, final payment or afterwards — reduce the grant for a beneficiary, if:

(a) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or

(b) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (see Article 25).

The amount of the reduction will be calculated for each beneficiary concerned and proportionate to the seriousness and the duration of the errors, irregularities or fraud or breach of obligations, by applying an individual reduction rate to their accepted EU contribution.

28.2 Procedure

If the grant reduction does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the reduction, the amount to be reduced and the reasons why. The coordinator or beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the reduction (payment review procedure).

If the grant reduction leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

28.3 Effects

If the granting authority reduces the grant, it will deduct the reduction and then calculate the amount due (and, if needed, make a recovery; see Article 22).

SECTION 2 SUSPENSION AND TERMINATION

ARTICLE 29 — PAYMENT DEADLINE SUSPENSION

29.1 Conditions

The granting authority may — at any moment — suspend the payment deadline if a payment cannot be processed because:

(a) the required report (see Article 21) has not been submitted or is not complete or additional information is needed

(b) there are doubts about the amount to be paid (e.g. ongoing audit extension procedure, queries

about eligibility, need for a grant reduction, etc.) and additional checks, reviews, audits or investigations are necessary, or

(c) there are other issues affecting the EU financial interests.

29.2 Procedure

The granting authority will formally notify the coordinator of the suspension and the reasons why.

The suspension will **take effect** the day the notification is sent.

If the conditions for suspending the payment deadline are no longer met, the suspension will be **lifted** — and the remaining time to pay (see Data Sheet, Point 4.2) will resume.

If the suspension exceeds two months, the coordinator may request the granting authority to confirm if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the report and the revised report is not submitted (or was submitted but is also rejected), the granting authority may also terminate the grant or the participation of the coordinator (see Article 32).

ARTICLE 30 — PAYMENT SUSPENSION

30.1 Conditions

The granting authority may — at any moment — suspend payments, in whole or in part for one or more beneficiaries, if:

(a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or

(b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant.

If payments are suspended for one or more beneficiaries, the granting authority will make partial payment(s) for the part(s) not suspended. If suspension concerns the final payment, the payment (or recovery) of the remaining amount after suspension is lifted will be considered to be the payment that closes the action.

30.2 Procedure

Before suspending payments, the granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to suspend payments and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

At the end of the suspension procedure, the granting authority will also inform the coordinator.

The suspension will **take effect** the day after the confirmation notification is sent.

If the conditions for resuming payments are met, the suspension will be **lifted**. The granting authority will formally notify the beneficiary concerned (and the coordinator) and set the suspension end date.

During the suspension, no prefinancing will be paid to the beneficiaries concerned. For interim payments, the periodic reports for all reporting periods except the last one (see Article 21) must not contain any financial statements from the beneficiary concerned (or its affiliated entities). The coordinator must include them in the next periodic report after the suspension is lifted or — if suspension is not lifted before the end of the action — in the last periodic report.

ARTICLE 31 — GRANT AGREEMENT SUSPENSION

31.1 Consortium-requested GA suspension

31.1.1 Conditions and procedure

The beneficiaries may request the suspension of the grant or any part of it, if exceptional circumstances — in particular *force majeure* (see Article 35) — make implementation impossible or excessively difficult.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the suspension takes effect; this date may be before the date of the submission of the amendment request and
- the expected date of resumption.

The suspension will **take effect** on the day specified in the amendment.

Once circumstances allow for implementation to resume, the coordinator must immediately request another **amendment** of the Agreement to set the suspension end date, the resumption date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the amendment. This date may be before the date of the submission of the amendment request.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during grant suspension are not eligible (see Article 6.3).

31.2 EU-initiated GA suspension

31.2.1 Conditions

The granting authority may suspend the grant or any part of it, if:

(a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or

(b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant

(c) other:

(i) linked action issues: not applicable

(ii) the action has lost its scientific or technological relevance, for EIC Accelerator actions: the action has lost its economic relevance, for challenge-based EIC Pathfinder actions and Horizon Europe Missions: the action has lost its relevance as part of the Portfolio for which it has been initially selected

31.2.2 Procedure

Before suspending the grant, the granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to suspend the grant and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

The suspension will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification).

Once the conditions for resuming implementation of the action are met, the granting authority will formally notify the coordinator a **lifting of suspension letter**, in which it will set the suspension end date and invite the coordinator to request an amendment of the Agreement to set the resumption

date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the lifting of suspension letter. This date may be before the date on which the letter is sent.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during suspension are not eligible (see Article 6.3).

The beneficiaries may not claim damages due to suspension by the granting authority (see Article 33).

Grant suspension does not affect the granting authority's right to terminate the grant or a beneficiary (see Article 32) or reduce the grant (see Article 28).

ARTICLE 32 — GRANT AGREEMENT OR BENEFICIARY TERMINATION

32.1 Consortium-requested GA termination

32.1.1 Conditions and procedure

The beneficiaries may request the termination of the grant.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the consortium ends work on the action ('end of work date') and
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

The termination will **take effect** on the termination date specified in the amendment.

If no reasons are given or if the granting authority considers the reasons do not justify termination, it may consider the grant terminated improperly.

32.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Improper termination may lead to a grant reduction (see Article 28).

After termination, the beneficiaries' obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks,

reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.2 Consortium-requested beneficiary termination

32.2.1 Conditions and procedure

The coordinator may request the termination of the participation of one or more beneficiaries, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing)
- the date the beneficiary ends work on the action ('end of work date')
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

If the termination concerns the coordinator and is done without its agreement, the amendment request must be submitted by another beneficiary (acting on behalf of the consortium).

The termination will **take effect** on the termination date specified in the amendment.

If no information is given or if the granting authority considers that the reasons do not justify termination, it may consider the beneficiary to have been terminated improperly.

32.2.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a **report on the distribution of payments** to the beneficiary concerned

(ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)

(iii) a second **request for amendment** (see Article 39) with other amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/ contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the second request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the second request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

Improper termination may lead to a reduction of the grant (see Article 31) or grant termination (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.3 EU-initiated GA or beneficiary termination

32.3.1 Conditions

The granting authority may terminate the grant or the participation of one or more beneficiaries, if:

(a) one or more beneficiaries do not accede to the Agreement (see Article 40)

(b) a change to the action or the legal, financial, technical, organisational or ownership situation of a beneficiary is likely to substantially affect the implementation of the action or calls into question the decision to award the grant (including changes linked to one of the exclusion grounds listed in the declaration of honour)

(c) following termination of one or more beneficiaries, the necessary changes to the Agreement (and their impact on the action) would call into question the decision awarding the grant or breach the principle of equal treatment of applicants

(d) implementation of the action has become impossible or the changes necessary for its continuation would call into question the decision awarding the grant or breach the principle of equal treatment of applicants

(e) a beneficiary (or person with unlimited liability for its debts) is subject to bankruptcy proceedings or similar (including insolvency, winding-up, administration by a liquidator or court, arrangement with creditors, suspension of business activities, etc.)

(f) a beneficiary (or person with unlimited liability for its debts) is in breach of social security or tax obligations

(g) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has been found guilty of grave professional misconduct

(h) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed fraud, corruption, or is involved in a criminal organisation, money laundering, terrorism-related crimes (including terrorism financing), child labour or human trafficking

(i) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) was created under a different jurisdiction with the intent to circumvent fiscal, social or other legal obligations in the country of origin (or created another entity with this purpose)

(j) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:

  (i) substantial errors, irregularities or fraud or

  (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.)

(k) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 25)

(l) despite a specific request by the granting authority, a beneficiary does not request — through the coordinator — an amendment to the Agreement to end the participation of one of its affiliated entities or associated partners that is in one of the situations under points (d), (f), (e), (g), (h), (i) or (j) and to reallocate its tasks, or

(m) other:

  (i) linked action issues: not applicable

  (ii) the action has lost its scientific or technological relevance, for EIC Accelerator actions: the action has lost its economic relevance, for challenge-based EIC Pathfinder actions and Horizon Europe Missions: the action has lost its relevance as part of the Portfolio for which it has been initially selected

32.3.2 Procedure

Before terminating the grant or participation of one or more beneficiaries, the granting authority will send **a pre-information letter** to the coordinator or beneficiary concerned:

- formally notifying the intention to terminate and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the termination and the date it will take effect (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

For beneficiary terminations, the granting authority will — at the end of the procedure — also inform the coordinator.

The termination will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification; 'termination date').

32.3.3 Effects

(a) for **GA termination**:

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the last open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

If the grant is terminated for breach of the obligation to submit reports, the coordinator may not submit any report after termination.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Termination does not affect the granting authority's right to reduce the grant (see Article 28) or to impose administrative sanctions (see Article 34).

The beneficiaries may not claim damages due to termination by the granting authority (see Article 33).

After termination, the beneficiaries' obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

(b) for **beneficiary termination**:

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a **report on the distribution of payments** to the beneficiary concerned

(ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial

statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)

(iii) a **request for amendment** (see Article 39) with any amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions included in an approved periodic report will be taken into account (no costs/ contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

SECTION 3 OTHER CONSEQUENCES: DAMAGES AND ADMINISTRATIVE SANCTIONS

ARTICLE 33 — DAMAGES

33.1 Liability of the granting authority

The granting authority cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of the implementation of the Agreement, including for gross negligence.

The granting authority cannot be held liable for any damage caused by any of the beneficiaries or other participants involved in the action, as a consequence of the implementation of the Agreement.

33.2 Liability of the beneficiaries

The beneficiaries must compensate the granting authority for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement, provided that it was caused by gross negligence or wilful act.

The liability does not extend to indirect or consequential losses or similar damage (such as loss of profit, loss of revenue or loss of contracts), provided such damage was not caused by wilful act or by a breach of confidentiality.

ARTICLE 34 — ADMINISTRATIVE SANCTIONS AND OTHER MEASURES

Nothing in this Agreement may be construed as preventing the adoption of administrative sanctions (i.e. exclusion from EU award procedures and/or financial penalties) or other public law measures, in addition or as an alternative to the contractual measures provided under this Agreement (see, for instance, Articles 135 to 145 EU Financial Regulation 2018/1046 and Articles 4 and 7 of Regulation 2988/95[21]).

SECTION 4 FORCE MAJEURE

ARTICLE 35 — FORCE MAJEURE

A party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

'Force majeure' means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement,
- was unforeseeable, exceptional situation and beyond the parties' control,
- was not due to error or negligence on their part (or on the part of other participants involved in the action), and
- proves to be inevitable in spite of exercising all due diligence.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

CHAPTER 6 FINAL PROVISIONS

ARTICLE 36 — COMMUNICATION BETWEEN THE PARTIES

36.1 Forms and means of communication — Electronic management

[21] Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

EU grants are managed fully electronically through the EU Funding & Tenders Portal ('Portal').

All communications must be made electronically through the Portal, in accordance with the Portal Terms and Conditions and using the forms and templates provided there (except if explicitly instructed otherwise by the granting authority).

Communications must be made in writing and clearly identify the grant agreement (project number and acronym).

Communications must be made by persons authorised according to the Portal Terms and Conditions. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a 'legal entity appointed representative (LEAR)'. The role and tasks of the LEAR are stipulated in their appointment letter (see Portal Terms and Conditions).

If the electronic exchange system is temporarily unavailable, instructions will be given on the Portal.

36.2 Date of communication

The sending date for communications made through the Portal will be the date and time of sending, as indicated by the time logs.

The receiving date for communications made through the Portal will be the date and time the communication is accessed, as indicated by the time logs. Formal notifications that have not been accessed within 10 days after sending, will be considered to have been accessed (see Portal Terms and Conditions).

If a communication is exceptionally made on paper (by e-mail or postal service), general principles apply (i.e. date of sending/receipt). Formal notifications by registered post with proof of delivery will be considered to have been received either on the delivery date registered by the postal service or the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

36.3 Addresses for communication

The Portal can be accessed via the Europa website.

The address for paper communications to the granting authority (if exceptionally allowed) is the official mailing address indicated on its website.

For beneficiaries, it is the legal address specified in the Portal Participant Register.

ARTICLE 37 — INTERPRETATION OF THE AGREEMENT

The provisions in the Data Sheet take precedence over the rest of the Terms and Conditions of the Agreement.

Annex 5 takes precedence over the Terms and Conditions; the Terms and Conditions take precedence over the Annexes other than Annex 5.

Annex 2 takes precedence over Annex 1.

ARTICLE 38 — CALCULATION OF PERIODS AND DEADLINES

In accordance with Regulation No 1182/71[22], periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

'Days' means calendar days, not working days.

ARTICLE 39 — AMENDMENTS

39.1 Conditions

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

39.2 Procedure

The party requesting an amendment must submit a request for amendment signed directly in the Portal Amendment tool.

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3). If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why
- the appropriate supporting documents and
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The granting authority may request additional information.

If the party receiving the request agrees, it must sign the amendment in the tool within 45 days of receiving notification (or any additional information the granting authority has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected.

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date of entry into force or other date specified in the amendment.

[22] Regulation (EEC, Euratom) No 1182/71 of the Council of 3 June 1971 determining the rules applicable to periods, dates and time-limits (OJ L 124, 8/6/1971, p. 1).

ARTICLE 40 — ACCESSION AND ADDITION OF NEW BENEFICIARIES

40.1 Accession of the beneficiaries mentioned in the Preamble

The beneficiaries which are not coordinator must accede to the grant by signing the accession form (see Annex 3) directly in the Portal Grant Preparation tool, within 30 days after the entry into force of the Agreement (see Article 44).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 44).

If a beneficiary does not accede to the grant within the above deadline, the coordinator must — within 30 days — request an amendment (see Article 39) to terminate the beneficiary and make any changes necessary to ensure proper implementation of the action. This does not affect the granting authority's right to terminate the grant (see Article 32).

40.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 39. It must include an accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool.

New beneficiaries will assume the rights and obligations under the Agreement with effect from the date of their accession specified in the accession form (see Annex 3).

Additions are also possible in mono-beneficiary grants.

ARTICLE 41 — TRANSFER OF THE AGREEMENT

In justified cases, the beneficiary of a mono-beneficiary grant may request the transfer of the grant to a new beneficiary, provided that this would not call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiary must submit a request for **amendment** (see Article 39), with

- the reasons why
- the accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool and
- additional supporting documents (if required by the granting authority).

The new beneficiary will assume the rights and obligations under the Agreement with effect from the date of accession specified in the accession form (see Annex 3).

ARTICLE 42 — ASSIGNMENTS OF CLAIMS FOR PAYMENT AGAINST THE GRANTING AUTHORITY

The beneficiaries may not assign any of their claims for payment against the granting authority to

any third party, except if expressly approved in writing by the granting authority on the basis of a reasoned, written request by the coordinator (on behalf of the beneficiary concerned).

If the granting authority has not accepted the assignment or if the terms of it are not observed, the assignment will have no effect on it.

In no circumstances will an assignment release the beneficiaries from their obligations towards the granting authority.

ARTICLE 43 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

43.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

Special rules may apply for beneficiaries which are international organisations (if any; see Data Sheet, Point 5).

43.2 Dispute settlement

If a dispute concerns the interpretation, application or validity of the Agreement, the parties must bring action before the EU General Court — or, on appeal, the EU Court of Justice — under Article 272 of the Treaty on the Functioning of the EU (TFEU).

For non-EU beneficiaries (if any), such disputes must be brought before the courts of Brussels, Belgium — unless an international agreement provides for the enforceability of EU court judgements.

For beneficiaries with arbitration as special dispute settlement forum (if any; see Data Sheet, Point 5), the dispute will — in the absence of an amicable settlement — be settled in accordance with the Rules for Arbitration published on the Portal.

If a dispute concerns administrative sanctions, offsetting or an enforceable decision under Article 299 TFEU (see Articles 22 and 34), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice — under Article 263 TFEU.

For grants where the granting authority is an EU executive agency (see Preamble), actions against offsetting and enforceable decisions must be brought against the European Commission (not against the granting authority; see also Article 22).

ARTICLE 44 — ENTRY INTO FORCE

The Agreement will enter into force on the day of signature by the granting authority or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

Sonja Haesen with ECAS id n002k29d signed in the Participant Portal on 23/09/2022 at 08:14:15 (transaction id SigId-28493-zjiASzzoZttQR5E204CkzGG2bdNJ2M4OTY4eohW4uxX2KzzxUYxHQOYFwAB0xBGwVlnHmG0Rv9EfEVTZPguZSKyW-yntOf97TTHqjsJPsTOdUPy-wUW1FyIbnn0SkJjWc1STMqFunbdPgnakCqq1uXinmZtfzIzoDFGI2xRJzl2LBYu22MSh0zODPMp6PBGLq7wE00u). Timestamp by third party at 2022.09.23 09:14:22 CEST

For the granting authority

Signed by Peter PETROV with ECAS id petropt as an authorised representative on 26-09-2022 09:34:02 (transaction id SigId-40215-YjyaFMDJ7bHEwlNlywFclXfF5zzu1M5icU9FNKEW2rsOqoU8y5vLUKt9ZfvZkhUJTwp2ihofbABfIOS16SC3ts-yntOf97TTHqjsJPsTOdUPy-EzjcxzuoqvBHZ3cK0JuhOXvxaZ8fpaFkTTrNcPy3Kqihri2Y5sYEl3PRUOJNPjYDuzOlL4g1XyU8I0uAd311P2G) 2022.09.26 13:35:39 CEST

ANNEX 1

Horizon Europe (HORIZON)

Description of the action (DoA)

Part A

Part B

DESCRIPTION OF THE ACTION (PART A)

COVER PAGE

Part A of the Description of the Action (DoA) must be completed directly on the Portal Grant Preparation screens.

PROJECT *Grant Preparation (General Information screen) — Enter the info.*	
Project number:	101083460
Project name:	Wind In My Backyard: Using holistic modelling tools to advance social awareness and engagement on large wind power installations in the EU
Project acronym:	WIMBY
Call:	HORIZON-CL5-2021-D3-03
Topic:	HORIZON-CL5-2021-D3-03-05
Type of action:	HORIZON-RIA
Service:	CINEA/C/02
Project starting date:	fixed date: 1 January 2023
Project duration:	36 months

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Associated with document Ref. Ares(2022)6486136 - 20/09/2022

PROJECT SUMMARY

Project summary

Grant Preparation (General Information screen) — Provide an overall description of your project (including context and overall objectives, planned activities and main achievements, and expected results and impacts (on target groups, change procedures, capacities, innovation etc)). This summary should give readers a clear idea of what your project is about.

Use the project summary from your proposal.

Wind power is one of the fastest-growing, most mature and cost-competitive renewable energy technologies. But its deployment faces significant challenges due to a lack of understanding of the (distribution of) complex (positive and negative) impacts and their interplay with low local acceptance. WIMBY addresses these challenges by fostering the societal engagement of citizens and stakeholders so that wind energy gains substantially more popular support, thereby enabling its role in Europe's decarbonisation goals. To do so, WIMBY translates the results of in-depth models to assess the potential for the development of wind parks into useful and comprehensive information and tools for stakeholders, facilitating decision making towards lower impact and more participative wind energy deployment. To thoroughly assess location-dependent potential impacts, conflicts and synergies of wind power deployment on the natural and social environment, WIMBY combines high resolution spatially explicit techno-economic models under multiple regulatory frameworks, with models to assess environmental, security and health impacts on the one hand, and models to determine potential synergies in ecosystems on the other. WIMBY follows a citizens' science approach for dissemination supported through a Web-GIS interactive forum that improves upon the content and functionality of the New European Wind Atlas. On a community level, we study four geographically, climatically and socio-economically diverse pilot cases across the EU, where detailed modelling and an immersive 3D platform and a Multi-Criteria Satisfaction Analysis framework are employed in workshops with stakeholders of potential projects. Throughout the project, WIMBY deepens the knowledge of the drivers and barriers for social acceptance and develops guidelines to raise public understanding and engagement with wind power, especially promoting the uptake of new generations of large(r) wind power turbines and farms.

LIST OF PARTICIPANTS

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
1	COO	VUB	VRIJE UNIVERSITEIT BRUSSEL	BE	999902094
2	BEN	DTU	DANMARKS TEKNISKE UNIVERSITET	DK	999990655
3	BEN	IIASA	INTERNATIONALES INSTITUT FUER ANGEWANDTE SYSTEMANALYSE	AT	999452596
4	BEN	BOKU	UNIVERSITAET FUER BODENKULTUR WIEN	AT	999987357
5	BEN	UiO	UNIVERSITETET I OSLO	NO	999975814
6	BEN	NAZKA	NAZKA MAPPS BVBA	BE	952237749
7	BEN	KIE	KELSO INSTITUTE EUROPE GEMEINNUTZIGE GMBH	DE	888244424
8	BEN	DEEP BLUE	DEEP BLUE SRL	IT	998325941
9	BEN	UU	UNIVERSITEIT UTRECHT	NL	999985805
10	BEN	POLITO	POLITECNICO DI TORINO	IT	999977754
11	BEN	UNIPA	UNIVERSITA DEGLI STUDI DI PALERMO	IT	999734284

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
12	BEN	APREN	APREN-ASSOCIACAO PORTUGUESA DE ENERGIAS RENOVAVEIS	PT	928041778
13	BEN	MCN	MULTICONSULT NORGE AS	NO	910046241
14	AP	ETH Zürich	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	CH	999979015
15	AP	PSI	PAUL SCHERRER INSTITUT	CH	999994923
16	AP	UCL	UNIVERSITY COLLEGE LONDON	UK	999975620

LIST OF WORK PACKAGES

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP1	Physical and ecological bounding conditions	2 - DTU	64.50	1	24	D1.1 – Wind resources API (a) D1.2 – Wind resources API (b) D1.3 – Land & Sea use and change maps (a) D1.4 – Land & Sea use and change maps (b) D1.5 – Terrestrial birds and bats collision risk models and maps (a) D1.6 – Terrestrial birds and bats collision risk models and maps (b) D1.7 – Impact assessment on terrestrial and marine fauna (a) D1.8 – Impact assessment on terrestrial and marine fauna (b)
WP2	Modelling wind power in the social environment	1 - VUB	82.90	1	24	D2.1 – Wind power assessment tool (TOPFARM 3.0.) and data (a) D2.2 – Wind power assessment tool (TOPFARM 3.0.) and data (b) D2.3 – Maps of health and safety impact metrics (a) D2.4 – Maps of health and safety impact metrics (b) D2.5 – Maps of landscape impact metrics (a) D2.6 – Maps of landscape impact metrics (b) D2.7 – LCA results report and spatially explicit data (a)

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D2.8 – LCA results report and spatially explicit data (b) D2.9 – Data on regulatory and socio-economic conditions and impacts (a) D2.10 – Data on regulatory and socio-economic conditions and impacts (b)
WP3	Societal engagement in pilot cases	4 - BOKU	86.10	13	36	D3.1 – Pilot region 1 - Pantelleria (IT) report D3.2 – Pilot region 2 - Rogaland (NO) report D3.3 – Pilot region 3 - Styria (AT) report D3.4 – Pilot region 4 - Portugal (PO) report
WP4	System analysis, best practice and trade-offs	14 - ETH Zürich	111.50	6	36	D4.1 – Report on the satisfaction analysis framework and the indicator database D4.2 – Multi-Criteria Satisfaction Analysis (a) D4.3 – Multi-Criteria Satisfaction Analysis (b) D4.4 – Report on stakeholder mapping and best practice for project implementation D4.5 – Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts D4.6 – Final report detailing synergies, best practice and trade-offs
WP5	Mapping and assessing with interaction and dissemination tools	9 - UU	77.50	8	36	D5.1 – Web-GIS interactive forum (a) D5.2 – Web-GIS interactive forum (b)

Work packages

Grant Preparation (Work Packages screen) — Enter the info.

Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
						D5.3 – Immersive 3D platform for wind-power awareness raising
WP6	Communication, dissemination and exploitation of project results	8 - DEEP BLUE	44.50	1	36	D6.1 – Communication and Dissemination Plan (a) D6.2 – Communication and Dissemination Plan (b) D6.3 – Website and digital identity D6.4 – General Forum objectives, structure and operation D6.5 – Plan for results exploitation D6.6 – Dissemination, Communication and Exploitation final report
WP7	Project management and coordination	1 - VUB	34.50	1	36	D7.1 – Project handbook (a) D7.2 – Project handbook (b) D7.3 – Data Management Plan D7.4 – Project Management Plan

Associated with document Ref. Ares(2022)6486136 - 20/09/2022

Work package WP1 – Physical and ecological bounding conditions

Work Package Number	WP1	Lead Beneficiary	2. DTU
Work Package Name	Physical and ecological bounding conditions		
Start Month	1	End Month	24

Objectives
1) To consolidate a data set of wind resource availability and quality for Europe 2) Assess land & sea use and use change of current, past and future wind power deployment 3) Assess the terrestrial biodiversity risk from wind farms for Europe 4) Evaluate the potential impact on the terrestrial and marine environment of wind farms (for selected pilot cases). Following the logic of the Tenets of Transitional Justice WP1 contributes an analysis of the objective impact (identify the concern). [Contribute mainly to SO1 and SO3]

Description
Task 1.1 Wind resource availability and quality [Leader: DTU; Partners: BOKU] M1-M18 This task provides the project with a direct link to the data relevant for estimating long-term wind resources and siting parameters, and time series of wind speed, direction and other meteorological parameters for any site in Europe. The data, owned by DTU Wind Energy, is based on the recently completed NEWA. We connect the raw wind resource data (NEWA microscale) via a series of coupling and optimization algorithms to estimate the annual energy production (AEP), considering wind turbine size, type and position in the landscape. We also link the raw siting data (e.g. turbulence and extreme winds; GASP over land and GASPOC over the sea) to models that evaluate the type of turbine installed at a site given the terrain and wind climate (e.g., for turbulence and extreme winds). The time series (every ½ hour) of wind speed, direction, and other meteorological parameters (e.g. temperature) is also available on a 3 km x 3 km grid covering all of Europe (NEWA mesoscale) for the period 1998-2022. We scale these time series according to the microscale conditions of each location under consideration. We use these data to optimise wind farms layouts to e.g. maximise financial gain, minimise noise (T2.1) or minimise the related CO2 emission of the entire life cycle (T2.4). Furthermore, the data feeds the models of the future energy system in T4.4. and is an integral part of the Web-GIS interactive forum (T5.3). A first complete version of the data and API is delivered in M12 and the final version after feedback loops with other WPs in M18. Task 1.2 Land & Sea Use And Change [Leader: BOKU; Partners: DTU] M1-M18 To address the influence of wind power infrastructure on land and sea use, the analysis requires high spatial resolution to show the changes due to the installations. Areas in Europe for existing, planned wind parks and suitable areas are identified, using current location data and data from T1.1, and spatially referenced as wind power plants act or may act as potential land-use change drivers and alter the sea- and landscape. Copernicus land- and sea-use datasets, and country-specific datasets (depending on availability and accessibility) are combined with data T1.1, additionally geoinformation on national parks and other protected areas (e.g. marine protected areas) are considered. Data on turbine location, wind farm layouts, installed capacity, hub height and rotor diameter (available in T1.1 and created in T2.1) are used to estimate potential land- and sea use changes in the future, based on past data from existing wind farms. Other parameters, i.e., land- and sea-use, terrain slope, altitude, water-body type, settlements, and roads/railways, are considered in the analysis. All mapped data is combined and made available for the case studies and mapping tasks to follow. To achieve this, a comprehensive GIS analysis tool, realised in Python, will be created to distinguish between different levels of human impact on land and sea. A first complete version of the data is delivered in M12 and the final version after feed-back loops with other WPs in M18. Task 1.3 Continental assessment of terrestrial biodiversity risk from wind farms [Leader: IIASA; Partners: BOKU] M1-M18 We estimate the expected annual collision rate for all European birds and bat species by combining information on collision rate from published studies, with species morphological and life-history traits information (body mass, diet, wing-span, flying strategy, home-range) as well as habitat types and wind farms characteristic known to affect collision risk. The potential distribution of each species is obtained from combining presence-absence data (from the pan-european common bird monitoring scheme), presence-only data (from the Global Information Facility, e-birds, ornitho, i-Naturalists and other sources) and polygonal data, statistically regressed against local and landscape-level environmental data using Poisson point-process modelling. The localised annual collision rate per species (as a function of bird traits and local environmental conditions, and under different assumptions for wind farm characteristics) are combined in a single vulnerability index for each taxonomic group separately and across all species. Based on this, we create a map showing low, medium and high biodiversity impact to be used in WP4. We also use

text-mining and systematic literature review, as well as our own personal expertise to identify periods of particularly high collision risk when wind farm operations could be limited. These enhanced control strategies of wind turbines to address potential impacts feed into WP4. A first complete version of the data is delivered in M12 and the final version after feed-back loops with other WPs in M18.
Task 1.4 Impact on terrestrial fauna for selected pilot studies [Leader: BOKU, Partners: UNIPA, MCN, UiO] M9-M24
Within this task, for each onshore pilot case a set of target species is developed, comprising wildlife species which either show a high degree of habitat specialisation, represent species of high conservation concern (e.g., grouse species), are assumed to form metapopulation systems and/or have been shown to react sensitively
to human disturbance. We develop high-resolution ecological niche models (ENMs) for the selected wildlife species, preferably applying spatially explicit machine learning algorithms (such as MaxEnt), which are based on robust and easily available presence-only data points of target species. ENMs are transformed to landscapes´
resistance matrices, which in turn is used within connectivity modelling. Stepping stones and dispersal corridors within metapopulation systems are developed applying e.g. least cost paths, circuit theory models and/or graph theoretical approaches.
The species-specific high resolution output of ENMs and connectivity modelling is made available for the pilot studies. BOKU (IWJ) interacts closely with WP4 and WP5 to ensure the application of the results in the pilot regions. A first complete version of the data is delivered in M18 and the final version after feedback loops with
the Pilots in M24.
Task 1.5 Impact on marine fauna for selected pilot studies [Leader: UNIPA; Partners: MCN, UiO] M9-M24
For the offshore pilot site at Pantelleria Island, a set of relevant wildlife species (e.g., migratory fish, marine mammals) is arranged. Ecological niche models (ENMs) are implemented at a small-scale combining occurrence and environmental data. A MaxEnt model will be implemented using different machine learning approaches such as Random Forests, Boosted Regression Trees, and Support Vector Machines since the relationship between species and environment is complex and traditional statistical assumptions may be not satisfied. Background data characterising environments in the study region is generated. Probable impact on marine species is assessed with respect to temporal and spatial extent and sensitivity of species using a generalised impact assessment. Moreover, for the norwegian pilot MCN provides a full environmental impact assessment following norwegian standards and contributes with preliminary results and data from the Norwegian Marine Energy Test Centre’s (METCentre) AI powered, bird monitoring system to enrich the understanding of the potential impacts on the local marine environment from different offshore wind power plant types. UNIPA carries out the analysis for the case study at Pantelleria Island and MCN, supported by UiO, oversees the Rogaland pilot site. These partners interact with the partners in WP4 and WP5 to ensure the integration of the results in the tools, the trade-off and the pilot sites analysis. A first complete version of the data is delivered in M18 and the final version after feedback loops with the Pilots in M24.

Work package WP2 – Modelling wind power in the social environment

Work Package Number	WP2	**Lead Beneficiary**	1. VUB
Work Package Name	Modelling wind power in the social environment		
Start Month	1	**End Month**	24

Objectives
1) to develop a tool to optimise the layout of individual sites across Europe according to the target minimisation parameters ; 2) to develop models and data to account in a spatially explicit way for the impact of wind power deployment on health and safety; 3) to develop models and data to account in a spatially explicit way for the landscape's impacts of wind power deployment; 4) to conduct a spatially explicit LCA of wind turbines and farms; 5) to systematise and understand the potential impact of local regulations, governance models and financing sources on wind power deployment as well as the Jobs generation potential of the wind power industry for individual regions. In line with the Tenets of Transitional Justice WP2 complements WP1 analysing the objective impact. [Contribute mainly to SO2 and SO3]

Description
T2.1 Coupled models, technical parameters and economic costs [Leader: DTU, Partners: ETH] M6-M24 This task couples models previously developed by DTU, which now are stand-alone, to produce the wind-related required

estimates (see Figure 2). For the annual energy production, the wind resource distribution (in wind magnitude and direction) is given to a wind farm layout model (PyWake), which, combined with the wind turbine characteristics, estimates the wake losses and thus the maximum technically possible production of the wind farm. TopFarm 3.0, a Python package for wind farm optimisation, is then used to optimise the layout of individual sites across Europe according to the target minimisation parameters (e.g., production/income, noise reduction, or aesthetics) The output from the optimisation model, in turn, is used to estimate the economic assessment for LCOE and other financial metrics using as input estimates of labour and land costs, financing, and other factors that limit the productivity of a wind farm. The wind farm layout, turbine type and height, and details on the wind farm control then is fed to a noise assessment model to be integrated in T2.2. All these calculations require information about the wind resources (provided by T1.1) and the wind turbine characteristics, which is compiled for the project. This task also produces 30-min capacity factors across Europe for different farm layouts (to be used in WP4). A first complete version of the software is delivered in M12 and the final version after feed-back loops with the Pilots in M24.

T2.2 Impact on health and safety (noise, safety for workers and nearby population, shadows, lights) [Leader: PSI; Partners: DBL, BOKU, UU, UCL] M1-M24

This task synthesises existing research/knowledge on health impacts of wind energy; it then develops standardised metrics with which to reflect these in large-scale resource assessments; these metrics are employed in the context of case studies with stakeholders and MCSA methodology to explore their impact on the overall potentials and costs. The underlying models to assess impacts of noise and safety are developed by PSI and DBL and implemented by PSI. UU and BOKU run the assessment of light and shadows impacts. The MCSA methodology is implemented by PSI with the support of the case study owners and BOKU. This task leads to creating detailed maps of impacts for the pilots (WP3) and Europe wide maps to be used in T4.4. and the Web-GIS interactive forum (WP5). A first complete version of the data is delivered in M12 and the final version after feed-back loops with the Pilots in M24.

T2.3 Landscape impacts (aesthetics, landscape image/scenery)[Leader: ETH, Partner: UCL, UiO] M1-M24

This task synthesises existing research/knowledge on the landscape/aesthetic impacts of wind energy. It then develops standardised metrics with which to reflect these in large-scale resource assessments, for example by exploring links between scenicness and property prices and land use categories, using methods of machine learning and statistics/econometrics. Datasets relating to scenicness of landscape are already available (and have been employed by the project team) for Great Britain, Germany and Switzerland. The data is extrapolated based on the methods indicated and the metrics employed in the context of case studies with stakeholders with an MCSA methodology to explore their impact on the overall potentials and costs. The output from the task consists of a transferable methodology to estimate landscape impacts for the pilot cases and extrapolate these across Europe, which serve as input into the system analysis in WP4 and the Web-GIS interactive forum in WP5. A first complete version of the data is delivered in M12 and the final version after feed-back loops with the Pilots in M24.

T2.4 Life Cycle Assessment [Leader: VUB; Partner: PSI] M1-M24

In this task, a spatially explicit LCA is conducted to assess the environmental impacts of onshore and offshore wind-power in Europe. At first, the state of the art of the use of life cycle thinking tools in the scientific literature to assess the sustainability of wind power turbines and parks are conducted, focusing on the identification of the existing limitations and methodological issues. To conduct the LCA, the primary data should be prioritised in the different life cycle stages, including data obtained in WP1. To support data acquisition, an online workshop is organised with the relevant partners to present needed requirements to conduct the LCA, including the data collection process. Impacts on climate change (positive but also negative due to e.g turbine manufacturing) and other relevant environmental impacts (such as impact on fauna, impacts on health, besides land and sea use) from wind turbines and parks are included in the LCA. The assessment of environmental impacts might include prospective LCA and future development of background sectors (such as the electricity, cement and steel production pathways) across several possible IPCC climate scenarios (e.g., Paris Agreement vs. Business As Usual). Methodological contributions to the development of geographically differentiated characterization factors to assess the environmental impacts of wind power are expected. Within offshore installations, the environmental performances of different types of foundations are analysed: steel jackets, monopiles and floating platforms. Also, current and potential end-of-life recovery options are considered, notably for hard-to-recycle components, such as blades: reuse (e.g., as structural elements), recycling (e.g., thanks to the introduction of new resins) and recovery (e.g., use as an alternative fuel in the cement industry, or recovery of fibres via pyrolysis) routes is assessed. Finally, marginally affected electricity production technologies (i.e., technologies whose supply reacts to a change in the share of wind energy in the power system) are identified across time and space to quantify the consequential environmental impacts resulting from wind power expansion.

T2.5. Regulations, governance models, financing sources and jobs [Leader: KIE; partner: UU] M1-M24

In this task KIE reviews and systematises all current regulations governing wind power deployment, governance models that affect the acceptance towards wind power installations, financing sources for new projects (both public and private) and their implications for business models with the focus on WIMBYs partner countries (e.g., requisites of governance models of the directives REDII and IEMD for the ownership structure, heterogeneity of co-investors). With regard

to large scale financing programs under the roof of the EU Green Deal, the complementarity of Just Transition Fund investments with the other pillars of the Just Transition Mechanism are assessed. UU supports transforming this dataset into a spatially explicit one. Furthermore, UU conducts a literature review and interviews with the project partners and their associates as well as members of the advisory board to construct a model and a spatially explicit data set of expected jobs creation of wind energy projects. To construct such a spatially explicit dataset of direct and indirect job creation, we use the developed model and data on socio-economic indicators, institutional frameworks, labour markets, and labour intensity at the level of the
NUTS-2 and NUTS-3 regions. The resulting data sets are provided for integration in the tools in WP5 and the results and conclusions should enrich the MCSA process in WP4. A first complete version of the data is delivered in M12 and the final version after feed-back loops with the Pilots in M24.

Work package WP3 – Societal engagement in pilot cases

Work Package Number	WP3	**Lead Beneficiary**	4. BOKU
Work Package Name	Societal engagement in pilot cases		
Start Month	13	**End Month**	36

Objectives
1) To communicate the multidimensionality of the wind power based energy supply challenge and guide stakeholders to understand its complexity via workshops and interaction activities in four selected pilot cases. 2) To validate and improve the usability of the WEB-GIS. 3) To validate and improve the immersive 3D platform 4) To enhance and validate the MCSA in two-way interaction with stakeholders. In line with the Tenets of Transitional Justice WP3 helps to identify who is affected and facilitates engagement. [Contribute mainly to SO5, SO7 and SO8]

Description
With a focus on transitional justice and the goal to foster energy citizenship, this WP deploys, evaluates and improves the tools developed in WP5. It is the main source of interaction and data to understand synergies and trade-offs for the development of best practice to support wind power in WP4. Four pilot cases with different social, technological, ecological and geographical characteristics are studied and evaluated. A local partner for each pilot supports data collection for WP1, WP2 and WP4, contribute to the work of DBL in producing individualised materials and be responsible for the organisation of on-site and hybrid workshops. Up to three workshops are held in each pilot depending on the local circumstances, including the co-creation process of the tools (WP5), the MCSA, stakeholder mapping, economic experiments (WP4), and the consolidation of a forum (WP6). These workshops have the following characteristics: 1. Open Days Involvement of stakeholders, interest groups, and interested members of the local public in each pilot case to collect qualitative as well as quantitative data through questionnaires and feedback on the interactive Web-GIS forum in the second year of the project: 1 or 2 focus group workshops (in different locations) with two or three sessions per day. Preferably they should take place on-site, but an online format is possible. 2. Detailed pilot site research Involvement of the local population at a specific pilot site (to be determined in the course of the project for the pilots in Styria and Portugal) with detailed results from the "open days", data from the project's work packages and an interactive virtual reality set-up for a "serious planning game": 1 workshop of up to 5 days duration to involve different groups such as school classes, concerned citizens, local politics and further local stakeholders. 3. Closing Workshop Continuation of the involvement of the local population at a specific case study site: 1 half or full day workshop with local stakeholders (aiming for the same participants as the previous workshops). Lessons learned are presented and a final MCSA exercise is conducted to discuss stakeholders' needs and priorities. Holding a workshop on-site is preferred, but is also feasible in an online format. Each pilot is addressed in an individual task. The previous workshops take place in each one of them in a consecutive and iterative way: we start with a stress-test in T3.2 for the consolidation MCSA methodology coming from WP4 as well as the interactive tools developed in WP5. We align and exploit synergies between the pilots, by posteriorly implementing the lessons learned there in the following pilots one by one and fine-tuning of methodologies and tools are performed

from pilot to pilot - best practice from the pilots is documented in D4.5. The following are the particularities of the pilot cases and the partners responsibilities in each one of them:
T3.1 Pilot region - Pantelleria - Offshore [Leader: POLITO, Partner: VUB, DTU, BOKU, PSI, KIE, DBL, UU, UNIPA] M13-M36
Pantelleria is a small volcanic island 110 km off the coast of Sicily with high potential for variable renewable energy production (VRE). The island's own electricity grid is mainly powered by diesel generators, but due to its location in one of the windiest areas in Italy, offshore wind energy would be possible. However, there are three sites of Community Importance, a special protection area, a national park, and an important bird area that restrict the installation of VRE. Not to mention possible opposition from the very significant tourism sector. POLITO leads the pilot and provides information on potential offshore locations. WP4 and WP5 partners support the workshops to
carry out the detailed study on the island. The main particularity of this pilot and task is that this is the first assessment for potential development of offshore wind in the area and will involve a wide range of stakeholders from the beginning.
T3.2 Pilot region - Rogaland - Offshore [Leader: UiO, Partners: VUB, DTU, BOKU, PSI, KIE, DBL, UU, MCN] M13-M36
Karmøy is a municipality on the west coast of Norway, with a hilly, densely populated agricultural landscape, characterised as a well-preserved holistic cultural landscape. Offshore wind farms are visible from large parts of the coastline used for recreational purposes. A demonstration wind farm with a capacity of up to 85 MW is planned,
including a power line for grid connection and advanced ecological monitoring systems including an AI-assisted bird tracker, which allows us to also study enhanced control strategies of wind turbines to address potential impacts on birds. The environmental impact assessment and environmental test site infrastructure allows us to study how
different offshore wind turbine types impact the local marine environment (including currents, waves, upwelling, and sediment transport). A planned landscape conservation area in the vicinity of the proposed wind farm is affected, as well as three existing conservation areas within a 6.0-15 km radius of the planned turbines. Several planning
options are under discussion and are incorporated into the workshops. The particularity of this pilot and task is that the wind farm development plans are already mature and serve as the stress-test for WIMBY's tools and methodologies.
T3.3 Pilot region Styria - Onshore [Leader: BOKU; Partner: VUB, DTU, PSI, KIE, DBL, UU] M13-M36
The Austrian province of Styria has a high share of mountainous regions, ranging from 200 to almost 3,000 m above sea level, a high proportion of coniferous forests (> 55%) and alpine meadows (7%). It is located in the transitional area of alpine and pannonian climate and offers a diversity of wildlife habitats and associated species distribution patterns. The region has a variety of sites that are suitable for the installation of wind turbines, including high altitude sites and sites in forests. A further 6GW of wind power capacity is expected to be installed in Austria by 2030, with some planned wind farms in Styria. The implementation possibilities largely depend on the local acceptance and the early involvement of stakeholders. BOKU takes the lead in this pilot region, selecting an area for the workshops and contacting the stakeholders. The particularity of this pilot and tasks is that we address an entire region with a high wind power deployment potential and at the same time a high scenic value.
T3.4 Pilot country - Portugal [Leader: APREN; Partner: VUB, DTU, BOKU, NAZKA, PSI, KIE, DBL, UU] M13-M36
Portugal currently has 5.5 GW of installed wind power capacity, which contributes 24% of Portugal's electricity demand. By 2030, an additional 9.0 GW of onshore and 0.3 GW of offshore capacity are planned, not only through new installations but also through repowering, as half of the wind turbines currently in operation will have reached their end of life by then. The feasibility of these expansion plans is highly dependent on the communication and cooperation between stakeholders, grid operators, authorities and also local communities, to ensure low environmental impact and high public support. APREN is leading this pilot country, organising open days and workshops and is responsible for the communication with different actors. The particularity of this pilot and task is that we address and enrich the Web-GIS tool through interaction with companies that are responsible for almost all the installed wind power capacity in Portugal.

Work package WP4 – System analysis, best practice and trade-offs

Work Package Number	WP4	**Lead Beneficiary**	14. ETH Zürich
Work Package Name	System analysis, best practice and trade-offs		
Start Month	6	**End Month**	36

Objectives
The objective of this work package is to quantitatively synthesise and analyse the social and environmental impacts of wind energy at the system level, thereby identifying best practice and exploring trade-offs between partly-competing objectives. The WP serves as the foundation for the newly-developed user interface in WP5. With regard to the Tenets

of Transitional Justice the focus of WP4 is to identify how impacts are perceived by those affected but also contributes to developing strategies for an active engagement process. [Contributes mainly to SO4, SO7 and SO8]

Description

This WP brings together and integrates the results and outputs from the rest of the project into a holistic analysis framework. It employs methods of game theory in economics, MCSA and (energy) systems analysis to produce stakeholder-specific outputs relating to the system-level impacts of wind energy. The WP includes six interlinked tasks, which all draw from a common list of criteria and indicators, developed in T4.1. There are two complementary pathways, i.e. methods that are able to accommodate subjective stakeholder inputs (preferences) in an interactive and iterative manner (T4.1-3), alongside optimisation (T4.4-5), and all of this workflow is synthesised in an application in a scenario framework in T4.6.

T4.1 Satisfaction analysis framework: criteria and indicators [Leader: PSI; Partners: DBL] M6-M18

This task defines a consistent and transparent users' satisfaction evaluation framework, on the basis of the mathematical foundations and transparent procedures of MCSA. In the case of WIMBY, this framework specialises into the assessment of the acceptability of wind power plants by citizens and stakeholders and accordingly facilitates the interaction between the analysts and stakeholders. A comprehensive set of criteria and indicators (e.g. GHG emissions, land use, biodiversity impacts) is established through participatory procedures among the WIMBY partners (including pilots cases) and selected external stakeholders. Specific data and data ranges, where the criteria fluctuate, are elicited through the modelling activities of the earlier WPs (e.g. techno-economic assessment, LCA, stakeholder attitudes, system models) or through processing of raw data retrieved from trustworthy databases and other sources. Ultimately, the developed methodological framework and indicator database serve as input for T4.2, but also support the other modelling tasks in WP4.

T4.2 Citizens' and stakeholders' acceptability of wind power plants in their vicinity [Leader: PSI; Partners: DBL] M10-M30

This task performs an external satisfaction analysis (SA) on the implementation of wind power plants. The SA translates into levels of acceptability and considers the preference input of citizens, and other stakeholder groups, with regard to a potential or planned local wind power installation. Based on the input from T4.1 a tailor-made and transparent MCSA system will be developed, including all the criteria, indicators and factors that positively influence or undermine the acceptability of wind power plants. The acquisition and analysis of the satisfaction levels will be performed with a preference disaggregation decision analysis model, such as the MUSA method, based on questionnaires by the stakeholders. The different preferences are then aggregated into unique and overall satisfaction functions, satisfaction levels are categorised according to the characteristics and features of the individuals in each group, and an overall acceptability improvement strategy is formulated. As part of this task, specific guidelines will be developed for local (planning) authorities and external analysts to implement a satisfaction analysis in their area of interest. PSI will apply the satisfaction analysis for one case study (e.g., Norway, T3.2), in order to stress test the methodology and receive valuable feedback, before the publication of the final guidelines. The acceptance results will feed into T4.6 for the shaping of solid recommendations for practitioners, local bodies and researchers, and further communicated in the awareness raising platform in T5.4 and through WP6.

T4.3 Stakeholder mapping and best practice project implementation [Leader: KIE; Partners: DBL] M10-M33

This task consists of three layers. The first layer concerns wind energy project specific stakeholders. The goal is to run a cluster analysis that sheds light on the project-specific stakeholders, specifically their characteristics and attitudes towards project implementation within the WIMBY pilots while maintaining the aspiration for generalisable results. The data collection process for the first layer starts with desk-based literature research and identifying relevant information on stakeholder inclinations using the fundamental work of the preference elicitation as well as MCDA implementation from T4.2. To identify the clusters themselves, primary data will be generated through an observational study (with online questionnaires) for each of the WIMBY pilot sites and selected external projects. The second layer looks at project ramifications and incentives, including options to reduce the impact of wind power (e.g smaller turbine designs being acceptable closer to settlements), both having negative and positive impact on the attitudes towards wind energy projects within the clusters of the first layer (close collaboration with WP2 here). From a methodological perspective, classic economic experiments will serve to approach the question of attitude formation. The third layer concerns the conditions under which the groups from layer 1, and their attitudes based on ramifications of step 2, form coalitions that support or obstruct project implementation. Once again, economic experiments are used to determine thresholds and attitude formation. The results provide input for the quantitative work in the following tasks, specifically T4.4, T4.6 and consecutively T5.1-2.

T4.4: Macro-level analysis of energy system integration with high wind shares [Leader: UCL; Partners: DTU, UiO, ETH, PSI, DBL] M8-M33

This task integrates the social and environmental factors that shape the deployment of wind power at the local level and aims to understand their implications on the role of wind power in achieving net-zero emissions across the

European continent. UCL/UiO will couple the open source high temporal and spatial resolution electricity system model highRES-Europe, which simultaneously optimises spatially explicit infrastructure planning and asset operational decisions, with the wind resource availability and foot printing insights emerging from WP1, 2 and 3. In order to capture interdependencies of wind energy with the wider energy system, the open-source JRC-EU-TIMES model will be advanced by PSI to reflect detailed information on wind power technology through detailed cost-potential curves for the European countries from earlier WPs. The models will be augmented to capture a wider variety of the key costs, e.g. social (health and safety from Task 2.2, landscape impacts from Task 2.3) and biodiversity impacts including enhanced control strategies when turbines need to shut down due to high bird collision risk (T1.3), and benefits, e.g. jobs (Task 2.5), of wind deployment thereby enabling an analysis of the multi-dimensional trade-offs of energy system design. These improvements will also facilitate modelling potential options, e.g., participation mechanisms, business models, different turbine designs, that can ameliorate the social and environmental impacts of wind power (provided as input from T4.3). The output of this task will be new versions of highRES-Europe and JRC-EU-TIMES with accompanying datasets, to be applied in T4.6.

T4.5 Micro-level analysis of system integration of high wind shares [Leader: ETH; Partners: DTU, PSI] M12-M36

This task analyses wind energy development at the local level by considering individual turbine placements, network connections and land-use competition with other technologies and applications. For this purpose, the existing municipal energy system model RE3ASON is further developed to consider additional constraints on wind park development (e.g. due to ecological impacts) and secondary effects such as noise thresholds and employment effects. The RE3ASON model enables detailed analysis of local energy system optimisation measures and trade-offs between options at building, district and municipal scale. Of particular interest is the competition of onshore wind with other technologies for meeting local sustainability targets. The model will be applied in a series of case studies in the following task, including but not limited to the pilot projects in WP3, to be defined during the project and with iterations between WPs 1-5.

T4.6 Assessing synergies and trade-offs: applications and recommendations [Leader: ETH; Partners: VUB, DTU, KIE, DBL, UU] M18-M36

This task represents an application of the previously-developed models and methods, in the context of a scenario framework in which Modelling to Generate Alternatives (MGA) is employed. MGA enables the trade-offs between cost, emissions and other criteria to be understood by exploring near-optimal solutions. Impacts on a broader energy systems level will be investigated by soft-linked the three models at the level of Europe, individual countries and municipalities. For example, the JRC-EU-TIMES model will design a pathway to a net-zero European energy system in 2050, which is then passed to highRES-Europe for detailed capacity dimensioning and dispatch optimisation. These two larger models are then linked to the micro-level RE3ASON model through a newly-developed municipality typology, which enables several types of municipalities to be reflected at the national and European scale.

This task represents a synthesis of the preceding ones, which assesses all synergies and trade-offs between the diverse aspects of wind energy considered in the project. It concludes with a set of concrete recommendations aimed at researchers, planners and policymakers. The results of this scenario exercise will then be communicated
via the interactive platform developed in WP5, thereby supporting stakeholder engagement and empowering decision making

Work package WP5 – Mapping and assessing with interaction and dissemination tools

Work Package Number	WP5	**Lead Beneficiary**	9. UU
Work Package Name	Mapping and assessing with interaction and dissemination tools		
Start Month	8	**End Month**	36

Objectives
1) merge, evaluate for consistency and homogenise the spatial data sets generated in WP1, WP2, and WP4 2) develop a Web-GIS interactive platform for wind power projects stakeholders 3) prepare data in high spatial resolution of impacts and trade-offs of wind energy development for the pilot regions 4) Develop an immersive 3D environment that allows stakeholders to visualise potential wind power projects in the pilot regions. In regard to the Tenets of Transitional Justice WP5 contributes to developing strategies for an active engagement process in an interactive manner benefitting from citizens feedback. [Contributes mainly to SO5 and SO6]

Description

In this WP the back-end and front-end of the main tools resulting from the project are developed. This will take place in a co-creation process with partners of the consortium and stakeholders from the case studies.
T5.1 Merging natural and social environment models as well as synergies and trade-offs (back-end) [Leader: UU; Partners: VUB, DTU, IIASA, UCL, NAZKA, ETH, PSI, APREN] M8-M32
In this task we merge, evaluate for consistency and homogenise the spatial data sets generated in WP1, WP2, WP3 and WP4. The UU will ensure that data sets are complete and will work with the partners of each one of the individual tasks producing spatial data, to align the metadata with the INSPIRE technical guidelines. Moreover, the UU will produce data sets that can be used easily by the web-GIS interactive platform and third-party users, which could get access to the data either via the web-GIS interactive platform or the open-access repositories where the final data sets are going to be stored (e.g. Zenodo). The process includes the selection of formats that provide the best compromise between wide use, storage size, performance, and suitability to transform the results of other WPs to these selected formats.
T5.2 Merging of detailed natural and social environment models (back-end) [Leader: BOKU; Partners: VUB, POLITO, MCN] M7-M28
This task combines data from T5.1 and its inputs with additional data from the pilot regions to specifically analyse the ecological and societal parameters at a very high spatial and temporal resolution. Base data (digital ground model, land use / sea use, buildings, infrastructure) for each case study region will be acquired, processed, and merged with available data from T5.1 and a special focus on the integration of detailed data on off- and onshore ecology and the anticipated land- and sea use changes from tasks T1.2 and T1.3, as well as the incorporation of results from all tasks of WP2 to visualise societal factors.
T5.3 Web-GIS interactive forum co-creation and assessment (front-end) [Leader: NAZKA; Partners: DBL, UU] M8-M36
In this task a web based interactive GIS platform will be developed to consolidate the results of the environmental, technical, economic and social assessments spatially. To achieve this, strong interaction with individual partners producing geodata, mainly through T5.1 is expected. This interactive tool aims to translate the outcomes of complex models concerning environmental and social factors to useful information and make this available for all stakeholders involved. To ensure this, other project partners, the advisory board and stakeholders of pilot sites will be involved in a co-creation and evaluation process of the tool (WP3). Furthermore, the platform will act as a public participation mapping tool (PPGIS) to foster societal engagement of citizens. The application will be constructed using open source technology, with a modular approach, starting from thoroughly tested existing building blocks. This enables a tailor-made design and functionalities that can be customised according to the needs of the stakeholders. This development is performed in cooperation with DBL in order to offer a consolidated, easy to use and active forum for the interaction of stakeholders. Moreover, UU will support the integration of data from other WPs (T5.1).
T5.4 Immersive 3D platform for wind-power awareness raising (front-end) [Leader: BOKU; Partner: DBL] M8-M28
This task uses comprehensive (geo)data from the individual case studies (T5.2) to create immersive and interactive 3D environments to visualise and assess the impacts of different wind farm scenarios on the landscape scenery. Virtual reality (VR) and augmented reality (AR) approaches are tested. In the 3D environments, participants can control, for example, the distance to the wind farm and the number of wind turbines (parameters from WP1 and WP2). Through a free choice of viewing locations, very individual and personal perspectives on the wind farm can also be perceived. Perception and evaluation of this process are collected using qualitative (participant observation, workshop protocol) and quantitative (survey) methods. The latest open-source technologies for creating immersive AR and VR supported 3D environments will be evaluated and enhanced
towards application in large-scale landscape visualisations. DBL provides support in the user-centred design of interfaces to ensure usability and user-friendliness. This task has a strong interaction with T2.2 on landscape impacts.

Work package WP6 – Communication, dissemination and exploitation of project results

Work Package Number	WP6	**Lead Beneficiary**	8. DEEP BLUE
Work Package Name	Communication, dissemination and exploitation of project results		
Start Month	1	**End Month**	36

Objectives
This WP contributes to the project objectives by actively interacting with wind power stakeholders raising awareness and visibility about the new knowledge, the socio-economic methodologies and the technological outcomes developed within WIMBY. In particular, it aims at advancing stakeholders' engagement and social acceptance of large wind power installations in the EU by pursuing the following objectives: 1) Dissemination, communication and exploitation of the

WIMBY outcomes to the wider European and international community, including best practises, training opportunities and capacity building; 2) Deploy the project visual identity and set up the website, as the main interface of the project with its target audiences; 3) Establish a General Forum, linked with the Web-GIS platform developed in T5.3 where stakeholders can work side by side on the collaborative assessment of solutions, exchanging experiences and establishing cross-sectoral collaborations; 4) Initiate discussions and information flow on behalf of the other work packages by organising expert workshops and stakeholder consultation (through the WIMBY General Forum); 5) Increase the opportunities for WIMBY exploitation, commercialisation and adoption of project solutions by relevant stakeholders. In respect to the Tenets of Transitional Justice this WP communicates in an interactive way with the target groups the previously developed strategies for active engagement. [Contribute mainly to SO5, SO7]. 6) Contribute, upon invitation by the CINEA, to common information and dissemination activities to increase the visibility and synergies between Horizon Europe supported actions.

Description

This WP is transversal and related to all other WPs and tasks and is divided in four main tasks:
T6.1 Communication and dissemination strategy and plan [Leader: DBL; Partners:all] M1- M36
This task will produce and update a Communication and Dissemination Strategy and Plan. It will identify the relevant stakeholders and build a database of target audiences (including the industry, academic community, decision makers at EU level, national/international associations, private sector and practitioners, engaged citizens and local communities). Per each category of audience, tailored dissemination and communication strategies will be devised, specifying key messages, channels to be used (both digital and analogue), support materials needed as well as a plan of activities to be carried out. This will include the WIMBY Communication Package (e.g., logotype and project coordinated image, document templates, brochure and flyer, posters, infographics, etc.) to be used for the dissemination of the project results. The Dissemination plan will be issued at M6 and updated at M18. During the first 3 months of the project the communication and dissemination activities and products will be based on the draft plan reported in section 2.2.
T6.2 Project dissemination and communication activities [Leader: DBL; Partners:all] M01-M36
This task will aim at implementing the communication and dissemination strategies towards the target audience and all the WIMBY stakeholders, at an international level. It will have a twofold direction: on the one hand, it will analyse scientific contents from the technical WPs of the project and transform them into layouted contents following the project's visual identity; on the other hand, it will help collecting validation input and feedback from the target audiences to be used as qualitative and subjective data source for the project, in particular for T6.3. At least 2 large communication campaigns (with press releases, newsletters, social media actions, general media actions, organisation of local events) are planned during the project lifetime around M6-M9 and M33-M36, in line with the main achievements of the project. Within this task the partners involved will coordinate the participation to international conferences with keynotes or project presentations, plus promote the publication of scientific papers (see expected KPIs Table in section 2.2).
This task will also design and develop the website of the project, as a strategic tool to reach all project audiences. It will include project and partners' description, latest news and announcements, project results and a deliverables download section. The website will be fully operational by M04, updated regularly with news and results for the whole duration of the project and maintained for at least two years after the project ends.The preliminary dissemination and communication plan is outlined in Section 2.2.
T6.3 General Forum for defining key discussion issues, defining impact parameters and evaluating project outputs [Leader: DBL; Partners: all] M8-M36
This task will address the development of a cross-domain General Forum linked with the Web-GIS platform (T5.3) involving local citizens, energy communities, associations and authorities, users' representatives, consumers, policymakers, technology providers, businesses and industry representatives. The relevant project partners will steer project activities, define key discussion issues and impact parameters and will engage new members in supporting the assessment of solutions and exchange of experiences to establish cross-sectoral collaborations and foster the uptake of WIMBY results. The Advisory Board (established in T7.2.) will support the identification and continuous engagement of the General Forum members.
T6.4 Exploitation of project results [Leader: DBL; Partners: all] M12-M36
This task will focus on activities to enhance the impact of results within the WIMBY consortium and the EC, but also with the members of the General Forum and other potential end-users and stakeholders. The exploitation plan will define how consortium members intend to benefit from the results of the project during the project and beyond. To this aim an IPR strategy will be defined, exploitation activities identified and instantiated, and individual exploitation plans discussed and updated to identify new replication and business opportunities

Work package WP7 – Project management and coordination

Work Package Number	WP7	Lead Beneficiary	1. VUB
Work Package Name	Project management and coordination		
Start Month	1	End Month	36

Objectives
1) To coordinate and manage the technical aspects of the project and scientific activities, 2) to monitor project implementation according to time, resources and quality standards, 3) to report on the project progress, outputs, resources and risks, 4) to manage the contract, ensure smooth coordination and cooperation within the Consortium.

Description
This WP is transversal and related to all other WPs and tasks and is divided in two main tasks: 7.1 Administrative Management and Coordination [Leader: VUB; Partners: All] M1-M36 VUB will act as back office and coordinator: will ensure all procedures are implemented and completed, will be in charge of reporting towards the EC and internal reporting, will ensure the development and efficiency of the consortium communication and external communication channels, will be in charge of the financial and administrative day-to-day management. Specific management and financial tools will be developed to ensure effective and efficient management. A dedicated project repository will be set up. The Steering Committee (SC) will be constituted by the WP Leaders, but Partners can attend upon invitation: they will be in charge of monitoring progress and managing risks, under the guidance of the Coordinator. Monthly meetings (online or onsite if required) will be organised to ensure timely monitoring. It is the main decision-making body of the project. The General Assembly (GA) will be meeting once a year at least (online or onsite): All Partners are represented and main responsibilities are approval of reports, resource allocation and overall project progress monitoring. Specific responsibilities and obligations will be agreed upon in the Consortium Agreement. Decision making processes and standardised procedures, communication channels, implementation plan, reporting procedures, SC and GA responsibilities will be set up in D7.1 Project Handbook. 7.2 Technical Project Management [Leader: VUB; Partners: All] M1-M36 VUB is in charge of progress and implementation monitoring: it will be ensured that all results and outputs meet the quality standards. VUB will monitor the scientific progress, will create and keep a risk log and develop the quality standards and procedures, with the support of the Partners. Also, the strategic decision-making and respective procedures will be agreed upon and included in the Consortium Agreement. Furthermore, the Consortium will set up a data management strategy and produce a specific Data Management Plan (DPM), in order to properly handle e.g. data, data collection, and open access. The work in the DMP will start in M1 and the first consolidated version will be ready in M9 and it will be updated during the project runtime as appropriate. An Advisory Board (AB) will be set up with the main objective to guide the Consortium towards the fulfillment of the project objectives. The members will be experts in the specific domain (from the industry, associations, research organisations on local, regional, EU and international level) and will support the project strategic goals by providing feedback in accordance to their experience. In addition, they will support the dissemination activities and participate in open access publications. A list of members of the AB that have provided an LoI is available in section 3.2. Specific responsibilities and obligations will be agreed upon in the Consortium Agreement. Strategic management, risk analysis, quality management and strategy will be specified in D7.1 Project Handbook.

STAFF EFFORT

Staff effort per participant

Grant Preparation (Work packages - Effort screen) — Enter the info.

Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person-Months
1 - VUB		26.00	12.00	4.00	6.00	6.00	18.00	72.00
2 - DTU	16.00	16.00	1.00	2.00	2.00	2.00	1.00	40.00
3 - IIASA	21.00				1.00	1.00	1.00	24.00
4 - BOKU	22.00		28.00		34.00	3.00	4.00	91.00
5 - UiO	1.00	2.50	4.00	9.00		0.50	1.00	18.00
6 - NAZKA			1.00		14.00	0.50	0.50	16.00
7 - KIE		8.00	4.00	22.00		1.00	1.00	36.00
8 - DEEP BLUE		0.50	4.00	2.00	1.00	22.00	1.00	30.50
9 - UU		13.00	3.00	4.00	16.00	3.00	2.00	41.00
10 - POLITO			4.50		0.50	0.50	0.50	6.00
11 - UNIPA	3.50		0.50			0.50	0.50	5.00
12 - APREN			16.60		0.50	1.00	0.50	18.60
13 - MCN	1.00		3.50		0.50	0.50	0.50	6.00
14 - ETH Zürich		4.00		26.50	0.50	1.00	1.00	33.00
15 - PSI		11.00	4.00	29.50	0.50	1.00	1.00	47.00
16 - UCL		1.90		12.50	1.00	1.00	1.00	17.40
Total Person-Months	64.50	82.90	86.10	111.50	77.50	44.50	34.50	501.50

LIST OF DELIVERABLES

Deliverables

Grant Preparation (Deliverables screen) — Enter the info.

The labels used mean:

Public — fully open (⚠ automatically posted online)
Sensitive — limited under the conditions of the Grant Agreement
EU classified —RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	Wind resources API (a)	WP1	2 - DTU	R — Document, report	PU - Public	12
D1.2	Wind resources API (b)	WP1	2 - DTU	R — Document, report	PU - Public	18
D1.3	Land & Sea use and change maps (a)	WP1	4 - BOKU	R — Document, report	PU - Public	12
D1.4	Land & Sea use and change maps (b)	WP1	4 - BOKU	R — Document, report	PU - Public	18
D1.5	Terrestrial birds and bats collision risk models and maps (a)	WP1	3 - IIASA	R — Document, report	PU - Public	12
D1.6	Terrestrial birds and bats collision risk models and maps (b)	WP1	3 - IIASA	R — Document, report	PU - Public	18
D1.7	Impact assessment on terrestrial and marine fauna (a)	WP1	4 - BOKU	R — Document, report	PU - Public	18
D1.8	Impact assessment on terrestrial and marine fauna (b)	WP1	4 - BOKU	R — Document, report	PU - Public	24
D2.1	Wind power assessment tool (TOPFARM 3.0.) and data (a)	WP2	2 - DTU	R — Document, report	PU - Public	12
D2.2	Wind power assessment tool (TOPFARM 3.0.) and data (b)	WP2	2 - DTU	R — Document, report	PU - Public	24

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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D2.3	Maps of health and safety impact metrics (a)	WP2	15 - PSI	DATA — data sets, microdata, etc	PU - Public	12
D2.4	Maps of health and safety impact metrics (b)	WP2	15 - PSI	DATA — data sets, microdata, etc	PU - Public	24
D2.5	Maps of landscape impact metrics (a)	WP2	14 - ETH Zürich	DATA — data sets, microdata, etc	PU - Public	12
D2.6	Maps of landscape impact metrics (b)	WP2	14 - ETH Zürich	DATA — data sets, microdata, etc	PU - Public	24
D2.7	LCA results report and spatially explicit data (a)	WP2	1 - VUB	R — Document, report	PU - Public	12
D2.8	LCA results report and spatially explicit data (b)	WP2	1 - VUB	R — Document, report	PU - Public	24
D2.9	Data on regulatory and socio-economic conditions and impacts (a)	WP2	7 - KIE	R — Document, report	PU - Public	12
D2.10	Data on regulatory and socio-economic conditions and impacts (b)	WP2	7 - KIE	R — Document, report	PU - Public	24
D3.1	Pilot region 1 - Pantelleria (IT) report	WP3	10 - POLITO	R — Document, report	PU - Public	34
D3.2	Pilot region 2 - Rogaland (NO) report	WP3	5 - UiO	R — Document, report	PU - Public	34
D3.3	Pilot region 3 - Styria (AT) report	WP3	4 - BOKU	R — Document, report	PU - Public	34

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Sensitive — limited under the conditions of the Grant Agreement
EU classified —RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D3.4	Pilot region 4 - Portugal (PO) report	WP3	12 - APREN	R — Document, report	PU - Public	34
D4.1	Report on the satisfaction analysis framework and the indicator database	WP4	15 - PSI	R — Document, report	PU - Public	18
D4.2	Multi-Criteria Satisfaction Analysis (a)	WP4	15 - PSI	R — Document, report	PU - Public	24
D4.3	Multi-Criteria Satisfaction Analysis (b)	WP4	15 - PSI	R — Document, report	PU - Public	30
D4.4	Report on stakeholder mapping and best practice for project implementation	WP4	7 - KIE	R — Document, report	PU - Public	24
D4.5	Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts	WP4	16 - UCL	R — Document, report	PU - Public	30
D4.6	Final report detailing synergies, best practice and trade-offs	WP4	14 - ETH Zürich	R — Document, report	PU - Public	36
D5.1	Web-GIS interactive forum (a)	WP5	6 - NAZKA	R — Document, report	PU - Public	18
D5.2	Web-GIS interactive forum (b)	WP5	6 - NAZKA	R — Document, report	PU - Public	36
D5.3	Immersive 3D platform for wind-power awareness raising	WP5	4 - BOKU	R — Document, report	PU - Public	18
D6.1	Communication and Dissemination Plan (a)	WP6	8 - DEEP BLUE	R — Document, report	PU - Public	6
D6.2	Communication and Dissemination Plan (b)	WP6	8 - DEEP BLUE	R — Document, report	PU - Public	18

Deliverables

Grant Preparation (Deliverables screen) — Enter the info.

The labels used mean:

Public — fully open (automatically posted online)
Sensitive — limited under the conditions of the Grant Agreement
EU classified —RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D6.3	Website and digital identity	WP6	8 - DEEP BLUE	DEC —Websites, patent filings, videos, etc	PU - Public	4
D6.4	General Forum objectives, structure and operation	WP6	8 - DEEP BLUE	R — Document, report	PU - Public	10
D6.5	Plan for results exploitation	WP6	8 - DEEP BLUE	R — Document, report	PU - Public	15
D6.6	Dissemination, Communication and Exploitation final report	WP6	8 - DEEP BLUE	R — Document, report	PU - Public	36
D7.1	Project handbook (a)	WP7	1 - VUB	R — Document, report	PU - Public	6
D7.2	Project handbook (b)	WP7	1 - VUB	R — Document, report	PU - Public	20
D7.3	Data Management Plan	WP7	1 - VUB	DMP — Data Management Plan	PU - Public	9
D7.4	Project Management Plan	WP7	1 - VUB	R — Document, report	PU - Public	3

Associated with document Ref. Ares(2022)6486136 - 20/09/2022

Deliverable D1.1 – Wind resources API (a)

Deliverable Number	D1.1	Lead Beneficiary	2. DTU
Deliverable Name	Wind resources API (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP1

Description
Wind resources API and documentation: API that provides the necessary wind resource, wind turbine and time-series of other meteorological parameters for any location in Europe for the period 1998-2022

Deliverable D1.2 – Wind resources API (b)

Deliverable Number	D1.2	Lead Beneficiary	2. DTU
Deliverable Name	Wind resources API (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP1

Description
Wind resources API and documentation: API that provides the necessary wind resource, wind turbine and time-series of other meteorological parameters for any location in Europe for the period 1998-2022

Deliverable D1.3 – Land & Sea use and change maps (a)

Deliverable Number	D1.3	Lead Beneficiary	4. BOKU
Deliverable Name	Land & Sea use and change maps (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP1

Description
Land & Sea use and change maps and documentation: Set of maps of current and future land & sea use across Europe, with more detail in areas with significant wind potential

Deliverable D1.4 – Land & Sea use and change maps (b)

Deliverable Number	D1.4	Lead Beneficiary	4. BOKU
Deliverable Name	Land & Sea use and change maps (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP1

Description
Land & Sea use and change maps and documentation: Set of maps of current and future land & sea use across Europe, with more detail in areas with significant wind potential

Associated with document Ref. Ares(2022)6486136 - 20/09/2022

Deliverable D1.5 – Terrestrial birds and bats collision risk models and maps (a)

Deliverable Number	D1.5	Lead Beneficiary	3. IIASA
Deliverable Name	Terrestrial birds and bats collision risk models and maps (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP1

Description
Terrestrial birds and bats collision risk models and documentation: Predictive models to estimate collision rate (per annum) for each European terrestrial bird and bat species for which data is available and spatial dataset with individual and combined maps of collision risk at 5 km resolution across Europe

Deliverable D1.6 – Terrestrial birds and bats collision risk models and maps (b)

Deliverable Number	D1.6	Lead Beneficiary	3. IIASA
Deliverable Name	Terrestrial birds and bats collision risk models and maps (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP1

Description
Terrestrial birds and bats collision risk models and documentation: Predictive models to estimate collision rate (per annum) for each European terrestrial bird and bat species for which data is available and spatial dataset with individual and combined maps of collision risk at 5 km resolution across Europe

Deliverable D1.7 – Impact assessment on terrestrial and marine fauna (a)

Deliverable Number	D1.7	Lead Beneficiary	4. BOKU
Deliverable Name	Impact assessment on terrestrial and marine fauna (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP1

Description
Impact assessment on terrestrial and marine fauna and documentation: High-resolution, spatially explicit impact models and analysis for target species in the pilot study areas in Styria (Austria), Pantelleria (Italy) and in Norway

Deliverable D1.8 – Impact assessment on terrestrial and marine fauna (b)

Deliverable Number	D1.8	Lead Beneficiary	4. BOKU
Deliverable Name	Impact assessment on terrestrial and marine fauna (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP1

Description

Impact assessment on terrestrial and marine fauna and documentation: High-resolution, spatially explicit impact models and analysis for target species in the pilot study areas in Styria (Austria), Pantelleria (Italy) and in Norway

Deliverable D2.1 – Wind power assessment tool (TOPFARM 3.0.) and data (a)

Deliverable Number	D2.1	**Lead Beneficiary**	2. DTU
Deliverable Name	Wind power assessment tool (TOPFARM 3.0.) and data (a)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP2

Description
Wind power assessment tool (TopFarm 3.0), and data: Software tool that combines the wind resources, wind farm layout, and the technical characteristics of a chosen wind turbine to assess the wind farm economic potential and noise production

Deliverable D2.2 – Wind power assessment tool (TOPFARM 3.0.) and data (b)

Deliverable Number	D2.2	**Lead Beneficiary**	2. DTU
Deliverable Name	Wind power assessment tool (TOPFARM 3.0.) and data (b)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP2

Description
Wind power assessment tool (TopFarm 3.0), and data: Software tool that combines the wind resources, wind farm layout, and the technical characteristics of a chosen wind turbine to assess the wind farm economic potential and noise production

Deliverable D2.3 – Maps of health and safety impact metrics (a)

Deliverable Number	D2.3	**Lead Beneficiary**	15. PSI
Deliverable Name	Maps of health and safety impact metrics (a)		
Type	DATA — data sets, microdata, etc	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP2

Description
Maps of health and safety impact metrics: Maps of metrics reflecting potential impacts of wind power projects on population and communities' health and safety. In high resolution for the case studies and a lower resolution at the continental scale

Deliverable D2.4 – Maps of health and safety impact metrics (b)

Deliverable Number	D2.4	**Lead Beneficiary**	15. PSI
Deliverable Name	Maps of health and safety impact metrics (b)		

Type	DATA — data sets, microdata, etc	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP2

Description
Maps of health and safety impact metrics: Maps of metrics reflecting potential impacts of wind power projects on population and communities' health and safety. In high resolution for the case studies and a lower resolution at the continental scale

Deliverable D2.5 – Maps of landscape impact metrics (a)

Deliverable Number	D2.5	**Lead Beneficiary**	14. ETH Zürich
Deliverable Name	Maps of landscape impact metrics (a)		
Type	DATA — data sets, microdata, etc	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP2

Description
Maps of landscape impact metrics: Maps of metrics reflecting potential impacts on landscape impacts of wind power projects. In high resolution for the case studies and a lower resolution at the continental scale

Deliverable D2.6 – Maps of landscape impact metrics (b)

Deliverable Number	D2.6	**Lead Beneficiary**	14. ETH Zürich
Deliverable Name	Maps of landscape impact metrics (b)		
Type	DATA — data sets, microdata, etc	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP2

Description
Maps of landscape impact metrics: Maps of metrics reflecting potential impacts on landscape impacts of wind power projects. In high resolution for the case studies and a lower resolution at the continental scale

Deliverable D2.7 – LCA results report and spatially explicit data (a)

Deliverable Number	D2.7	**Lead Beneficiary**	1. VUB
Deliverable Name	LCA results report and spatially explicit data (a)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	12	**Work Package No**	WP2

Description
LCA results report and spatially explicit data: Present the environmental impacts of offshore and onshore wind-power across Europe. The version a of the deliverable corresponds to the review of state-of-the-art

Deliverable D2.8 – LCA results report and spatially explicit data (b)

Deliverable Number	D2.8	Lead Beneficiary	1. VUB
Deliverable Name	LCA results report and spatially explicit data (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP2

Description
LCA results report and spatially explicit data: Present the environmental impacts of offshore and onshore wind-power across Europe. The version a of the deliverable corresponds to the review of state-of-the-art

Deliverable D2.9 – Data on regulatory and socio-economic conditions and impacts (a)

Deliverable Number	D2.9	Lead Beneficiary	7. KIE
Deliverable Name	Data on regulatory and socio-economic conditions and impacts (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP2

Description
Data on regulatory and socio-economic conditions and impacts: Mapping of regulations, governance models, financing resources and the potential for job creation for wind power projects

Deliverable D2.10 – Data on regulatory and socio-economic conditions and impacts (b)

Deliverable Number	D2.10	Lead Beneficiary	7. KIE
Deliverable Name	Data on regulatory and socio-economic conditions and impacts (b)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	24	Work Package No	WP2

Description
Data on regulatory and socio-economic conditions and impacts: Mapping of regulations, governance models, financing resources and the potential for job creation for wind power projects

Deliverable D3.1 – Pilot region 1 - Pantelleria (IT) report

Deliverable Number	D3.1	Lead Beneficiary	10. POLITO
Deliverable Name	Pilot region 1 - Pantelleria (IT) report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	34	Work Package No	WP3

Description
Pilot region 1 - Pantelleria (IT) report

Associated with document Ref. Ares(2022)6486136 - 20/09/2022

Deliverable D3.2 – Pilot region 2 - Rogaland (NO) report

Deliverable Number	D3.2	Lead Beneficiary	5. UiO
Deliverable Name	Pilot region 2 - Rogaland (NO) report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	34	Work Package No	WP3

Description
Pilot region 2 - Rogaland (NO) report

Deliverable D3.3 – Pilot region 3 - Styria (AT) report

Deliverable Number	D3.3	Lead Beneficiary	4. BOKU
Deliverable Name	Pilot region 3 - Styria (AT) report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	34	Work Package No	WP3

Description
Pilot region 3 - Styria (AT) report

Deliverable D3.4 – Pilot region 4 - Portugal (PO) report

Deliverable Number	D3.4	Lead Beneficiary	12. APREN
Deliverable Name	Pilot region 4 - Portugal (PO) report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	34	Work Package No	WP3

Description
Pilot region 4 - Portugal (PO) report

Deliverable D4.1 – Report on the satisfaction analysis framework and the indicator database

Deliverable Number	D4.1	Lead Beneficiary	15. PSI
Deliverable Name	Report on the satisfaction analysis framework and the indicator database		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	18	Work Package No	WP4

Description
Report on the satisfaction analysis framework and the indicator database

Deliverable D4.2 – Multi-Criteria Satisfaction Analysis (a)

Deliverable Number	D4.2	**Lead Beneficiary**	15. PSI
Deliverable Name	Multi-Criteria Satisfaction Analysis (a)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP4

Description
Multi-Criteria Satisfaction Analysis. a: Draft guidelines on the MCSA application

Deliverable D4.3 – Multi-Criteria Satisfaction Analysis (b)

Deliverable Number	D4.3	**Lead Beneficiary**	15. PSI
Deliverable Name	Multi-Criteria Satisfaction Analysis (b)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	30	**Work Package No**	WP4

Description
Complete guidelines on the MCSA and case study results

Deliverable D4.4 – Report on stakeholder mapping and best practice for project implementation

Deliverable Number	D4.4	**Lead Beneficiary**	7. KIE
Deliverable Name	Report on stakeholder mapping and best practice for project implementation		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	24	**Work Package No**	WP4

Description
Report on stakeholder mapping and best practice project implementation

Deliverable D4.5 – Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts

Deliverable Number	D4.5	**Lead Beneficiary**	16. UCL
Deliverable Name	Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	30	**Work Package No**	WP4

Description

Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts

Deliverable D4.6 – Final report detailing synergies, best practice and trade-offs

Deliverable Number	D4.6	**Lead Beneficiary**	14. ETH Zürich
Deliverable Name	Final report detailing synergies, best practice and trade-offs		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	36	**Work Package No**	WP4

Description
Final report detailing synergies, best practice and trade-offs in terms of cost and technology choices including spatial deployment patterns

Deliverable D5.1 – Web-GIS interactive forum (a)

Deliverable Number	D5.1	**Lead Beneficiary**	6. NAZKA
Deliverable Name	Web-GIS interactive forum (a)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	18	**Work Package No**	WP5

Description
Web-GIS interactive forum and report describing it

Deliverable D5.2 – Web-GIS interactive forum (b)

Deliverable Number	D5.2	**Lead Beneficiary**	6. NAZKA
Deliverable Name	Web-GIS interactive forum (b)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	36	**Work Package No**	WP5

Description
Web-GIS interactive forum and report describing it

Deliverable D5.3 – Immersive 3D platform for wind-power awareness raising

Deliverable Number	D5.3	**Lead Beneficiary**	4. BOKU
Deliverable Name	Immersive 3D platform for wind-power awareness raising		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	18	**Work Package No**	WP5

Description

Immersive 3D platform for wind-power awareness raising and report describing it

Deliverable D6.1 – Communication and Dissemination Plan (a)

Deliverable Number	D6.1	**Lead Beneficiary**	8. DEEP BLUE
Deliverable Name	Communication and Dissemination Plan (a)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	6	**Work Package No**	WP6

Description
Communication and Dissemination Plan: report with identification of the relevant stakeholders and target audiences, tailored dissemination and communication strategies and channels to be used, a plan of activities to be carried out and related KPIs.

Deliverable D6.2 – Communication and Dissemination Plan (b)

Deliverable Number	D6.2	**Lead Beneficiary**	8. DEEP BLUE
Deliverable Name	Communication and Dissemination Plan (b)		
Type	R — Document, report	**Dissemination Level**	PU - Public
Due Date (month)	18	**Work Package No**	WP6

Description
Communication and Dissemination Plan: report with identification of the relevant stakeholders and target audiences, tailored dissemination and communication strategies and channels to be used, a plan of activities to be carried out and related KPIs.

Deliverable D6.3 – Website and digital identity

Deliverable Number	D6.3	**Lead Beneficiary**	8. DEEP BLUE
Deliverable Name	Website and digital identity		
Type	DEC —Websites, patent filings, videos, etc	**Dissemination Level**	PU - Public
Due Date (month)	4	**Work Package No**	WP6

Description
Website and digital identity

Deliverable D6.4 – General Forum objectives, structure and operation

Deliverable Number	D6.4	**Lead Beneficiary**	8. DEEP BLUE
Deliverable Name	General Forum objectives, structure and operation		
Type	R — Document, report	**Dissemination Level**	PU - Public

Due Date (month)	10	Work Package No	WP6

Description
General Forum objectives, structure and operation: The report will define the objectives, structure and operation of the General Forum, as a collaborative platform linked to the Web-GIS tool

Deliverable D6.5 – Plan for results exploitation

Deliverable Number	D6.5	Lead Beneficiary	8. DEEP BLUE
Deliverable Name	Plan for results exploitation		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	15	Work Package No	WP6

Description
Plan for results exploitation

Deliverable D6.6 – Dissemination, Communication and Exploitation final report

Deliverable Number	D6.6	Lead Beneficiary	8. DEEP BLUE
Deliverable Name	Dissemination, Communication and Exploitation final report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	36	Work Package No	WP6

Description
Dissemination, Communication and Exploitation final report

Deliverable D7.1 – Project handbook (a)

Deliverable Number	D7.1	Lead Beneficiary	1. VUB
Deliverable Name	Project handbook (a)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	6	Work Package No	WP7

Description
Project handbook: will include internal communication, reporting (internal and external) procedures and guidelines, quality management, risk management, decision making

Deliverable D7.2 – Project handbook (b)

Deliverable Number	D7.2	Lead Beneficiary	1. VUB
Deliverable Name	Project handbook (b)		
Type	R — Document, report	Dissemination Level	PU - Public

Due Date (month)	20	Work Package No	WP7

Description
Project handbook: will include internal communication, reporting (internal and external) procedures and guidelines, quality management, risk management, decision making

Deliverable D7.3 – Data Management Plan

Deliverable Number	D7.3	Lead Beneficiary	1. VUB
Deliverable Name	Data Management Plan		
Type	DMP — Data Management Plan	Dissemination Level	PU - Public
Due Date (month)	9	Work Package No	WP7

Description
Data Management Plan: guidelines and procedures to handle data, data collection, open access etc

Deliverable D7.4 – Project Management Plan

Deliverable Number	D7.4	Lead Beneficiary	1. VUB
Deliverable Name	Project Management Plan		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	3	Work Package No	WP7

Description
D7.1 Project Management Plan (includes Gantt chart and Work Breakdown Structure (WBS), to ensure on time delivery of quality results. (M3)

LIST OF MILESTONES

Milestones

Grant Preparation (Milestones screen) — Enter the info.

Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Communication and dissemination plan is completed	WP6	8-DEEP BLUE	The plan is completed and accepted by all partners	6
2	Beta version of spatially explicit analysis is ready	WP2, WP1	4-BOKU	Full set of data from WP1 and WP2 is ready to be integrated in WP4 and WP5	12
3	Web-GIS interactive forum	WP5	6-NAZKA	The first fully functional version of the tool is ready to be used by stakeholders	18
4	3D inmersive tool	WP5	4-BOKU	The tool is ready to be used at the pilot cases workshops	24
5	Draft of recomendations and good practices	WP4	-	The document is ready to be reviewed by partners and stakeholders	32

LIST OF CRITICAL RISKS

Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Tasks/results not delivered as desired, within estimated resources	WP2, WP7, WP4, WP1, WP5, WP6, WP3	Solid implementation (Project Handbook) plan will be developed from the very beginning of the project, with specific strategies (quality and monitoring) that ensure minimum deviations. Monthly meetings of SC will allow contingency plans to be developed in time, before

Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
			the risk materialises. The Coordinator's and Consortium's extensive experience in project implementation ensures smooth and quality delivery
2	Partner leaving the consortium	WP2, WP7, WP4, WP1, WP5, WP6, WP3	Most of the partners have a long history of cooperation with each other and the bottom-up proposal drafting phase has tightened the working relationships between them. In the unlikely event of a partner leaving WIMBY the Advisory Board and Consortium network will be activated to find a replacement.
3	Budget allocation does not match resource demands	WP2, WP7, WP4, WP1, WP5, WP6, WP3	The Project Coordinator will monitor expenses and immediately report potential constraints to the consortium. Expenses will be adapted to minimise costs (e.g. reducing travel costs via setting up virtual instead of in-person meetings, etc.)
4	Withdrawal of a pilot case	WP3	Pilot case leaders guarantee access to data and provide knowledge via the already well-established networks to local stakeholders. Withdrawal of a pilot case is considered unlikely, as pilot case leaders are WIMBy partners and have confirmed key stakeholders' interest and willingness to participate at proposal writing stage. For the Portuguese and Styrian cases the selection of individual pilots to test the methodology and tools is part of their task, and they have a large list of potential pilot cases at disposal. Furthermore, alternative pilot cases options have been identified and considered in the proposal phase and excluded due to similarities or overlaps with selected case studies, but these can be reintroduced if necessary (e.g. Greek Public Power Corporation S.A. has signed an LoI and is a member of the advisory board).
5	Unavailable or limited data	WP2, WP4, WP1, WP3	Access and availability of critical information for the successful completion of relevant tasks (WP1-4) has been reviewed prior to proposal submission, also through other projects where consortium partners are involved. Should critical information not be accessible, activities would be undertaken with publicly available datasets only. In the case of missing stakeholder input, the project partners would revert to alternative stakeholder groups.
6	Impact of COVID on meetings	WP2, WP7, WP4, WP1, WP5, WP6, WP3	It might be that in-person meetings (consortium, stakeholders) won't be safely possible until well into the project duration. To mitigate this risk, the coordinator and partners (a) have invested in state-of-the-art video conferencing hardware and software, (b) have fall-back plans for online-only stakeholder engagement and communication, c) ensured that all tasks but the workshops using the 3D immersive tool can be executed fully remotely. For these

Critical risks & risk management strategy

Grant Preparation (Critical Risks screen) — Enter the info.

Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
			particular cases hybrid format meetings with support mainly from the pilot case leaders (minor travel requirements) will be organised. These are planned in summer months when experience, of the last two years, has shown that at least small gatherings are allowed and can be safely conducted.
7	Insufficient stakeholder engagement	WP6, WP3	It is essential that stakeholders choose to partake in the project for each pilot case and for the process of co-creation, validation and active use of the Web-GIS interactive forum. The partners will develop a stakeholder engagement plan specifically for this purpose. For each pilot case, the partners conducting the workshops will use tailored communication material designed by DBL to reach the targeted stakeholders and rely on the assistance from the pilot cases leaders and their collaboration network that includes, among others, local (planning) authorities and wind power project developers.
8	Software and data quality issues, data quality issues	WP2, WP4, WP1, WP5	Many large modelling approaches suffer from software and data quality issues,as they do not follow a well-defined software development process. We apply the software engineering principle of agile software development with rapid prototyping to achieve short cycles in software development, with extensive automated verification. Our models and tools will range from rather simple, stylized ones and progress to full scale models at the end of the project. The paradigm of agile software development also aims at achieving a diffusion of information among the model developers, thus allowing us to handle unplanned changes in the project team, and preventing a centralisation of important knowledge. Additionally, we will make our software products open source in order to be open to peer-review – and thus to allow extensions from software developers, who are not part of the project team.

PROJECT REVIEWS

Project Reviews

Grant Preparation (Reviews screen) — Enter the info.

Review No	**Timing** (month)	**Location**	**Comments**
RV1	21	Brussels	
RV2	36	Brussels	

HORIZON-CL5-2021-D3-03-05

HORIZON-RIA HORIZON Research and Innovation Actions

Wind energy in the natural and social environment

Project proposal - technical description (Part B)

WIMBY - Wind In My BackYard: Using holistic modelling tools to advance social awareness and engagement on large wind power installations in the EU.

History of Changes

Version	Date	Change
V1.0	09.06.2022	No changes from proposal stage
V1.1	15.06.2022	Addition of Item 1.5 on Page 30
V1.2	28.06.2022	Removal of UCL (as Beneficiary), Addition of UCL as Associated Partner (Table 3.1c AP Budget)
V1.3	26.07.2022	Correction of names and numbering of tables (Table 3.1h, 3.1i, 3.1j) Included explanation of in kind contribution (Table 3.1i) *(All changes in red)*

Contents

1.Excellence

While wind power is one of the fastest growing, most mature and cost-competitive renewable energy (RE) technologies, its deployment faces significant challenges due to low acceptance amongst societal actors. Factors such as restrictive regulation, disinformation, misinformation and concerns about changes to scenic landscapes, negative impacts on biodiversity, ecosystems and health impede the spread of new wind power installations. To increase acceptance, counterbalance "Not in my backyard" (NIMBY) effects[1]* and foster support for wind power, thereby enabling its contribution to the decarbonization strategy of the EU, the "Wind in My Backyard" (WIMBY) project translates the results of cutting-edge in-depth models to assess impacts, conflicts, synergies and potentials for development of wind power into practical information for stakeholders. Facilitating in this way their societal engagement is key for a broad deployment of wind power across the European Union (EU).

The feasible wind energy potential is the economic potential that remains once non-technical factors such as organisational, market or social barriers are considered[1]. The interdisciplinary research field investigating this potential by investigating questions such as visual landscape impacts, noise, biodiversity or land use competition is relatively new but arguably represents the most important area to improve wind energy potential assessments[2]. WIMBY addresses this by combining high resolution spatially explicit techno-economic models of wind power potential development under multiple regulatory frameworks with models to assess environmental, security and health impacts, and those to determine potential synergies in ecosystems. Apart from a website, open-access repositories and active interaction in social media to disseminate these models, data and results, WIMBY follows a citizens' science approach for dissemination supported through a Web-GIS interactive forum. The content and usability of this forum is enhanced via feedback-loops with stakeholders ranging from wind farms developers and supporters to regulators, citizens and associations showing opposition to wind power development. This Web-GIS, developed by the same company responsible for the Web-GIS of the New European Wind Atlas (NEWA), has EU wide coverage and does not only show the results of the modelling and assessments but includes examples of successful deployment and known conflicts of wind parks as well as options for contact and interaction between interested stakeholders and wind park developers.

On a community level, we study four geographically, climatically and socio-economically diverse pilot cases across the EU, where detailed modelling and an immersive 3D platform and a Multi-Criteria Satisfaction Analysis (MCSA) framework are employed in workshops with stakeholders of potential projects. The pilot cases include two offshore cases, one in the island of Pantelleria in Italy, and the other in the region of Rogaland in Norway. Onshore pilot cases are explored in Styria, in Austria, and in Portugal, where for instance, repowering of wind farms using larger installations is one of the most pressing topics in the agenda. These pilot cases contribute to raising public understanding and engagement with this form of energy generation and empower local communities and stakeholders. The selected pilot cases cover a wide range of geographical, technological and societal characteristics that ensure that the developed tools are relevant and useful to nurture wind power deployment and energy citizenship beyond the specific cases and that the experiences and methodologies applied can be transformed into guidelines and best practices.

[1]* Understood in the classical way as "public opposition to new developments near homes and communities, particularly arising from energy technologies such as wind farms" (Devine-Wright P (2009) Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. Journal of Community & Applied Social Psychology 19:426–441. https://doi.org/10.1002/casp.1004)

Only the proof of consistent and sustainable benefits of RE projects for the local stakeholders can ensure acceptance and support for implementation of wind power projects that – often independently of actual implementation risks or real-life probabilities of undesired side effects – are confronted with scepticism and outright opposition that prevent their realisation. WIMBY's strategy is, therefore, based on an early engagement of local actors with an emphasis on the question of their involvement both in the planning, implementation and operating process of the project and their financial participation in order to increase local support and prevent obstruction. Transcending individual cases at the community level we pursue an approach to stakeholder engagement based on the Tenets of Transitional Justice. Jenkins[3], drawing on McCauley et al.[4], distinguishes three tenets of energy justice – distributional justice, justice as recognition and procedural justice, each building on the former. We deduct three Tenets of Transitional Justice following from the logic that if - perceived or real - injustice that is inclined to hamper support for wind projects is to be addressed, you must: (i) firstly, identify the concern, requiring an analysis of objective distributional effects and repercussions of a planned wind project (= Distribution); (ii) secondly, identify whom it affects and how the repercussions are perceived by different groups (= Recognition); (iii) thirdly, identify strategies for remediation through an active empowerment and engagement process sharing burdens and benefits based on proven best practice (= Procedure). The order of these tenets and their corresponding steps of analysis is reflected in the workflow (see Figure 1) and - taking into account trade-offs, synergies, factors supporting/hindering coalition building - contributes to developing an overall engagement and acceptance strategy for wind power. Ultimately, WIMBY offers an integrated and significant contribution to efforts geared at further expanding RE capacities in Europe, which are applicable beyond the specific technological and regional focus chosen here. The project provides a variety of policy-implications concerning the ever more pressing challenge of socially contested siting processes for energy infrastructure in potentially sensitive communities, landscapes and ecosystems.

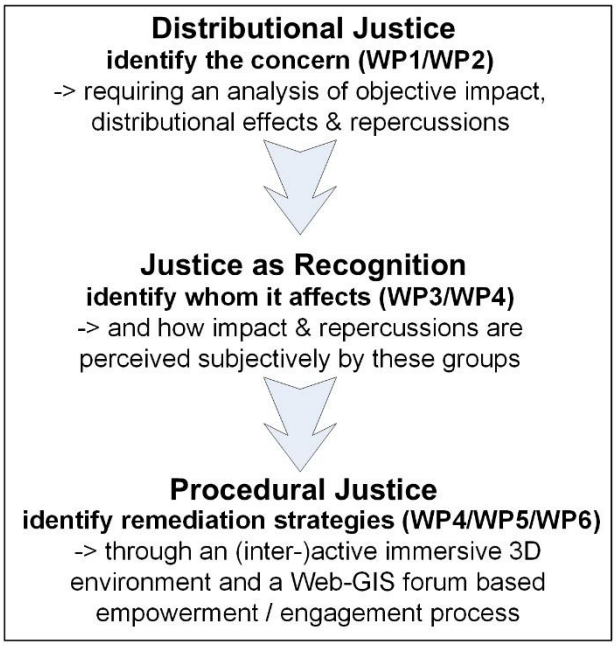


Figure 1. Tenets of Transitional Justice in WIMBY and their Relation to Acceptance for Wind Power

The WIMBY consortium brings together a truly interdisciplinary team and a holistic approach to conduct transdisciplinary research incorporating expertise from energy economics, behavioural economics, (terrestrial and marine) ecology, landscape development, spatial planning, environmental science, wind power engineering, energy law, management science, physics, climate science, sustainability science, human-computer interaction, human geography and geographic information systems (GIS), several of them being international leaders in their respective fields. Complementarily, the consortium involves companies and non-profit associations from the wind power industry either as partners or as members of the advisory board.

1.1 Objectives and ambition

The ambition of **WIMBY** is to deepen knowledge of the barriers for social acceptance and develop guidelines to raise public understanding and engagement with wind power, especially with new generations of large wind power turbines and farms. We aim at fostering the societal engagement of citizens and stakeholders with wind power so that wind energy gains more popular support towards an extensive adoption throughout Europe in support of the continent's decarbonisation goals. To do so we aim at translating the results of in-depth models to assess potentials for development, impacts, conflicts and synergies of wind power into useful information and resources for stakeholders that facilitate decision making toward lower impact wind energy deployment. To this end, WIMBY addresses seven important and complementary **specific objectives (SOs)**:

SO1. Understand and develop ways to value cumulative impacts of onshore and offshore wind-power on the environment in Europe *by estimating wind resources availability and quality, their consequences on land use and sea use and the assessment of biodiversity risk including detailed ecological modelling*
Target results and KPIs: Wind resources API that determines meteorological parameters for any location in Europe (D1.1); Land & sea use and change maps for existing, planned and potential suitable areas for wind farms in Europe (D1.2); European wide terrestrial birds and bats collision risk models and maps (D1.3); Detailed Impact assessment on terrestrial and marine fauna (D1.4).
Pertinence: WIMBY *develops and promotes the use of objective holistic assessment metrics for realistic in-depth analysis of cumulative impacts of wind installations on the environment.*

Advancement: To reach this objective WIMBY goes beyond the state of the art in five fields of research:

i) Wind resources availability: we couple, enhance and make available data sets of wind resources availability and quality that are only available separately. We couple wind resource data from the NEWA and the Global Atlas of Sitting Parameters (GASP, GASPOC) and scale it according to microscale conditions to produce multi-annual (1998-2022) high resolution spatiotemporal data sets. The data and methodology to be implemented[5] build on decades of development and research at DTU's Department of Wind Energy.

ii) Land & sea use and change: we conduct a high-resolution land & sea use and use change analysis for wind farms by specifically focusing on areas with high wind availability and quality. Changes in land and sea use are a key factor for species distribution, length of stay and migration and a pan-European mapping provides information on changes due to wind power expansion and thus further the possibility to choose locations and layouts of planned wind farms, for a most sparing expansion of renewable energies and minimising habitat loss, degradation and fragmentation[6].

iii) Species distribution: we improve cutting-edge species distribution estimations of terrestrial birds and bats across Europe. The potential distribution of each species will be obtained from combining presence-absence data (from the pan-european common bird monitoring scheme), presence-only data (from citizen science apps with databases free to download such as e-birds, Ornitho, i-Naturalists and other sources) and polygonal data, statistically regressed against local and landscape-level environmental data using Poisson point-process modelling[7]. This improves on earlier approaches to estimate collision rates, (e.g.[8]) that used IUCN species range which, by design, overestimate a species known distribution[9], the resulting, often substantial, false-presence rate of these maps makes them less reliable to estimate the magnitude and distribution of wind-power collisions than the empirically derived distribution we will obtain.

iv) Wind farms impact on terrestrial fauna: we develop a methodology to create spatially explicit, high-resolution information on the probability of occurrence of wildlife species and on landscape resistance patterns, which drive the dispersal of ground dwelling species and which are usually neglected in regular planning processes of wind farms. Assessments of potential impacts are typically limited to a narrow area around planned wind farms without considering the regional or supra-regional aspects of available, species-specific habitats, of existing stepping stones and dispersal corridors. The latter are of major importance for the maintenance of gene flow, thereby preserving genetic diversity, and to minimise extinction risks, within meta-population systems[10].

v) Wind farm impacts on the marine environment: For the pilot case in Pantelleria we overcome limitations in typical statistical Ecological Niche Models (ENMs) through machine learning methods which are beneficial thanks to their reliability, accuracy and flexibility. Furthermore, in the Rogaland pilot case MCN is testing an artificial intelligence (AI) powered bird monitoring system that is the first of its type and should contribute to improve data on presence of species in (remote) offshore locations as well as direct and indirect impacts.

SO2. Understand and find ways to value cumulative impacts of onshore and offshore wind-power on society in Europe *by assessing impacts on the local communities and other sectors (e.g. tourism, fisheries) and addressing issues concerning governance, regulations, health impacts and intangibles, such as scenery or landscape in a spatially explicit way.*

Target results and KPIs: Maps of health and safety impact metrics for pilot cases and potential wind power deployment locations across Europe (D2.2); Maps of landscape impact metrics for pilot cases and potential wind power deployment locations across Europe (D2.3); Data on regulations, governance models, financing resources and the potential for job creation with focus on countries of WIMBY's partners (D2.6).

Pertinence: WIMBY *develops and promotes the use of objective holistic assessment metrics for realistic in-depth analysis of cumulative impacts of wind installations on local communities.*

Advancement: To address this objective, WIMBY contributes to the advance of three fields of research:

i) Impact of wind turbines and wind farms on health and safety: we specifically update for wind power accidents the PSI's Energy-related Severe Accident Database (ENSAD). This is a unique and comprehensive collection of accidents in the energy sector developed by one of WIMBY's partners[11]. Moreover, In addition to classical risk measures like aggregated risk indicators (e.g., normalized fatality and injury rates and frequency-consequence curves), a spatial risk assessment is carried out to compile risk maps for visualisation and decision support[12]. Furthermore, spatially explicit analysis of potential impacts of shadows and lights, which are usually done for individual sites, are performed for potential wind power deployment areas across Europe. Assessments of current and prospective affected populations are performed using JRC's global human settlement data and the last version of the population forecast of the Land-Use based Integrated Sustainability Assessment (LUISA) modelling platform[13].

ii) Impacts of wind turbines and farms on landscape: we develop a transferable methodology to estimate landscape quality impacts (aesthetics, landscape image/scenery) to extrapolate to the European scale the state-of-the-art assessments that have been performed for Great Britain, Germany and Switzerland by ETH and UCL[14,15].

This work employs widely-available datasets such as CORINE land use data and satellite images alongside machine learning methods to provide enhanced estimates of landscape type and quality.

iii) Regulations, governance models, financing sources and job creation potential related to wind power projects: we systematise and make spatially explicit data from regulations, governance models and financing sources that apply for wind energy projects including information contained in the EU Clean Energy package for all Europeans, the recast of the Renewable Energy Directive (RED II), the internal Electricity Market Directive (IEMD) and Regulation (IEMR) as well as local national regulation and information on resources available from the Just Transition Fund (JTF) and the Just Transition Mechanism (JTM). This information is usually dispersed between many sources and not always easy to find for stakeholders. We simplify this with the datasets and make the information easily available through WIMBY's Web-GIS. Similarly, we contribute to assessments of job creation by wind power projects by systematising historical data and creating prediction models based on widely available socio-economic data taking into consideration recommendations from[16].

SO3. Develop an assessment of onshore and offshore wind-power deployment potential in high spatial resolution for Europe that goes beyond state-of-the art *by including estimations of the quality of the wind resources availability, a comparison of alternative technologies and wind park shapes as well as valuations of impacts on landscape, flora, fauna and humans and a location- based Life Cycle Assessment (LCA).*

Target results and KPIs: Wind power assessment tool based on the wind resources, wind farm layout and technical characteristics of a chosen wind turbine (D2.1); Report and data on prospective and spatially-explicit LCA of onshore and offshore wind power across Europe (D2.5).

Pertinence: WIMBY *facilitates the identification of the best areas for deployment of onshore and offshore wind farms,* while assessing *through validated models how wind turbines impact the local environment* and identifying methods *to address potential impacts* and foster acceptance.

Advancement: To achieve this objective two main breakthroughs are to be completed:

i) TopFarm 3.0: in WIMBY we couple for the first-time physical models for estimating energy production, wind wakes and noise to simplify assessments of individual wind farms layouts. The API is the third iteration of the TopFarm software developed at the DTU and integrates also state of the art data from the NEWA and the Global Atlas of Sitting Parameters (GASP, GASPOC) and from other advancements in WIMBY to become the most advance free tool for such an assessment. This is made available for individual site assessments not only as API but also via WIMBY's Web-GIS interactive Forum.

ii) Prospective and spatially explicit LCA of large wind turbines across Europe: we conduct an unprecedented LCA for wind power turbines and farms that includes conventional (e.g., global warming, fossil-to-renewable energy footprint) and unconventional (e.g., health-related impacts due to noise) environmental indicators, is spatially explicit and prospective in time and climate scenarios. In this way the LCA considers, e.g., the expected sectorial transformations of key industries such as the power, steel and cement industries and differences in impacts depending on the final location of the installed wind turbines. Typical issues concerning data availability on materials used in individual turbines are addressed through direct cooperation with wind turbine manufacturers that have provided LoIs to be part of WIMBY's advisory board.

SO4. Understand the system impact of large scale integration of wind power on the European energy system by iteratively coupling a range of planning models across local to continental scales that capture the implications of social and environmental factors on resource availability and spatially optimise the deployment of the system

Target results and KPIs: Augmented open source highRES-Europe model, JRC-EU-TIMES and micro-level model and scenario dataset around social and ecological impacts (D4.4) Final report detailing synergies, best practice and trade-offs (D4.5)

Pertinence: WIMBY *develops and promotes the use of validated modelling tools and guidelines for realistic in-depth analysis of cumulative impacts of wind installations* and *facilitates the identification of future areas for deployment* at the local, regional, national and European level.

Advancement: In WIMBY we assess for the first time how spatially explicit social and ecological barriers, and opportunities impact where and how much wind energy gets deployed and how this impacts the cost and design of local, regional, national and European energy systems. We thereby recognise the role and contribution of wind energy across spatial scales in a future European zero carbon energy system and are able to support local, regional and national stakeholders in the efficient design of ecologically and socially just highly renewable systems. To accomplish this we further develop the open-source energy system model JRC-EU-TIMES, which has a long time horizon and a large spatial scope, representing all of Europe on a country level, the European electricity system model highRES[17]as well as the RE3ASON model for municipal-scale energy system analysis. This set of modelling tools provides tailored decision support for diverse stakeholders at all levels and is able to reflect their specific preferences relating to wind power deployment.

SO5. Co-create and validate with wind power projects stakeholders a Web-GIS interactive platform, which

merges the results of the environmental, technical, economic and social assessments. This platform serves as a forum where regulators, industry, and local communities can visualise environmental, economic and socially relevant trade-offs and exchange information and provide input to one another to support the planning of new wind turbines and parks.

Target results and KPIs: Web-GIS interactive forum (D5.1), Reports on four pilot cases across Europe which are used to validate and enhance the developed tools (D3.1-4), report on General Forum objectives, structure and operation (D6.3.)

Pertinence: WIMBY *develops a forum where regulators, industry, and local communities can exchange information and provide input to one another and identify the effect of the implemented models on promoting wind energy. This process is framed in outreach activities to promote social awareness and engagement on wind* energy, which serves to *develop guidelines for participatory processes in wind farm development*. To this end, the Web-GIS interactive forum *facilitates the identification of future areas for deployment* based on *validated models* and *holistic assessment metrics*, which allow *to reach interactive and mutually value enhancing outcomes for the participant stakeholders.*

Advancement: A new modular Web-GIS platform is developed for WIMBY. This adds information on environmental, technical, economic and social assessments as well as interactive functionality, which are not available in existing products (i.e. Global Wind Atlas, NEWA). WIMBY's Web-GIS allows to visualise and to download spatially explicit data of wind resources availability and quality, impacts on safety and health, landscape quality impacts, collisions risks with wind turbines of terrestrial species, the results from the LCA as well as data on regulation, funding mechanisms and potential job creation. Moreover, the tool allows users to create projects and analyse their viability and impacts using the functionality from TopFarm 3.0 and all underlying data sets. The platform further provides a forum for public participation and interaction between multiple stakeholders, where projects and results can be saved, shared and commented on.

SO6. Develop an immersive 3D environment that allows stakeholders to visualise and understand the impacts and trade-offs of wind energy development in their neighbourhood and enhance participatory processes.

Target results and KPIs: Immersive 3D platform (D5.2), Reports on four pilot cases across Europe which are used to validate and enhance the developed tools (D3.1-4)

Pertinence: WIMBY *realises outreach activities to promote social awareness and engagement on wind energy*, thereby *promoting the use of our holistic modelling tool*s and *facilitating* the local *identification of future areas and the consenting process.* The 3D immersive platform *addresses how the impact of different wind energy innovations and applications is seen by the general public and the local actors.*

Advancement: A new method for stakeholders to engage with wind power projects that goes far beyond usual static visualisations and photo retouches is developed based on freely available and locally gathered (geo-)data and open-source technologies. The result is a comprehensive toolbox to build transferable realistic and immersive 3D environments for interaction and collaboration with participants in local RE projects. The immersive 3D platform consists of free software components that will be further developed within the framework of WIMBY. The hardware set-up of the tool includes a Linux-based workstation with advanced graphic cards, virtual reality glasses (Valve Index), web cameras (Intel Realsense Stereo Camera) and a projector for the presentation in front of a larger group. The platform is not only brought to the pilot cases for interaction with the stakeholders but can be replicated and alternatives to set up a new model lab at PSI are also explored.

SO7. Develop and validate an improved methodological framework for wind farm planning including guidelines for participatory processes to raise public understanding and engagement and boost energy citizenship *based on the interaction with stakeholders in the case studies, additional working groups and the forum.*

Target results and KPIs: Reports on four pilot cases across Europe which are used to validate and enhance the developed tools (D3.1-4), Guidelines on the MCSA and case-study stress-testing (D4.2); Report on stakeholder mapping and best practice for project implementation (D4.3) Final report detailing synergies, best practice and trade-offs (D4.5)

Pertinence: WIMBY *sheds light on the negative or positive impact of different wind energy innovations and applications to the general public and local actors.* Further, it *develops guidelines for participatory processes in wind farm development to reach interactive and mutually value-enhancing outcomes. Specifically, through the implementation of tailor-made citizen engagement procedures and evaluation frameworks, the opinion of citizens is directly accounted for in decision making, public awareness and knowledge are strengthened, and participation procedures are democratised. This leads to the ultimate target of energy citizenship and the promotion of a harmonious coexistence between the local population, the public and private sector and the wind power generation establishments.*

Advancement: specific MCSA advancements in WIMBY include (1) integration in an interactive, co-creation stakeholder process, (2) application to complex, real world case studies in the on- and offshore wind energy sector, and (3) provision of a comprehensive guideline manual to ensure that the developed framework can be applied to

other case studies and/or different fields. The participatory process in WIMBY involves the invitation to consultation and decision-making procedures of stakeholders, who are directly affected by the installation of wind power plants. Criteria and indicators essential for stakeholder and broader citizen satisfaction are identified and a MCSA framework is developed, based on the inputs. Stakeholder mapping is used to identify the characteristics of different groups and to investigate options to reduce the negative impacts of wind power. The MSCA provides specialised results, categorised per case, group of stakeholders and characteristics within each group and proposes strategies to further include local stakeholders in decision-making and offer financial participation to increase acceptance and overcome possible resistance to wind power projects.

1.2 Methodology

1.2.1. The general methodology of WIMBY

The WIMBY project analyses wind power resources and their diverse local impacts across Europe and develops interactive engagement tools for planning and designing single projects as well as the sector- and continent-wide energy transition. The research is on the one hand analytical and theoretical, based on the team's extensive expertise and existing literature, on the other hand it is empirical as it informs and draws on various pilot cases which represent a bridge to real-world projects. The project accordingly develops and implements an inter- and transdisciplinary approach that combines data-driven and participatory methods to deliver its objectives.

In the first instance, the methodology is structured along disciplinary lines, with detailed research into the physical limits of the wind resource itself (WP1) and the (positive and negative) technical and ecological (WP1), social and economic (WP2) impacts of its exploitation in a particular region. The fundamental research on wind power characteristics and local impacts in WPs 1-3 is used as input into a MCSA in WP4, which means both considering all dimensions (technical, social, ecological, economic, etc.) of wind power impacts for one specific location and for larger regions, EU Member States and ultimately the whole of Europe. WPs 5 & 6 develop corresponding solutions for an (inter-)active engagement process with the local population and all stakeholders involved. The project follows the logic of the Tenets of Transitional Justice (see Figure 1) and develops over the following main activities: **(i) Identify concerns**: (a) Model coupling for wind farms layout optimization (b) Land and sea use and change and impact on the terrestrial and marine environment (c) Society, Health and Sustainability **(ii) Identify whom it affects** (a) Stakeholder mapping and MCSA b) Engagement at pilot cases **(iii) Identify remediation strategies** (a) System analysis (b) Mapping and assessment; interaction and dissemination tools (c) Guidelines and best practice

(i) Identify concerns:

(a) Model coupling for wind farms layout optimization

Wind power availability (how much) and quality (how often and how turbulent) are critical for any wind project's success. In WIMBY, we use state-of-the-art wind resource data from the NEWA and the Global Atlas of Siting Parameters (GASP, GASPOC). Many physical models are then coupled and use this background geophysical potential, allowing computation of various technical (e.g. capacity factors and annual energy production, AEP), economic (e.g. LCOE) and human-relevant (e.g. noise) parameters.

While previous studies have used these interrelated models in isolation or an ad hoc manner[18,19], WIMBY, for the first time, couples these models together so that calculations can be done quickly and easily. This is done in the third generation TopFarm3.0 and PyWake, which allows for varying the possible input parameters and assessing their impact. For example, a wind farm could be constructed with a turbine type, which will produce a certain amount of electricity in a year, displacing a certain amount of CO_2, but cause excessive noise to many inhabitants. Changing the turbine type or height will reduce the AEP and displaced CO_2, reducing noise production

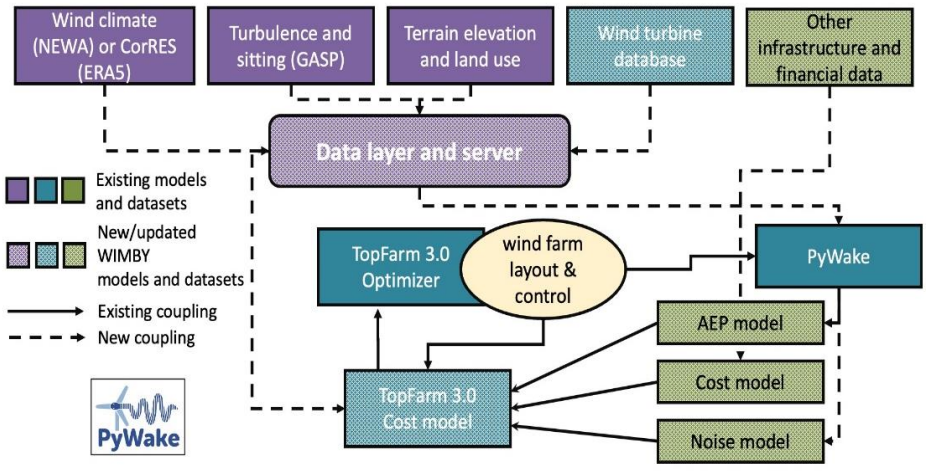


Figure 2. Flow diagram of the models and datasets that are part of the TopFarm 3.0. ecosystem. Existing models and datasets are in solid colour; new/updated ones are in dotted boxes. Existing connections between models are in solid arrows; new coupling in dashed arrows

by a certain amount. In WIMBY, these calculations will be quickly accessible with the set of models and databases shown in Figure 2. The figure shows existing models, datasets, and coupling (solid colour and lines) and new models, datasets, and coupling (dashed colour boxes and lines) that will be developed and implemented in WIMBY. The colour of the boxes matches those of the various WPs used for the Pert Chart. The wind climatology at the site and the necessary wind turbine data will be directly extracted from a server at DTU Wind Energy.

b) Land and sea use and change and impact on the terrestrial and marine environment

There is also a lack of knowledge on the influence of wind power installations on changes of land- and sea-use[20]. By analysing time-series geodata of existing on- and offshore wind parks we show how and which changes occurred in the past. Based on these results we simulate potential future changes on land and sea use and provide the first European dataset for ecological and social analyses. Analyses of the effects of use-changes of the landscape require spatial information on the evolution, which is provided by EU-Copernicus (Corine), data shown in e.g.[21] and, if available, national or regional datasets. The analysis is performed using existing Python libraries by creating and implementing a land-use analysis tool to perform spatio-temporal calculations and provide readily available land use geo data for further usage in other tasks in the project.

Concerning ecological impacts, various animal taxa are affected by wind farms. The most severe impact of wind farms on animals is mortality due to collision, which is documented for birds and bats. However, wind farms can also induce spatial avoidance behaviour of wildlife species, resulting in a net loss of habitat[22]. Spatially explicit, high-resolution information on the probability of occurrence of wildlife species and on landscape resistance patterns, driving the dispersal of ground dwelling species, is thus crucial to assess potential impacts of wind farms on wildlife populations at the regional to landscape scale. Apart from rare examples, such assessments of landscape matrices in terms of the probability of occurrence, stepping stones and dispersal corridors are currently not considered for the evaluation of planned wind farms projects. On the other hand, much wind energy planning occurs at national scale and there is a need to produce impact assessments and planning guidelines at that scale as well, also considering that some ecological processes (migration, broad biogeographic patterns) occur at broader scales.

There is a need to investigate ecological impacts (patterns of collision risk) both at European to national scales, and sub-national ones (local loss of habitat, connectivity and fine-scale collision risk analyses). We thus work both at the pan-European and national scale to assess broad patterns of collision risk[8] and we calculate a series of ENMs for selected and highly relevant wildlife species in the pilot study regions. Based on the latter resistance models are generated and used for connectivity modelling. Thereby, consequences of losses of occurrence areas are shown in the spatial context of metapopulation systems. Pilot studies ultimately will demonstrate workflows for fine-scale assessments of potential effects of targeted wind power plants on wildlife metapopulation systems.

(c) Society, Health and Sustainability

Calculation of safety impact metrics is based on the conceptual framework for comparative risk assessment developed by PSI[23]. The PSI's Energy-related Severe Accident Database (ENSAD) provides a comprehensive collection of accidents in the energy sector, including coverage of renewable technologies such as wind power[11]. In WIMBY, the ENSAD is specifically updated for wind power accidents for which different types of information sources are surveyed, harmonised and imported (e.g industrial databases, news archives and online portals). First, classical risk measures like aggregated risk indicators (e.g. normalised fatality and injury rates) and frequency-consequence curves) are calculated. Second, selected risk indicators are spatially disaggregated to compile risk maps for visualisation and decision support purposes. Impacts on health related to shadows and lights are also estimated. This estimation is based on parameters stracted from literature and following an spatially explicit approach, where the number of people potentially affected by these impacts is calculated using high resolution population data and geostatistics methods parametrized depending on the type of wind turbines to be considered.

System-wide environmental impacts are also characterised using LCA. Several LCA studies have covered the environmental impacts of wind turbines[24,25], but few considered the temporal, technological and spatial dimensions, as aimed in WIMBY. The LCA will use *brightway*[26] and the prospective modelling tool *premise*[27] to obtain parametrised models for wind turbines, representing the multitude of model variations present on the market in terms of type (e.g., onshore, offshore), size, power output and foundation system. More specifically, *brightway* is used to characterise these models against a number of environmental indicators, such as conventional ones (e.g., global warming, fossil-to-renewable energy footprint), but also non-conventional ones (e.g., health-related impacts due to noise). These models are characterised across geography, time and climate scenarios: using *premise*, the expected sectorial transformations within the power, steel and cement industries are considered, informed by Integrated Assessment Model scenarios under different IPCC climate scenarios. These scenario-specific sectoral transformations are expected to have significant effects on the environmental footprint of wind turbines, as 40 to 80% of impacts of most LCA indicators occur during the manufacture of the wind turbine components[28]. The end-of-life stage of the wind turbines also must be considered, notably on hard-to-recycle components, such as blades: reuse (e.g., as structural elements), recycling (e.g., thanks to the introduction of new resins) and recovery (e.g., use as an alternative fuel in the cement industry, or recovery of fibres via pyrolysis) routes are assessed. The LCA will include

multiple impact categories and consider impacts on fauna, health, land and sea use, presenting the existing methodologies and their gaps.

Legislation relating to wind energy is highly diverse and country and/or region-specific. For example, offset distances to residential buildings vary widely between European Member states and the regulations relating to allowable noise and light emissions are not internationally standardised[2], which present challenges for wind power developments in border regions as well as in harmonising approaches. Furthermore, little if any regulation exists to regulate the broader environmental or ecological impacts of wind energy, for example relating to employed materials or effects on biodiversity. WIMBY will systematically collate and process all relevant legislation across the EU Members (plus UK, Switzerland and Norway) and based on in depth analyses of pilot cases and national frameworks, provide concrete recommendations for improvements towards European harmonisation.

(ii) **Identify whom it affects**

(a) Stakeholder mapping and MCSA

A mixed method approach is applied to identify (i) relevant player types with differing incentives, (ii) structural social influences when implementing onshore/offshore wind parks, and (iii) situational socioeconomic dependencies between stakeholders. The methodology integrates situational observations with an experimental approach. Based on the existing literature and content analysis of legal/business documents, prototype cases are derived and refined. In an online survey the general descriptive dimensions of success and failure are further quantified among stakeholders. General incentive variations and structural influences are further investigated in a laboratory setting to isolate critical dimensions and causal relationships. Based on the derived results the prototype cases are refined and, if needed, further experimental variations are implemented. The final prototype cases are to be confirmed in field studies within the four regions. Here model deviations and specific observations are to be documented to inform the methodological development before broader implementation. This sets the framework for future evaluations concerning health, participation and other specific characteristics.

As part of its participatory procedures and engagement strategy, WIMBY assembles and includes stakeholders directly affected by the installation of wind power plants, both in the decision-making processes and with regard to financial participation in the context of energy communities. This is achieved through tailor-made procedures, specialised meetings and protocols together with a MCSA framework[29], on the basis of a carefully planned Multi-Criteria Decision Analysis MCDA evaluation system[30,31].

More specifically, this MCSA analysis focuses on the active inclusion of citizens at the centre of the decision-making process providing valuable insights on their needs and concerns. Simultaneously, it regards the development of engagement approaches for financial participation and corresponding business models for energy communities. Through the completed satisfaction and acceptance questionnaires, and together with the respective physical meetings, the answers of the citizens are thoroughly evaluated and the most important criteria, subcriteria and parameters that affect their opinion are pointed out. The acquired satisfaction results, categorised per case, group of stakeholders and characteristics within each group, can help formulate an overall acceptability improvement strategy, and pave the way for the successful propagation of wind energy. The lessons learnt and the acquired feedback from the whole process are passed on to the pilot cases, for their most effective implementation, and drive the formulation of recommendations. Finally, the acceptability results are integrated in the communication and dissemination activities.

b) Engagement at pilot cases

Implementation requires an iteration between consortium partners and stakeholders in four different European pilot cases: Pantelleria in Italy, Styria in Austria, Rogaland in Norway and Portugal. They are set up to study both natural and societal prospects and barriers around the proposed expansion of wind power in Europe. A series of workshops at each pilot case (see detail in WP3 description) allow the project team to test the developed methodologies in a variety of settings to understand the wider challenges of such a vast interference in the landscape. The results from the workshops are then synthesised in a set of documents, providing guidelines and recommendations, to support policymakers and stakeholders, and formulate sound suggestions.

(iii) Identify remediation strategies

a) System analysis

At the level of municipal, regional, national and European energy systems, energy system models are used to map transitions to net-zero societies and to advise policy and planning on how to achieve them. Such modelling studies usually see high shares of wind energy to meet climate targets by 2050[32]. While energy system models include high levels of techno-economic detail, they usually exclude or simplify the social and ecological factors that determine how much and where wind energy can actually be deployed. However, these factors shape the process and ultimate design of the energy transition in terms of costs, technologies, spatial design and ultimately how to reach Europe's climate targets. No single project or study has assessed the barriers and benefits from a whole European perspective and for a wide range of impacts (i.e. biodiversity, health, landscape) and benefits (e.g. jobs). Ignoring

these social and ecological factors may lead to solutions which are neither publicly nor politically feasible and desired, making it significantly costlier or, at worst, impossible, to reach long term decarbonisation targets. Further, quantified social barriers may be ameliorated to varying degrees by, for example, community involvement and ownership, which has implications on the energy system design. There are only a few studies for select countries that have assessed barriers and benefits of wind energy on energy system results (e.g.[14]) but they oversimplify acceptance by solely representing visual impacts. We further develop and apply multiple energy system models, on the one hand very detailed representations of municipal energy systems including precise turbine-placement algorithms (RE3ASON), on the other hand at national and European levels (highRES-Europe and JRC-EU-TIMES) to represent the entire power and energy systems respectively. Employing this suite of models allows us to adequately consider a range of scales and influencing factors, as well as to couple the models in an iterative framework and exploit their respective advantages. The system analysis enables a deeper understanding of the interactions and trade-offs between multiple factors at different levels of influence and amongst stakeholder groups. It also allows the implications of different criteria weightings, according to expert judgement and stakeholder preferences, on the wider energy system to be understood. For example, what cost implications does minimising impacts on protected species have, or what differences exist between a socially-optimal (i.e. equitable) and cost-minimal distribution of wind power projects?

b) Mapping and assessment; interaction and dissemination tools

Two main tools are developed in WIMBY, an immersive 3D platform and a Web-GIS interactive forum. The first one is for interaction with local stakeholders in pilot cases and the second for the wider public and with European coverage of analysis.

Immersive 3D platform: Participation and knowledge transfer is a key concept in renewable energy development processes to address social acceptance aspects. For the engagement of a broader public and laypersons in regional wind power development processes, an interactive tool is developed. The development of the immersive 3D environments is based on an open source approach, using free and open technologies to develop highly immersive geospatial 3D environments for VR applications. This also applies for ecological niche and corridor modelling. The 3D environments built upon the LandscapeLab! Tool developed at BOKU-ILEN as an open source 3D environment (https://github.com/boku-ilen/landscapelab). Furthermore, we use and develop open source libraries for geodata management (https://github.com/boku-ilen/geodot-plugin) and VR-GIS tools (https://github.com/boku-ilen/godot-vr-toolkit). Figure 3 shows the process of the workshops using interactive immersive 3D environments to communicate and evaluate the visual appearance of the wind farms. The distance to the wind farm as well as the number of wind turbines can be controlled. The number of wind turbines can also be influenced by the height of the wind turbines, whereby individual limits of the landscape influence can be determined. Through the free choice of the observer's position, the attractiveness of a landscape can also be taken into account in the evaluation of the wind farm. The qualitative statements made during the workshop are supported by a survey.

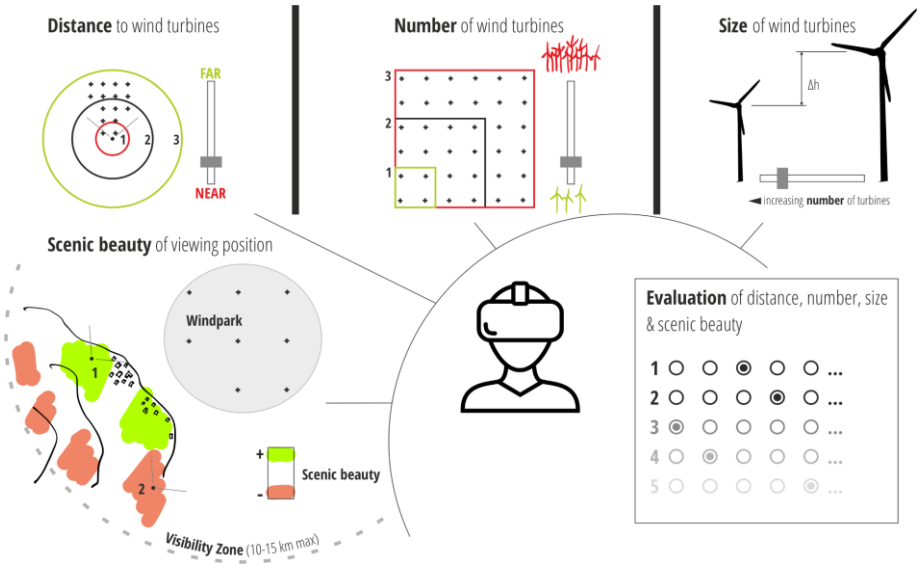


Figure 3. Features of the interactive immersive 3D environment during the workshops

WIMBY's Web-GIS interactive forum: it empowers expert and non-expert users to explore for themselves the implications of wind farm development at local, regional, national and international level. This Web-GIS provides a sophisticated mapping environment with multiple layers available from all the assessments of impacts conducted in the project, e.g. wind resource quality, costs, endangered species, risk of collision of species baskets, land use, protected areas etc. The GUI incorporates dynamic visualisation functionalities to represent the effect of modifying fundamental assumptions (e.g. availability of land, offsets to residential areas) as well as the priorities/weightings given to different criteria (e.g. endangered species, cost of energy) on the resulting wind potential. In addition, WIMBY's Web-GIS includes a set of holistic energy system scenarios that capture a core set of fundamental assumptions and weightings relating to these assumptions, and therefore provide insights into possible energy system evolution under different priorities. The Web-GIS is tailored to users with expert and non-expert modes, with the former including full functionality and the latter being based on a core set of default assumptions and requiring only

minimal user understanding and input. In both cases, the interaction with the Web-GIS is facilitated through the use of a minimalistic design and intuitive operation, such as sliders, binary on/off switches, tick boxes and already well-understood functions (e.g. pan, zoom, go to etc.) from popular mapping platforms.

We apply the software engineering principle of **agile software development** with rapid prototyping to achieve short cycles in software development. Our models range from simple, stylized models and progress to full scale models at the end of the project. The **rapid prototyping** of the new models is integrated with the scientific process: thus, we can rapidly gain an idea of which methods in connection with which data will show the best results. The paradigm of agile software development also aims at achieving a diffusion of information among the model developers, thus allowing us to handle unplanned changes in the project team and preventing a centralization of important knowledge. Additionally, we make our software products **open source** as much as possible in order to be open to peer-review – and thus to allow extensions from software developers, who are not part of the project team.

c) Guidelines and best practice

The methodology developed within WIMBY is validated and improved using the four pilot cases and feedback from stakeholders and the advisory board, in particular the tools, such as the GIS-platform, the immersive 3D platform and the MCSA. In this process, the multidimensionality and complexity of the energy supply problem is communicated to stakeholders and they are guided through workshops to determine acceptable trade-offs and satisfaction levels. The MCSA framework will provide dedicated guidelines for the accurate implementation of the satisfaction analysis in the WIMBY case studies. These guidelines can also serve for other similar initiatives where the satisfaction analysis of citizens and stakeholders in general is desired.

WIMBY will share its experience by producing guidelines to wind park developers, ESCOs, municipalities and other stakeholders for the implementation of participatory approaches and engagement strategies that facilitate project implementation and the increase of their acceptance. Since one-size-fits-all solutions cannot reflect the diversity both of geographies and socio-cultural settings strongly influencing the deployment of wind power, WIMBY delivers appoaches for harnessing wind power for a number of archetype scenarios derived from the case studies and the digest of all data collected. Taking into account dependent and independent variables, the scenarios have to be derived from empirical data from across the EU enriched by international best practice. This is a prerequisite for formulating recommendations for tailor-made policy approaches to achieving the EU decarbonisation goals. More generally WIMBY formulates concrete policy recommendations to public authorities at regional, national and supranational level considering the diversity of geographies on the basis of the different scenarios developed for wind power projects laying the foundations for a future participatory engagement approach to wind power.

Furthermore, project developers and policy makers need specific knowledge and new skills to come to applicable recommendations on how to implement and stimulate the use of 'co-creation driven by design' for wind power projects. However, this type of knowledge is not self-evidently present in the current professional skills of policy makers and developers in general. Benefits and outcomes are thus not possible without evidence-based guidance to inform them how to apply appreciative inquiry and citizen-science based approaches for the purpose of maintaining the Tenets of Transitional Justice. Without co-creation approaches – involving the users or citizens affected by decisions – acceptance of wind projects is typically low and attempts to strategically involve affected populations can result in a backlash, of which the political consequences can be great. Public acceptance of wind power is likely to increase when citizens are involved in municipal strategy development.

1.2.2. Linked research and innovation activities

WIMBY relies on its partners' core competences and advisory board members' contribution, but also on feedback and know-how from other EC-funded projects. Results from previous and ongoing projects feed the methodology for this project, helping to mitigate risks and prevent mistakes. The European wind resources database from the NEWA project (DTU, NAZKA) will be the source of meteorological time series for WP1,2. WIMBY further benefits from technology characterisation data, methodological LCA developments and LCI data from the ROBINSON project (PSI). MCA methods as implemented in WP3-4 have been developed under the Renaissance project (VUB-DBL). Similarly the SCORE project (KIE, POLITO) provides a robust base to apply consumer-centred financing schemes relevant for WP3-4. The highRES-Europe power system model to be used in WP4 was developed under the INNOPATHS project (UCL, UiO). The ReTour project instead has paved the way for community engagement with immersive 3D visualisation in Austria, a model that is to be replicated elsewhere in WP5 of WIMBY.

There are several ongoing and awarded projects related to WIMBY to be contacted in order to organise joint communication activities and exchange opportunities (at least one WIMBY partner is either partner or coordinator of these projects). The list is updated with projects run by other institutions and active during the same lifetime of WIMBY (T6.2). reFUEL (BOKU) offers opportunities for exchanges of data, methods and lessons learned on land use and societal impacts of wind power development (WP1,2), ReSET (UU) offers a framework to ensure a more equitable deployment of energy infrastructure of relevance for WP3. The LAMASUS project (IIASA, BOKU)

produces European, fine-scale land-use scenarios and hierarchical species distribution models developed at IIASA provides strong synergies for WIMBY's work in WP1. The TT1000 project (PSI) evaluates the environmental performance of the TwingTec TT1000, the world's first megawatt scale airborne wind energy system, potentially offering relevant data for WP2. TANDEM (VUB, BOKU) offers multiple methodologies to address heavily controversial infrastructure projects and issues with heterogeneous stakeholder groups which we intend to adapt and apply in WP3,4. The SYNFUEL project (PSI) offers synergies on model development and application, especially related to demand for electricity to produce hydrogen (for synthetic fuel production) with relevance for WIMBY WP4 and exploitation activities. We intend to further engage with the Norwegian Research centre for socially inclusive energy transitions (UiO) on approaches to model just RE transitions (WP4). Finally, the COME RES (KIE) experience with consumer engagement and financial participation in wind projects of their national "stakeholder desks" are complementary to WIMBY, a complementarity we expect to harvest to strengthen WP4.

1.2.3. Interdisciplinarity for the attainment of the project objectives

WIMBY is anchored in a transdisciplinary approach supported by a team composed of interdisciplinary research groups and specialists, which allows it to understand and account for a wide range of Impacts and challenges of wind power deployment. For instance, the MOBI research group of the VUB (WIMBY's coordinator) combines its own environmental, socio-economic and technical competencies to address energy transition topics ranging from sustainable mobility to renewable energy communities. Similarly, the teams of the BOKU, DTU, ETH, PSI, UiO, UCL, UU, DBL are interdisciplinary groups working in transdisciplinary projects related to renewable energies development and integration. While the main disciplines from each team have been selected to contribute to WIMBY (see 1.2.1 and 3.2), the interdisciplinary nature of each team facilitates the collaboration with each other and with specialised partners such as the ecology teams of IIASA and UNIPA, the energy law and behavioural economics team of KIE, the pilot case owners and wind power industry practitioners (APREN, MCN) and the developer of the Web-GIS forum (NAZKA). Such level of integration between disciplines ensures that all partners follow WIMBY's common objectives and share language and an understanding of the issues at hand. Moreover, several partners have considerable experience in engagement and participation processes with stakeholders in the development of RE projects and most of the partners have contributed to the planning, assessment and/or implementation of projects for the wind power industry.

1.2.4. Social science integration

Social science and humanities (SSH) are central to WIMBY. Apart from the SSH component of the interdisciplinary research groups of most of the partners and the expertise in energy law and behavioural economics from KIE, one of the backbones of our theoretical framework, the Tenets of Transitional Justice, is a recent development from energy law, political science and human geography to address justice issues in the energy transition. Furthermore, WIMBY's core idea focuses on bringing together different stakeholders around wind energy projects, using methodologies from the SHH that allow to translate the results of holistic models into usable information for real-life applications. SSH are indispensable to investigate the acceptance of wind power projects, as citizens and other stakeholders often view them with suspicion and – if not involved by a calibrated engagement strategy – can hinder project implementation and threaten the transition to a climate neutral society. Experience with wind projects across the EU has demonstrated that the risk of antagonising even small local interest groups can endanger their realisation, despite the support of the majority of local stakeholders. Therefore, the analysis of both factors detrimental to the acceptance of wind power and that of best practice to overcome obstacles are crucial for the SSH components of WIMBY. To respond to this challenge, we transcend the traditional behavioural economics approaches and legal analysis to include theory-of-change and citizen science.

Theory-of-change and appreciative inquiry – In order to understand good practices for successful transformation under a just transition, it is not sufficient to describe these, but also to understand how they have been achieved (WP4). A good Theory of Change (ToC) must be based on practice and must be actionable. The process of change is not perceived linearly, but rather constantly renewed with numerous feedback loops within a context that can be seen as experimental and socially innovative. Appreciative inquiry is similar to ToC in that it is driven by the concept of desirable goals and how these are actually achieved. It is based on the assumption that a focus on problems and asking questions about how to solve them (the traditional approach to tackling societal issues), tends to keep attention on particular predetermined path directions and goals so that stakeholders become stuck in a path-dependent mindset. In contrast, appreciative inquiry enables new theories and models of organising, planning for the future and improving society to be developed, which often look very different from those derived from just trying to solve quite specific problems, which may, in fact, not be the key problems. Appreciative inquiry attempts to envision the future and formulate questions to foster positive relationships and build on the potentials of people, organisations or situations in terms of their skills, capacities, resources and ideas.

Citizen science and deliberations – As a specific example of social innovation, WIMBY adopts and promotes citizen science activities and deliberations as part of its multi-actor and co-creation approach, specifically for the generation of new scientific knowledge and understanding enabling and hindering factors for wind power projects.

Citizen science can be defined as the participation of the general public in scientific processes using an open and inclusive approach, for example by empowering and enabling citizens to support and be part of the exploration, shaping and development of the different aspects of scientific activities that use scientific methods and results to meet societal challenges. This will on the one hand simultaneously increase their own scientific awareness and capabilities and on the other hand improve the science and its contribution to better evidence-based outcomes and impacts. Citizen science can both accelerate and produce new scientific knowledge; it can help policy decision-makers monitor improvement of implementation of the Tenets of Transitional Justice; it can increase public involvement and understanding of science and help citizens feel that they also own these policies; and it can enable faster evidence-informed reactions to events and the exploitation of new opportunities through new sources of both quantitative and qualitative knowledge.

Both approaches allow to create synergies with traditional strategies to engagement and participation and are, therefore, part of the engagement methodology applied at the pilot cases. More generally we employ SSH data collection methods, as the analysis of the social impact is crucial and addresses the main objectives of WIMBY:

- Socio-environmental assessment is central to WP3 implementation
- Pilots of different social characteristics are participating to the project
- Workshops aim to include different social groups and stakeholders; inclusiveness is a key target
- The review, research and analysis of economic, regulatory, geographical and social factors allow the Consortium to adequately comprehend the potential range of impact
- Policy recommendations are derived from the conclusions of the analysis of the case studies and replications sites, which are produced using social sciences tools and methodologies

1.2.5. Gender dimension

Among the estimated 1.3 billion people across the world who have no access to electricity, 70% are women; women around the world are experiencing energy poverty to a much higher degree and in various ways than men. Moreover, women are recognisably much more vulnerable to climate change. Renewable energy installations such as wind farms can contribute to mitigate climate change, improving access to electricity and creating new jobs and income generation opportunities for women. However, the realisation of such infrastructure can lead to an exacerbation of gender inequalities. Women participate less in preliminary projects' design consultations, have fewer access to employment and limited participation in decision making[33]. WIMBY considering the existing gender gap researches and addresses the gender dimension:

1. **Equal participation:** Gender balanced and gender sensitive participation in all stakeholder engagement activities (workshops, interviews, panels etc). All Partners work towards removing any and all barriers.
2. **Gender-sensitive analysis:** gender segregation of all data collected. In addition, together with focusing on all socially vulnerable groups, gender perspective alternatives are provided. Moreover, to sensitise consortium members to potential gender issues, project representatives join EuroGender, the European Institute for Gender Equality's online cooperation and consultation hub and participate in gender equality training courses, online discussions and various surveys.
3. **Policy recommendations**: We develop dedicated suggestions and guidelines towards gender balanced participation and focus on enhancing the active role of female citizens, including promoting skill enhancing activities and suggesting financial instruments and mentoring schemes for women. The drafting of such recommendations and suggestions includes equal representation of women.
4. **Dissemination:** WIMBY's communication strategy and promotion ensures to include women representatives in all activities and dissemination actions. Beyond that all dissemination material is gender inclusive (We have a dedicated dissemination partner, DBL, overseeing this).
5. **Research teams**: all Partners ensure equal employment opportunities for project personnel.

1.2.6. Open-science practises

The WIMBY consortium is fully committed to embrace the Horizon Europe Open Science principles. The Open Access (OA) to publications and data sets are provided in accordance with the guidelines on OA to scientific publications and research data in Horizon Europe published by the European Commission and with the FAIR principles. All peer-reviewed scientific publications resulting from the project are published under "Gold" OA. i.e. immediately available and with associated costs cover either by individual OA agreements of partners (e.g. BOKU, UiO[2] and UU) with particular publishers (e.g. Elsevier) or by budget that has been allocated for this purpose by the partners. Pre-prints are made available, when possible, in dedicated repositories such as arXiv, SSRN and researchsquare. Similarly, technical guidelines and other resulting documents relevant for dissemination and

[2] In the case of Norway this includes institutions in the whole country https://www.uio.no/english/about/news-and-events/news/2019/unique-agreement-with-elsevier-ensures-open-access.html

exploitation are published in Gold OA or in open-access rapid publishing platforms (e.g. Open Research Europe, Outcomes–RIO and Research Ideas). VUB, DTU, UCL, UiO, UU, ETH, PSI and BOKU have transparent internal policies for the open publication of funded research, with detailed guidelines available on their websites. In all cases, publications are self-archived by the researcher and on the project intranet, before and after release in the public domain. Datasets are made available not only via OA repositories such as Zenodo but also via WIMBY's Web-GIS interactive forum (depending on GDPR and/or copyright constraints). Moreover, WIMBY makes code and algorithms of the academic partners openly accessible using attribution licenses Creative Commons (CC) and General Public Licenses (GPL) as required. Best practices of reproducibility, organisation, documentation and distribution are followed and supported by the use of GitHub version control repositories. Relevant publications, pre-prints, software, and data are announced on the project webpage and are conveniently catalogued to provide centralized web-based access to all resources generated in WIMBY.

1.2.7. Ethics and research data management

The data outputs of WIMBY are mainly spatially explicit data (generated in WP1, WP2 and WP4 e.g. wind resources availability, areas with advantageous conditions for the deployment of wind parks, collision risks for terrestrial species, regulatory conditions for wind power deployment, indexes of impact on health and safety from wind farms) as well as data of the indexes reflecting needs, and satisfaction from stakeholders resulting from the interaction in the pilot cases and dissemination activities (e.g. surveys and workshops). This data is to be primarily shared via WIMBY's Web-GIS, WIMBY's web page and open access repositories (e.g. Zenodo). Data collection, storage, process, analysis and destruction comply with national legislation and regulations, the European **General Data Protection Regulation** (**GDPR**) and in general Horizon Europe standards. To ensure this the consortium develops a **Data Management Plan** (**DPM**) during the first months of the project (D7.2.). This includes: i) Types of research data to be generated, collected or used (and estimated volume); ii) Indication of generated or re-used data and sufficient information on the source/origin of the re-use data; iii) An overview of any other digital or physical research outputs iv) Indication and description of the repository of choice, to help make data findable. The repository of choice will be a certified repository or at least an institutional one, that presents the essential characteristics of trusted repositories; v) Presentation and explanation of the data and metadata standards and formats that are applied, to facilitate the data exchange and reuse across different systems. Metadata abides by the standards and the Guidelines on Open Access to Scientific Publications and Research Data in Horizon Europe; vi) Information on tools and instruments needed for data reuse and validation; vii) Presentation of a small and flexible Ethics and **Data Management Committee** that are responsible for managing all aspects of research data. The Committee includes at least one institutional DPO and another two Consortium experts; and viii) in general the details and guidance to make the data and research output **Findable, Accessible, Interoperable, Reusable** (**FAIR**).

VUB, as Coordinator, acts as a main point of data protection, with the guidance of the VUB DPO and the VUB legal department. All partners of the Consortium, under the guidance and supervision of their legal departments and Research Data Management departments, implement the DPM in every aspect of the project, especially in WP3 engagement and awareness activities (workshops, interviews, surveys): To **protect respondents' privacy** and prevent any misuse of data stored, personal **data will be pseudonymized** and accompanied by metadata. Personal data is protected against unauthorised or unlawful access and against accidental loss, destruction or damage. The results of the surveys and workshop may entail sensitive data such as income, political views, union membership, racial/ethnic origins or geographical location but is analysed and presented in **aggregated and anonymized** form, by no means carrying relation with single individuals. Income is expressed in ranges of gross annual salary or income per household (e.g. from 30 to 40k €, etc.), location is expressed in zone geographical area and no precise address is collected. Before collecting the data through interviews and workshops, respondents are asked to sign an explicit consent form. The form indicates the objectives of the study, how their personal data is stored, destroyed (and when) in a clear and unambiguous fashion. Each survey includes a notice on personal data at the very beginning, and respondents need to check a box stating that they have understood and agreed with the processing of their personal data. Checking this box will be mandatory to save their answers.

WIMBY also includes a dedicated task led by UU (T5.1) to ensure that generated and provided spatially explicit data and metadata are aligned with **INSPIRE technical guidelines** (INSPIRE Directive 2007/2/EC) and fulfil the FAIR principles.

2. Impact

2.1 Project's pathways towards impact

2.1.1. Expected Outcomes and impacts

2.1.1.1. Contribution to the Expected Outcomes (EOs) mentioned in the topic

EO1: Develop and promote the use of modelling tools and objective holistic assessment metrics for realistic in-depth analysis of cumulative impacts of wind installations on the environment and on local communities.

Description: WIMBY develops methods and models to assess a wide range of impacts of wind farms development including positive and negative impacts on e.g. ecology, land and sea use, safety, landscape and climate change (WP1 and WP2). These are merged and transformed into indexes (when applicable) to reflect cumulative impacts on the environment and local communities (WP4) and transformed into interactive tools (WP5) in a co-creation process with stakeholders (WP3). These tools comprise an interactive Web-GIS forum and a 3-D immersive platform. The Web-GIS can be used by all types of users interested in (understanding) the development of wind farms across Europe and is initially tested through interaction with pilot cases. Additionally, the 3-D immersive platform serves to support the visualisation of the impacts and the engagement process in the pilot cases

Baseline and assumptions: The methodology for the assessment of wind energy impacts is accurate, reproducible and based on open-access tools, supporting its large-scale application. The tools developed in the project are user friendly and useful for stakeholders.

Target groups: researchers (e.g. energy system modellers, energy economists, energy lawyers) wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	At project End	5 years after
Wind energy plant projects using the assessment tools developed in WIMBY	6	50
Usability and pertinency tests to further develop WIMBY's tools (after the project measured in tickets and push request in the tools repositories)	25	250

EO2: Develop guidelines to enhance energy citizenship (creating energy citizenship through material participation) of (onshore or offshore) wind energy, promoting a harmonious coexistence between the local population, other sectors (e.g. fishing communities, tourism) and the wind farms.

Description: Guidelines to motivate the engagement and promote the support of stakeholders towards wind energy deployment are developed using stakeholder mapping and MCSA methodologies in WP4 based on the interaction with stakeholders in workshops at pilot cases in WP3 (selected to cover a wide range of geographic, economic, environmental and social conditions) and feedback during the utilisation of WIMBY's Web-GIS interactive forum developed in T5.3.

Baseline and assumptions: Inviting a wide variety of stakeholders to participate in the engagement activities and the co-creation process of the tools will provide greater insight on the motivations of individual stakeholders to support wind farms development and best practice examples can be drawn from WIMBY's interactions with them.

Target groups: researchers (e.g. energy system modellers, energy economists, energy lawyers) wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	At project End	5 years after
Percentage of stakeholders that declare an increased understanding of the impact of wind farms in the natural and social environment	70%	70%
Number of stakeholder types involved per case study	3+	3+
Total number of stakeholder types involved	40	300

EO3: Realise outreach activities to promote social awareness and engagement on wind energy, and develop guidelines for participatory processes in wind farm development to reach interactive and mutually value-enhancing outcomes.

Description: Societal engagement activities (workshops and interaction activities) are developed in WP3 and WP6 to promote energy citizenship and communicate the multiple trade-offs of wind energy plants, contributing towards the definition of best practices to support wind power. Moreover, we have the Web-GIS and multiple dedicated tasks in WP6 that include a solid dissemination and communication strategy

Baseline and assumptions: tools and solutions developed address the needs of involved stakeholders

Target groups: researchers (e.g. energy system modellers, energy economists, energy lawyers) wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	At project End	5 years after
Number of citizens reached in participatory processes	350+	2000
Number of citizens reached via dissemination activities and tools including the Web page and the Web-GIS interactive forum	5000	20000

EO4: Facilitate both the identification of future areas for deployment, notably of offshore wind farms, and the consenting process.

Description: Our assessments of potentials, impacts, synergies and trade-offs of wind power deployment are developed in high resolution for entire Europe and in very high resolution for the pilot cases (WP1, WP2, WP4). The methods developed in the pilot cases to improve the consenting process are reproducible and can be used in future areas for deployment across Europe and beyond (WP3, WP4). Moreover, we provide energy system analysis of the local, country and EU level that also serves to identify appropriate shares of wind development to reach a carbon free economy at these spatial scales. Best practice guidelines and recommendations from WP4 serve to increase efficiency and effectivity of wind power development across EU Member States (and neighbouring countries).

Baseline and assumptions: Our underlying models are accurate and our methodologies contribute to facilitate the consenting process of stakeholders

Target groups: researchers (e.g. energy system modellers, energy economists, energy lawyers), wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	At project End	5 years after
Identified areas for wind deployment where the consenting process is facilitated with WIMBY's tools	10	100

2.1.1.2. Contribution to the Wider Impacts (WIs) mentioned in the destination

WI1: Reduced cost and improved efficiency of renewable energy and renewable fuel technologies and their value chains.

Description: WIMBY reduces the cost of planning and developing new wind farm projects: cutting-edge assessment tools such as TopFarm 3.0 (T2.1.) are made available for free for expert users (wind power project developers) via the API and to the rest of stakeholders via the Web-GIS (T5.4). This tool allows an accurate assessment and high-level optimised design of wind farms without having to pay for any licences. Further models and data such as the risk of collision of terrestrial species (T1.3.), the land and sea use change assessments (T1.2.), the LCA results (T2.4.), landscape impacts (T2.3.), regulations and financing opportunities (T2.5) and the interactive tools themselves (WP5) should help to facilitate and speed up multiple parts of the planning and project development process including the creation of an environmental impact assessment as well as the consultation process with local stakeholders. All these reduce the total cost of the farms.

Baseline and assumptions: tools and solutions developed address the needs of involved stakeholders

Target groups: wind power engineers, wind power project developers, TSOs, DSOs, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	5 years after	10 years after
Reduction of system LCOE with WIMBY approach	2%	3%
Increase in speed of planning implementation	3%	3%

WI2: Better integration of renewable energy including disruptive wind energy technologies, and renewable fuel-based solutions in energy consuming sectors to reach a carbon free Europe.

Description: WIMBY's tools such as TopFarm3.0 (T2.1), the Web-GIS (T5.4) as well as the further developed RE3ASON, highRES-Europe and JRC-EU-TIMES models (WP4) allow a detailed evaluation of the electricity production that can be achieved with wind power from individual turbines to the continental system-level supporting the transition to energy systems that lead to a carbon free economy in 2050.

This serves each possible type of energy consuming sector, governments and other stakeholders to facilitate an analysis of, for example, the complementarity between RE sources and optimal integration of renewables (including wind) to cover a particular demand. Part of the parametrisation of the models includes i) alternative wind power technologies such as large floating wind turbines and airborne wind turbines that are currently barely represented in the share of energy generation install capacities but could become game changers in the decades to come as well as ii) amelioration options to mitigate environmental and social impacts from wind turbines.

Baseline and assumptions: tools and solutions developed can accurately simulate potential electricity generation loads of different types of technologies and asses the role different types of wind turbines including amelioration options in a future net-zero European energy system

Target groups: researchers (e.g. energy system modellers, energy economists), wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, DSO, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	5 years after	10 years after
Number of energy consuming sectors making use of WIMBY's tools	150	500
Amount of electricity that can be provided by wind energy including "disruptive technologies" such as floating offshore wind, large onshore turbines, airborne wind turbines (as percentage of electricity generation; up from 14% in 2020 and improving upon the EU's assessment of 24% by 2030 without the insights from WIMBY).	30%	40%

WI3: Enhanced sustainability of renewable energy and renewable fuels value chains, taking fully into account social, economic and environmental aspects in line with the European Green Deal priorities.

Description: The LCA analysis developed in WIMBY (T2.4.) is more accurate and exhaustive than any previous one done for wind power systems: It is spatially explicit and prospective and input data for materials and processes will be obtained directly from turbines manufacturers that are part of the WIMBY's advisory board. These provide stakeholders in the wind power value chain key information to make decisions on technologies, locations and procedures that are truly more sustainable than others.

Baseline and assumptions: stakeholders of the wind power value chain are interested in making more sustainable decisions

Target groups: researchers (e.g. energy system modellers, energy economists), wind power engineers, wind power project developers, local and regional policymakers in Europe, local (planning) authorities, local communities, citizens.

Scale and significance - Impact Key Performance Indicators	Target	
	5 years after	10 years after
Total number of stakeholders using WIMBY's LCA results and tools for projects/decisions related to the wind power value chain	300	1000

WI4: Reinforced European scientific basis and European export potential for renewable energy technologies through international collaboration

Description: WIMBY brings together 10+ research institutions with complementary expertise to achieve thorough scientific insights that are published in open access journals for further exploitation. These include e.g. thorough analyses of cumulative impact of wind parks on the environment, how to assess deployment with high spatial

resolution, understanding techno-economic impact of high wind shares on European power systems, and a better understanding of the decision making processes of citizens and stakeholder of wind power adoption. The tools developed by the academic partners are also open source and their development documented in open access repositories, which opens up opportunities for their future development and exploitation
Baseline and assumptions: WIMBY's methods, tools and results are beyond state of the art and can be widely found, used and further developed.
Target groups: researchers (e.g. energy system modellers, energy economists, energy lawyers), wind power engineers, wind power project developers

Scale and significance - Impact Key Performance Indicators	Target	
	5 years after	10 years after
Number of publications related/referencing WIMBY's research	300	600

2.1.2. Requirements, Barriers and Obstacles

Potential barrier I: *Temporal discrepancy between policy implementation in the modelling tools and actual decisions in the policy realm at different scales (EU, national, regional).* → The WIMBY project team continuously surveys and reviews how political and economic events may influence short-term actions and long-term targets / pledges. This requires quick reactions to unexpected changes and adjustments of assumptions, parameters and policy variables if necessary to maintain short-term realism and provide relevant inputs to current decision-makers and the ongoing science-policy debate. At the local/regional level the stakeholder exchange through the dedicated pilot cases plays a pivotal role because decisions at the EU level may differently translate to lower spatial scales.

Potential barrier II: *Rumours (e.g. low sustainability on certain aspects, safety issues) and/or public opposition may affect perception and acceptance of an energy technology in general and at specific locations in particular.* → To reduce and mitigate such problems WIMBY develops and applies transparent and comprehensive procedures for stakeholder interaction. It aims to collect feedback and preferential inputs throughout the whole project duration which is used for the MCSA to identify criteria that can help improve satisfaction and overall acceptance. Specifically, the developed methodological framework includes a set of guidelines that are applied and stress-tested at the case study locations, communicated and dissemination to diverse stakeholders as outlined below.

Potential barrier III: *Different types of models with different temporal and spatial resolution could make it challenging to achieve a consistent and comparable policy synthesis and formulation of recommendations.* → The benefit of such a multi-method approach is clearly its broadness and associated increase in details and robustness of results, but it requires a substantially higher level of coordination, effort and scrutiny to derive and work out valid and scientifically sound policy messages. Additionally open-source model/software and data (to the extent possible) facilitates this process and the engagement with diverse stakeholders ensures co-creation of the end products.

Potential barrier IV: *Legal and regulatory obstacles* → While a detailed assessment of potential legal and regulatory barriers for large wind projects is an integral part of WIMBY energy law at the EU level and in particular the governance model for energy communities put forward by the RED II and the IEMD has direct implications for the engagement strategy to increase acceptance for wind projects. Especially the required heterogeneity of partners in such energy communities is a challenge for the underlying business models. WIMBY contributes with its interactive engagement approach to facilitate the involvement of local stakeholders, a prerequisite to increase acceptance for wind power projects, developing strategies for stakeholder and citizen involvement and formulating corresponding business, behavioural and policy implications and recommendations.

2.2 Measures to maximise impact - Dissemination, exploitation and communication

The WIMBY Consortium collaborates actively in the promotion of the project and its results, in order to maximise the expected impacts. A fully integrated **Communication, Dissemination and Exploitation Plan**, involving all partners is developed and implemented during the early stages of the project to ensure the impact of the project is swift and timely and continues beyond the life of the project.

The objective of WIMBY's dissemination, communication and exploitation activities is to convey information about the project, to promote the achievements to all the potential interested parties, to raise awareness across multiple communication channels, ensuring publication and promotion towards different stakeholders to achieve the largest possible adoption and impact for WIMBY results. In particular, the strategy focuses on communicating the benefits of WIMBY to end-users (from citizens, municipalities and local communities to industry representatives and technology providers).

Communication, Dissemination and Exploitation have different goals that are detailed in Table 1 below.

Several communication channels, activities and products aim to reach out Awareness, Understanding, Engagement and Use goals.

Table 1. Goals of communication, dissemination and exploitation activities

Level		Goal	Description
1	Communication	Awareness	Give information about the project, to promote the achievements of the project to all the potential interested parties.
2	Dissemination	Understanding	This includes transferring key messages to specific stakeholders and enhancing their comprehension of the project outcomes itself.
3		Engagement	Foster early interaction of the stakeholder communities, especially citizens living close to the pilot cases, to promote social awareness on wind energy and participatory processes in wind farm development (also through workshops and involvement of the expert Advisory Board)
4	Exploitation	Use	Uptake of results by stakeholder groups

The specific strategies and plans are closely aligned with the different phases of the project, with the final aim of bringing EU-funded research and its results to the attention of multiple audiences. In particular, the different measures aim to maximise the following impacts:

• **I1: Give visibility to the project**, and its network of experts, and enhance partners reputation and help gaining understanding and support from the scientific community, policymakers and society at large.

• **I2: Attract stakeholders as potential end-users of the project results** – including e.g. researchers, experts, policymakers

• **I3: Ensure knowledge sharing and co-evaluation of solutions** with relevant communities involved.

• **I4: Ensure adoption of research outputs**, solutions and recommendations and uptake of the results by decision makers, health organisations, communities of citizens and the scientific community.

• **I5: Spread knowledge and raise awareness** by making the project results openly available on the official website and on relevant open access platforms and searchable under fair conditions. Such results are accessible in part of the deliverables, and in the publications and through online tools.

These objectives are pursued by setting up and regularly monitoring and updating a strategy & plan for communication, dissemination, and exploitation.

2.2.1. Target audiences and strategy

Due to the deep interrelation between the technical and the socio-economic nature of wind power, WIMBY targets a variety of stakeholders able to uptake the solutions and outputs developed in the project, with a focus on the local communities more directly involved. The identified target groups are engaged early in the project and targeted by specific dissemination and communication activities. The objectives are i) enabling bi-directional communication ii) enabling direct knowledge exchange and awareness raising iii) include end-users needs and expectations when implementing solutions. The Consortium considers the different target audiences to be involved: those who could be interested in learning about the findings and those who are impacted by the innovative tools developed by WIMBY. The **Target Audience (TA)** will be carefully defined starting from the categories described in the following Table 2 and for each different group which strategies are applied:

Table 2. Target audiences

TA1: Institutions, Decision Makers and Policy Makers	Dedicated communication channels of the project (consultations, workshops, forums, ...) and products (summarised guidelines and reports) are established to communicate information and ideas early and often. This serves to ensure that policy makers are made aware and informed about the adopted methodologies and results, gaining their full endorsement concerning innovative regulations and incentives' schemes related with wind power production participatory planning, siting and deployment.
TA2: Research and Innovation communities	An Advisory Board of the project is created in T7.2, to ensure the scientific soundness, ethical and unbiased character of the engagement activities and the methodologies and conditions of implementation of the proposed solutions.

TA3a: Representatives of the main industry and manufacturers	WIMBY involves representatives across the wind energy value chain, from development to sale, to gain their attention and support the innovations proposed both in terms of best practices for public acceptance and related smart tools and help spreading project results in the relevant networks.
TA3b: Representatives of local authorities, wind power developers and practitioners	WIMBY also involves representatives of local authorities and local civil associations in the promotion, participation and potential direct involvement of their members, to ensure there is room for them to initiate a more direct dialogue and enable civic participation. They also help the project to involve the public sector in participating in interviews and potentially useful surveys.
TA3c: Wind-power market related SMEs, public and semi-public companies	A specific communication and dissemination approach is undertaken to engage this specific target audience. Focus will be given to promote the advantages of WIMBY's tools and their integration in planning and engagement processes.
TA4: Citizens, local communities, potential consumers	WIMBY uses participatory engagement methodologies to identify and address as broad a range of users needs as possible, while also raising their awareness. Thus, the aim is to involve them in the identification of impacts, co-existence strategies and decision-making processes related with wind-power production infrastructures.

2.2.2. Draft plan for communication and dissemination

To ensure a timely start of the dissemination activities, the draft plan is implemented from the launch of the project and updated at M04 and M18 and are needed during the project development. Table 3 presents a preliminary dissemination plan that is adopted starting from M1 of the project and updated at M4.

Table 3. Activities of preliminary dissemination plan

Activity	TA (see 2.2.3)	Plan	Impact (see2.2.2)
PRODUCTS			
Coordinated visual identity, logo and logotype, general brochure, document templates, slide deck): standard dissemination pack available to all partners for all purposes.	TA1, TA2, TA3, TA4	M06	I1: create identity, consistency and awareness of the project.
Project video: motion graphic presenting the main concept, objective and expected results (to be shared on the website, social medias and major events when presenting the project)	TA1, TA2, TA3, TA4	M20	I1: Create awareness of the project.
Project website: main project's information channel to inform about the objectives; to get in contact with members of the consortium and potential additional Advisory Board members; to promote upcoming events, WIMBY's tools and further results and project advancements.	TA1, TA2, TA3, TA4	M06	I1: Create awareness of the project.
Social media channels: LinkedIn®, Twitter and newsletter. These channels are set-up and kept alive to ensure the coverage of topics and the targeting of content towards relevant communities. An editorial plan is created and included in the dissemination plan (D6.1), and regularly updated during the project.	TA1, TA2, TA3, TA4	M03 - M36	I1: Disseminate the project outcomes.
As main outputs of the project become available**, at least 3 different infographics** are developed for each target audience group, to promote and easily visualise and communicate the most relevant outcomes generated.	TA2, TA3, TA4	M01 - M36	I1, I2, I4: visualise concepts to make them accessible to all target audiences, and ensure results' uptake.

A summarised version of the energy citizenship guidelines will be issued, promoting direct engagement of the local communities related with the use of interactive tools such as the Web-GIS interactive forum and the immersive 3D environments.	TA1	M36	I1: Disseminate the project outcomes.
MAIN WORKSHOPS			
#1 Three **Advisory Board Workshops** focusing on drawing on the member's expertise and using their feedback to refine and improve aspects of the project's approach as required, e.g. by sharing early results.	TA1, TA2, TA3	M8, M20, M32	I1, I2, I3: Identification of the contextual factors.
#2 **One public event/conference** focusing on disseminating and collecting broad feedback on project results	TA2, TA3, TA4	M22	I1, I2, I3: Disseminate the project outcomes and put them under external audience analysis
#3 **12 Workshops engaging local citizens and further stakeholders in each pilot case as described in WP3**.	TA4	M18 - M34	I1, I2, I3: Validate results and disseminate project outcomes.
#4 A **Final public event that** reaches out to EC officials, policy makers, main actors of the different market sectors and related industries.	TA1, TA2, TA3	M34	I1, I4, I5: Disseminate the project outcomes.
OTHER DISSEMINATION ACTIVITIES			
2 Press releases, one to launch the project and one after main results have been achieved, towards the end of the project.	TA1, TA2, TA3, TA4	M8 - M30	I1, I2, I4, I5: Create awareness of the project and disseminate project outcomes.
A bi-annual newsletter to keep the interested stakeholders and audience updated on the project progresses, publications and main public deliverables presentation.	TA1, TA2, TA3, TA4	M6 - M36	I1, I2, I4, I5: Create contacts to raise awareness of the project and spread project outcomes.
2 Articles in general and domain related press and magazines about interesting aspects of the project research and important results.	TA2, TA3, TA4	M24 - M36	I5: present the outcomes to interested and relevant stakeholders
Scientific communication (papers and articles) in major conferences and scientific journals. The targeted journals and conferences list are included in the first version of the Dissemination plan	TA2	M6 - M36	I5: present the outcomes of the project at relevant national, European and international scientific events as well as in articles in high-impact journals
2 coordinated communication campaigns are planned during the project lifetime in line with the achievements of the project, such as press releases, newsletters, social media and general media actions.	TA2, TA3, TA4	M6 - M36	I1, I2, I5: create awareness and disseminate project outcomes.
2 participations to domain specific fairs and events involving the sectorial enterprises.	TA3	M12 – M36	I5: present the outcomes to interested and relevant stakeholders
3 lectures delivered as in person or online seminars involving academic partners, including whenever possible the possibility of testing the Web-GIS interactive forum and the immersive 3D environments	TA3, TA4	M12 – M36	I1, I2, I5: create awareness and disseminate project outcomes.

4 short video- interviews with pilot cases' stakeholders, ranging from citizens to public authorities and entrepreneurs, collecting their feedback about the engagement strategies adopted by WIMBY (MCSA, 3D environment, Web-GIS, citizen science etc…)	TA2, TA3, TA4	M12 – M36	I5: present the outcomes to interested and relevant stakeholders

All partners are engaged in communication and dissemination. In particular DBL will provide professional journalism support and, with the support of all partners, coverage of the most important events related to the main topics of the project. Recognizing that smartphones and other connected devices are the channels through which many stakeholders get informed, and taking seriously our responsibility as first initiators of practice change for environmental reasons, we have opted to follow a policy of e-communication, i.e. where possible, communication items are disseminated electronically, except for some selected printed material for in-person events. For the same reasons, WIMBY organises online internal meetings and optimises travel logistics towards CO_2 reduction as far as possible.

2.2.3. Measurable indicators for Communication and Dissemination Activities

The impacts of dissemination and communications are continuously monitored and kept updated regularly. Table 4 presents a cumulative list of all dissemination and communication KPIs for the project, corresponding to activities and measures presented above. Similarly, Table 5 presents the KPIs for the engagement activities.

Table 4. KPIs for dissemination and communication

KPIs for Dissemination & Communication	M1-M12	M13-M24	M25-M36	Total
Number of large public events organised for external audiences	0	1	1	2
Number of external events attended representing the project	3	3	3	9
Workshops (including Advisory Board WS and societal engagement WS)	4	5	5	14
News from the project (for the blog and all the social media)	10	20	20	50
Number of scientific publications in peer-reviewed journals	0	6	6	12
Number of presentations at peer-reviewed international conferences and workshops	3	4	6	13
Number of general press/magazine articles published	0	1	1	2
Number of press releases delivered to traditional media	1	0	1	2
Number of unique visitors to the Website (based on Google Analytics)	1200	1000	1800	4000
Number of references in other websites	10	20	20	50
Number of resources downloads	10	10	30	50

Table 5. KPIs for engagement

KPIs for Engagement	M1-M12	M13-M24	M25-M36	Overall
Number of total participants to public events organised for external audiences (in person+online)	50	150	150	350
Number of Newsletter subscribers	50	50	100	200
Ratio of recurring participants to in person events (%)	1%	5%	10%	10%
Ratio of recurring participants to online events (%)	1%	2%	5%	5%
Number of direct emails of interest in the project received (by whole consortium)	10	15	15	40
Number of events/activities organised using the local language	4	4	4	12

2.2.4 Exploitation of results

A successful uptake strategy creates more acceptance among stakeholders and contribute to the further growth towards the SDGs. During the project a set of specific actions are undertaken to ensure a comprehensive and effective exploitation of project results and outcomes, in particular:

An articulated **Exploitation Plan**, to be considered as a clear guideline for uptake and replicability of the results, indicating the full exploitation strategy and main actions to be conducted by partners before and after the project ends to guarantee exploitation of the project results and ensure their legacy;

A detailed **Exploitation Agreement** (that integrates the Consortium Agreement) will be defined among partners

to establish clear commercial routes with which project results and knowhow are exploited providing commercial opportunities for all involved parties;

An **Exploitation Workshop** to be held in the advanced phase of the project with Consortium members and the Advisory Board enables all partners to share the exploitation strategy and vision as well as refine it where necessary.

Involvement of relevant external stakeholders in the exploitation through tailored activities such as expert interviews and focus groups.

Exploitation activities start early in the project and follow an Exploitation path which evolves with the project. The Exploitation path is organised in three phases:

1. Initial phase (month 15): initial mapping of project results, preliminary exploitation pathways
2. Mid phase (month 27): review and update of Exploitation plan
3. Final phase (month 36): finalisation of exploitable results and exploitation agreement.

2.2.4.1 Individual exploitation plan

As explained above a detailed Exploitation Plan is developed as part of the WIMBY Exploitation activities. Nonetheless, at this stage the WIMBY partners have already developed preliminary Individual Exploitation Plans which ensures full impact for the project and are outlined below.

Partner	Exploitation plan
VUB	The activities developed in WIMBY support the mission of VUB to promote interdisciplinary science with industrial innovation towards the energy transition. The outcomes from WIMBY also consolidates VUB as a reference institution for the assessments of technical, social and environmental aspects of RE sources. In particular, the use of perspective Life Cycle Assessment supports the extension of the Group's capabilities in this field and WIMBY allows the group to take an active role in the development of Brightway2, a leading LCA tool initiated by PSI.
DTU	The data access application and coupled software tool developed during WIMBY enhances DTU's objective to increase the value and reduce the cost of wind and RE parks. The project itself will advance systems engineering and optimization methods to multidisciplinary research that bridges key domains of wind and RE. The design tool is available as open source with options to buy licences for higher fidelity modules to improve the accuracy of micrositing, wake and noise. The low fidelity modules remain free and open source after the end of the project. Furthermore, WIMBY enhances DTU's collaborative network to new groups, e.g. ecological and environmental.
IIASA	IIASA's Energy, Climate and Environment Program conducts integrated assessment of energy production and its impact on the environment. IIASA benefits from WIMBY's development of pan-european animal collision models and the land- and sea-use change maps of WP1, to improve its own capacity to investigate complex nexus issues related to energy production and sustainability. IIASA further expects to develop new collaborations with WIMBY's partners for innovative research and policy support applications in the EU and beyond.
BOKU	The activities performed during the project further improves the methods and tools developed at BOKU. The integration and extension of existing land-use modelling tools with a focus on renewable energies, 3D immersive interaction appliances and ecological niche models further improve the single tools, but even more importantly the integration and interaction between these tools. This enhances the impact in the scientific community, as well as in the industry, to propagate the methods developed.
UCL	UCL's involvement in WIMBY supports the further development of energy systems research that seeks to better understand and integrate the real world factors that shape planning decisions, which is a key theme of the institute's research programme and critical in supporting a well-managed and just low carbon transition. Advances in this area will then be fed back to inform a range of actors. From an academic perspective this will include the UK Energy Research Centre, which UCL hosts, while the strong links the university has with the UK Government are also leveraged to reach policy makers (e.g. the Department for Business, Energy and Industrial Strategy). Furthermore, the highly inter-disciplinary and internationally collaborative nature of this project enables the ongoing development of new, and strengthening of existing, research networks across Europe.
UiO	One of the core themes of ITS is modelling just and socially accepted energy systems as well as supporting the transition from oil to new industries (e..g offshore wind) in Norway. WIMBY complements UiO's expertise on social impact to extend to ecological ones. The updated highRES model, interaction with

	teams across Europe and the Norwegian case study strengthens UiO's research, network and impact in Norway feeding directly into a number of related projects such as the national centre Include and activities under the Nordic Energy Outlook.
NAZKA (SME)	The impact of the work carried out in the WIMBY project for Nazka mapps is substantial. Technologically, WIMBY allows Nazka to further innovate and develop its Mapframe, an open source-based mapping system, with a focus on participatory mapping and visualising datasets in new ways. This further strengthens the position of Nazka as an innovative, credible and specialized mapping partner for the wind energy sector. Moreover, the international collaboration envisaged in WIMBY leads to new contacts, contracts and potential partnerships. Nazka will be able to demonstrate the developed solutions using the project's visibility and promote the solutions through the company website. Nazka is a sustainable SME with a focus on socially relevant developments that benefit current and future generations. Participating in WIMBY fits perfectly into that vision and mission.
ETH	One key research theme at the Chair for Energy Systems Analysis at ETH Zurich lies in developing resource assessment methodologies for renewable energy technologies, as far as possible exploiting open data to ensure transferability. In relation to wind energy, previous research has developed methods to integrate non-technical impacts such as landscape impacts and public acceptance into methods for assessing potentials and costs of wind energy. Another focus of the Chair's research lies in planning and operation of decentralized energy systems, especially but not only with the in-house RE3ASON model. This model already includes a turbine-placing algorithm and are developed within the project to include other impacts of wind energy such as those mentioned above and further ones to be explored within the project. Within this context, the work to be carried out in WIMBY is exploited through collaborative research, publications and related projects with academic and industrial partners. Hence the new insights and knowledge is disseminated to a wide selection of stakeholders and methods/tools are made available in an open-source format.
PSI	The modelling work and advancements of the JRC-EU-TIMES model are made available as open-source software to the modelling community. Specifically, it is expected that the members of the ETSAP Technology Collaboration Programme of the International Energy Agency benefits from the advancements of the model as several of these members use the model as well. The LCA will use the modular open source LCA framework Brightway (https://brightway.dev/) as well as other open-source software tools (e.g. PRospective EnvironMental Impact asSEment (PREMISE)) developed by PSI. In this way, transparent and reproducible analyses are ensured. The Multi-Criteria Satisfaction Analysis (MCSA) framework developed in WIMBY is documented and disseminated by means of a guideline report and codes / tools are made publicly available, ensuring that it can be applied to other locations and case studies beyond WIMBY. It is also an essential contribution to the case studies and dissemination activities of WIMBY.
KIE	The KIE is dedicated to promoting consumer engagement and their financial participation in RE projects in Europe and Worldwide. The holistic modelling approach of WIMBY is of imminent value to shape best practice citizen engagement strategies that consider ecological, social, and economic dimensions of project implementation. The generated datasets and modelling outcomes are the basis for continuous scientific and practical work. For instance, the validation of the results with other technologies and sectors with the ERA-NET project FINSESCO, a project in cooperation with the European University Viadrina to establish a transnational Renewable Energy Community with the border towns Frankfurt (Oder) and Słubice.
DBL (SME)	DBL intends to improve its consultancy ability and capacity in sustainability thanks to the knowledge and practical experience acquired through its participation in the WIMBY project. Guidelines, process improvement recommendations, customer engagement and the different solutions identified represent a valuable product in support of the DBL consultancy work. The role of leader of the dissemination WP allows DBL to establish contacts with potential users enlarging the potential base of DBL's services. All partners learn from DBL's dissemination with local and national stakeholders so as to improve their future real-world impact.
UU	With WIMBY, the UU's Copernicus Institute of Sustainable Development continues strengthening its research on integration of intermittent RE performed in joint efforts between its modelling and its sustainable energy research groups. UU makes use of the TOPFARM3.0. API and WIMBY's Web-GIS for future assessments of wind resources, which improves the quality, accuracy and diversity of aspects considered when addressing forward-looking scenarios of e.g. production of renewable fuels in Europe and design of energy systems resilient to climate change driven extreme weather events. The experience acquired through WP5 is translated into guidelines for future projects addressing mainly energy topics to improve dataflows, data quality assessments, and data dissemination and re-usability practises.

POLITO	POLITO intends to leverage WIMBY results to accelerate the permission process in the Pantelleria site and to modify current restraints and regulations from the regional government. Likewise, WIMBY results will be a valuable asset to attract investors and enable the industrial roll out of the floating offshore wind plant in Pantelleria.
UNIPA	The Pantelleria case-study results in WIMBY allows the creation of new data based on the predictive models. The results will be published in international peer reviewed journals and are promoted through the institutional website. The UNIPA multidisciplinary research group exploits the obtained results as reference for further scientific research. In addition, the predictive models are freely accessible and they can be used for future research by other researchers. Findings are useful to policy makers in order to support promotion and implementation of RE technologies. Finally, WIMBY allows the UNIPA research group to collaborate with new research networks across Europe with further opportunities for new projects.
APREN	WIMBY will be of much significance for APREN. Portugal deploys a substantial amount of RE in its road to meet the 2030 targets, and one of the main issues public and private entities face is their acceptance, as their relevance is not always well perceived. APREN has worked on goodwill around the renewable sector since 1988 on a national level, but the WIMBY Project allows for the association to go to the field and create knowledge and goodwill around the topic among local communities, promoting wind benefits and its positive impact on a social and economic level in specific points of the country. It also allows the association to promote energy literacy, which is, in fact, one of our main goals as an organisation, and thus contribute to the much-needed energy transition in a more practical and hands-on way.
MCN	WIMBY facilitates testing of innovative methodologies for participation and assessment of environmental and social consequences at one of Norway's test stations for offshore wind power. Norway is intending to develop offshore wind power, and the experience from this pilot contributes to developing best practices relevant both for developers, consultants and authorities. Due to the many actors and developers involved in the test centre, there is an effective dissemination of knowledge to the other actors and developers.

2.3 Summary

SPECIFIC NEEDS	EXPECTED RESULTS	D & E & C MEASURES
i) A sustainable, secure and competitive energy supply for Europe requires extensive deployment of wind power. However, wind power is facing opposition and is susceptible to the NIMBY effect, and location-specific environmental impacts are not well understood in the wider population. ii) Actions that improve the understanding of these issues and the public perception of wind power, increase its popularity and foster the co-existence of populations with it are necessary.	i) Detailed assessment of the environmental, technical, and social aspects of wind energy across Europe. ii) Insights on the role and location of wind power in the European energy transition, including key trade-offs between relevant criteria and preferences, highlighting potential bottlenecks iii) Communication of results based on a Web-GIS interactive platform, website and other targeted media. iv) Engagement of multiple stakeholders and consolidation of a wind power deployment forum. v) Deeper understanding amongst experts and the public of the societal, ecological and economic impacts of wind energy production. vi) Development of sustainable solutions and the provision of policy recommendations for the development of wind energy sites.	i) Coordinated visual identity and communication material (templates, brochures, posters, etc), project video, project website and social media channels (i.e., LinkedIn®, Twitter) ii) 2 articles on general press and 2 newsletter per year iii) 3 WIMBY Advisory Board Workshops targeting dissemination and exploitation of methods and results **iv) WIMBY's Web-GIS interactive forum and immersive 3D platform validated through extensive applications and pre-tests** v) Infographics for digital media communicating key results from the project vi) **12 Workshops engaging local citizens, through appreciative inquiries, citizen science activities and collection of needs requirements and feedback on WIMBY's Web-GIS, and 3D tools** vii) 20+ Scientific publications including Journal papers and Conference proceedings viii) 2 coordinated communication campaigns ix) Participation in domain specific fairs and events x) 1 intermediate and 1 final public event

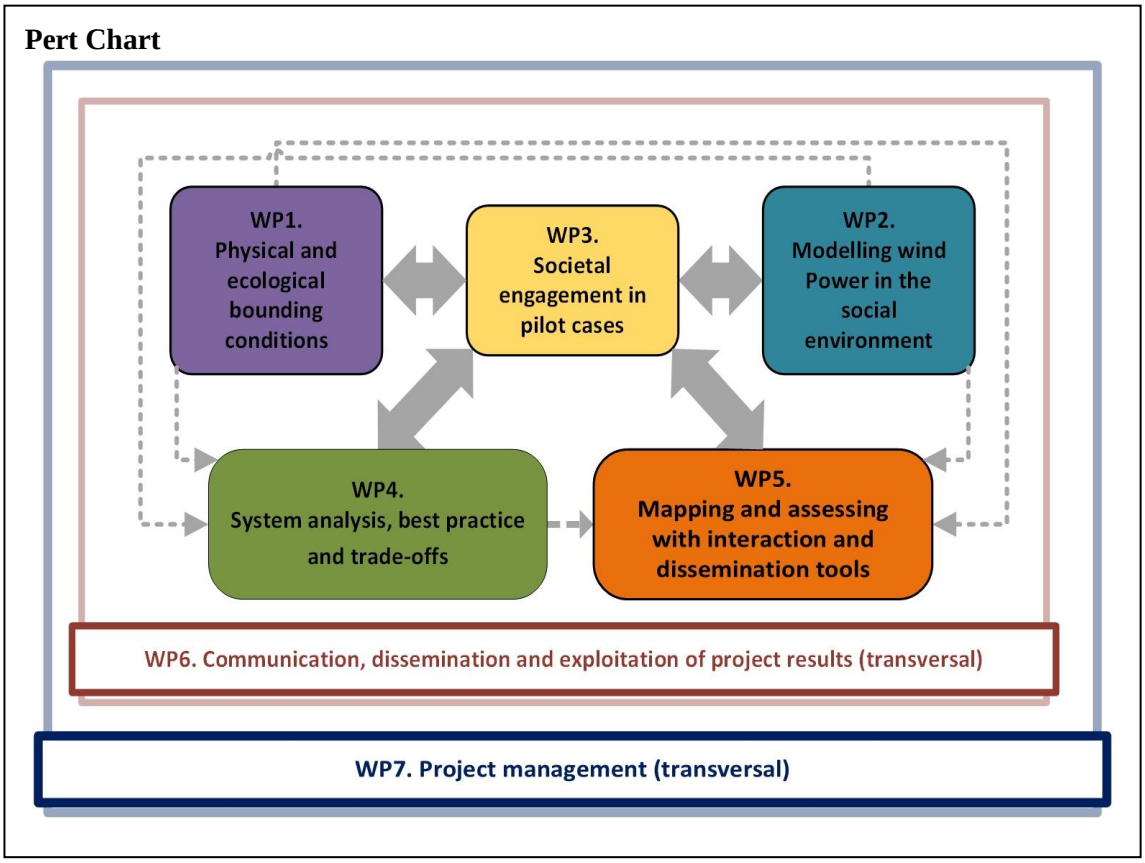
TARGET GROUPS	OUTCOMES	IMPACTS
i) Public authorities, including municipalities and local advisory councils, regional/federal planners. ii) Scientific community working on sustainable transitions and smart cities iii) Private citizens, local communities and RE communities. iv) Private sector (e.g. wind power industry, energy providers, wind power project developers and consultants)	i) Improved and promoted modelling tools and holistic assessment methods to assess the cumulative impact of wind energy on the environment and local communities ii) Guidelines, implications and recommendations to enhance energy citizenship for wind energy and promote a harmonious co-existence between the local population, other sectors and wind farms iii) Guidelines developed for participatory processes in wind farm development to reach interactive and mutually value-enhancing outcomes iv) Outreach activities realised to promote social awareness and engagement with wind energy v) Facilitation of the identification of future areas for wind deployment and the consenting process	i) Significant and lasting contribution to ensuring a sustainable, secure, and competitive energy supply for Europe ii) Promoting and accelerating the uptake of disruptive renewable technologies such as floating wind, air-born wind and much larger turbines iii) Substantial contribution to reduced costs in the value chain for wind, including the levelized cost of energy generation and cost and efficiency of the planning and regulation processes iv) Strengthening the wind power sector and de-risking the technology to ensure commercial exploitation and improved integration into the European energy system, thereby making a solid contribution to net zero GHGs by 2050 v) Building capacity in Europe along the value chain of wind energy and enabling the emergence of Europe as a scientific and industrial leader and export region vi) Ensuring enhanced sustainability of wind supply chains, taking fully into account social, economic and environmental aspects in line with the European Green Deal priorities vii) Enabling more effective market uptake of renewable energy in the form of on- and offshore wind

3. Quality and efficiency of the implementation

3.1 Work plan and resources

3.1.1. Overall structure of the work plan

WIMBY is structured in seven WPs that have strong interactions between them but individually also lead to significant results. The interaction between WPs is summarised in the Pert Chart below. WP1 and WP2 constitute the basis of knowledge and data by focusing on the assessment of potentials and impacts of wind power in the environment and wider society respectively. In both WPs, spatially explicit data addressing a wide range of key conditions for the deployment of wind power as well as models to support decision making are developed. These are the input, on the one side, for the analysis of synergies and trade-offs in WP4 and, on the other side, for the Web-GIS interactive forum and the immersive 3D platform in WP5. WP1, WP2, WP4 and WP5 develop through feedback loops with the core of the project, the pilot cases, in WP3. Dedicated pilot case leaders (POLITO, APREN, BOKU, UiO+McN) ensure that the interaction with local stakeholders takes place and that the engagement is maintained throughout the lifetime of the project. The interaction with stakeholders in the pilot cases leads to a better understanding of reasons and motivations to support or be opposed to wind power deployment and to the development of guidelines and best practice to foster its adoption (WP4). Moreover, the tools developed in WP5 are not only a key for the engagement process but also enriched and improved through the interaction and a co-creation process with the stakeholders (WP3). The pilots have been selected to cover a wide range of geographical, technological and societal characteristics that ensure the developed tools are relevant and useful to nurture wind power deployment and energy citizenship beyond the specific cases. The macro and micro level analysis of the integration of high shares of wind power from the continental right down to the municipal level delivers valuable insights on where best to locate future projects, which is also integrated into the interactive mapping tools developed in WP5. WP6 Communication, dissemination and exploitation of project results and WP7 project management and coordination are transversal to the project and includes the participation of all partners to ensure that WIMBY has a wide dissemination, that the results have a sound impact and that objectives of the project are reached on time, with the requested budget and following the highest standards in research.



Gantt chart

WIMby runs over a period of three years (36M). Timing of the work packages and their components along with milestones are indicated below.

		YEAR1												YEAR2												YEAR3											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
WP1	**Physical and ecological bounding conditions**												Ms2																								
T1.1	Wind Resource availability and quality																																				
T1.2	Land & Sea Use And Change																																				
T1.3	Continental assessment of terrestrial biodiversity risk from wind farms																																				
T1.4	Impact on terrestrial fauna for selected pilot studies																																				
T1.5	Impact on marine fauna for selected pilot studies																																				
WP2	**Modelling wind Power in the social environment**												Ms2																								
T2.1	Coupled models, technical parameters and economic costs																																				
T2.2	Impact on health and safety																																				
T2.3	Landscape impacts																																				
T2.4	Life Cycle assessment																																				
T2.5	Regulations, governance models, financing sources, jobs																																				
WP3	**Societal engagement in pilot cases**																																				
T3.1	Pilot site - Pantelleria - Off-shore																																				
T3.2	Pilot site - Rogaland - Off-shore																																				
T3.3	Pilot region - Styria - On-shore																																				
T3.4	Pilot country - Portugal																																				
WP4	**System analysis, best practice and trade-offs**																																				
T4.1	Satisfaction analysis framework: criteria and indicators																																				
T4.2	Citizens' and stakeholders' acceptability of wind power plants in their vicinity																																				
T4.3	Stakeholder mapping and best practice project implementation																																				
T4.4	Macro-level analysis of energy system integration with high wind shares																																				
T4.5	Micro-level analysis of system integration of high wind shares																																				
T4.6	Assessing synergies and trade-offs: aaplications and recommendations																																				
WP5	**Mapping and assessing with interaction and dissemination tools**																		Ms3						Ms4												
T5.1	Merging natural and social environment models as well as synergies and trade-offs																																				
T5.2	Merging of detailed natural and social environment models																																				
T5.3	Web-GIS interactive forum co-creation and assessment																																				
T5.4	Immersive 3D platform for wind power awareness raising																																				
WP6	**Communication, dissemination and exploitation**						Ms1																										Ms5				
T6.1	Communication and Dissemination Strategy and Plan																																				
T6.2	Project dissemination and communication activities																																				
T6.3	General forum																																				
T6.4	Exploitation of project results																																				
WP7	**Project management**																																				
7.1	Administrative Management and Coordination																																				
7.2	Technical Project Management																																				

3.1.2 Detailed work package description

Table 3.1h: 'Purchase costs' items (travel and subsistence, equipment and other goods, works and services)

Participants	Type of costs	Cost (€)	Justification
10. POLITO	Other goods, works and services	23,932	WP3 awareness activities: Open day in Turin (catering and venue 5.000), 5day pilot case workshop (40 participants, 2 guests, communication material, venue etc), Final workshop: 1day, 75 participants, communication material, venue.
	Travel and subsistence	16,600	WP3 awareness activities: 2 people X2 workshops, Event participation 2people. And Travel and accommodation costs for WIMBY project meetings and closing event (4 in total).
	Total	**40,532**	
11. UNIPA	Other goods, works and services	7,000	WP1/WP3 pilot case: data acquisition (abiotic and biotic features of the Pantelleria case study area).
	Travel and subsistence	4,000	WP1/WP3 pilot case: visiting other institutions to gather and elaborate data. And Travel and accommodation costs for WIMBY project meetings and closing event (4 in total).
	Total	**11,000**	
12. APREN	Other goods, works and services	28,650	Venue related costs for the realisation of 3 WIMBY's WP3 workshops in various locations within Portugal, including one big workshop to close the pilot case and present results.
	Travel and subsistence	5,500	Accommodation and travel costs for the allocated team for 3 workshops for two people in various locations within Portugal. And Travel and accommodation costs for WIMBY project meetings and closing event (4 in total).
	Total	**34,150**	
13. MCN	Other goods, works and services	24,150	For organisation of WP3 awareness activities: Open day in Oslo, pilot case workshop in Rogaland and final MCSA workshop also in Rogaland.
	Travel and subsistence	12,000	Transportation and accommodation for 2 people in 2 workshops (the ones in Rogaland), Event participation 2 people (Oslo). And Travel and accommodation costs for WIMBY project meetings and closing event (4 in total).
	Total	**36,150**	

Table 3.1i: 'In-kind contributions' provided by third parties

Partner	Category	Cost (€)	Justification
4. BOKU	Seconded personnel	38,357	In-kind (own contribution) of 5 PM by persons with tenured positions at the University: TASK 1: WP1 (0.5 PM): BOKU-IWJ (Ursula Nopp-Mayr, Eva Schöll) project management (e.g. administration) and coordination of the tasks and analyses at BOKU-IWJ; TASK 2: WP1 (1 PM): joint preparation of a set of target species selected for further analyses; regular consultations on the interim status of the species-specific high-resolution output of the ecological niche models; TASK 3: WP1 (0.5 PM): joint interpretation of results and publishing of findings; exchange with project partner organizations within and outside BOKU. TASK 4: BOKU-ILEN (Thomas Schauppenlehner) WP3 (0.5 PM): administration and coordination of the tasks and analyses at BOKU-ILEN; TASK 5: WP3 (2.5 PM): preparation and coordination of the interactive serious game approach for each region.

Table 3.1j: Associated Partners budget

AP Number/ Name	Personnel Costs/€	Purchase costs - Travel and subsistence/€	Purchase costs - Other goods, works and services/€	Indirect costs/€	Total eligible costs
14. ETH	172,858	15,000	15,000	50,714.5	253,573
15. PSI	345,309	15,000	12,657	93,241.5	466,208
16. UCL	148,200	7,418		38,904.5	194,522.5

Note:
All depreciation costs for equipment, infrastructure or other assets in the project are in compliance with Article 6 and will be recorded in the appropriate beneficiary's accounts, purchased in accordance with Article 6.2.C of the grant agreement and written off in accordance with international accounting standards and the beneficiary's usual accounting practices.

3.2 Capacity of participants and consortium as a whole

The WIMBY consortium brings together an interdisciplinary team of 16 internationally renowned institutions conducting cutting-edge research in a multitude of topics related to the energy transition as well as key local institutions in the wind power industry in selected European countries. The consortium is composed of nine universities (VUB, DTU, BOKU, UCL, UiO, ETH, UU, POLITO, UNIPA), three research institutes (IIASA, PSI, KIE), two SMEs (DBL and NAZKA), a large consultancy company (MCN) and a non-profit association (APREN) in 10 countries spread across the European continent (see Figure 4). It is diverse in terms of gender, nationalities, expertise and missions, thus providing the means to engage citizens in a large variety of socio-cultural and socio-economic contexts and a wide range of stakeholders around the wind power industry. MOBI/VUB, with **vast coordination experience in EU funded and national projects**, will ensure smooth contractual implementation and project management, communication, IPR and data management. The VUB team also has a strong background in **LCA** of infrastructure for the energy transition and a **long history in the implementation of transdisciplinary projects** with a wide range of stakeholders. DTU is a **global leader concerning wind energy research** that not only has a long and unique experience working with the industry but is also one of the main contributors to widely used tools such as the Global wind atlas, the NEWA and a multitude of tools that they, together with the consortium, will further develop in WIMBY. BOKU is joining the consortium with three different institutes with substantial experience in cooperation between them and with other consortium's partners (VUB, IIASA, UCL, UiO, ETH)): BOKU-INWE, BOKU-ILEN and BOKU-IWJ. BOKU-INWE is the institute for **sustainable economic development** with multiple previous projects on **spatio-temporal modelling of wind resources**, the societal advantages of adoption of wind power and on the **land use impact of wind power deployment**. BOKU-ILEN, which stands for the Institute of **Landscape development** recreation and **conservation planning,** not only bring with them considerable **experience on engaging with stakeholders in wind parks planning processes** but also are the developers of the immersive 3D platform for wind power projects that will be used and further developed in WIMBY. BOKU-IWJ will be leading the Pilot in Styria where they have been working on the assessment of the **ecological impact of wind turbines** for over a decade. UCL and UiO are **energy system modellers** that will extend the capabilities of their highRES-Europe planning model to examine the integration of high shares of wind power in the European electricity system while accounting for the social and ecological factors that shape the system design at regional to continental scale. They also have long standing collaboration with each other, the BOKU, VUB, ETH, PSI and the MCN teams. UiO will also lead the interactions with the pilot case in Norway with the support of MCN. ETH and PSI are experts in **energy system analysis** and have **extensive experience in interdisciplinary technology assessments**. They will be the main responsible for the implementation of the MCSA framework with stakeholders and the consolidation of the synergies and trade-offs assessments to deliver recommendations to foster the acceptance of large wind power projects in the near future in Europe. UU Copernicus Institute of Sustainable Development, nested in the faculty of Geoscience, is a global leader in **environmental science and sustainability research** that will contribute to the assessment of impacts to the social environment of high shares of wind power as well as to merge, homogenise and make spatial data of the project useful for stakeholders beyond the project consortium. POLITO's Marine Offshore Renewable Energy Lab is well established and has ongoing projects in Pantelleria and therefore will oversee WIMBYs pilot case there. The detailed **marine fauna assessment** there will be conducted by

the experts in the field from UNIPA. Both institutions, POLITO and UNIPA, have also a strong cooperation history and POLITO just completed a H2020 project with KIE. IIASA is a **global leader in terrestrial biodiversity risk assessments** and will be in charge of this assessment for wind power deployment across Europe. The KIE is a daughter of the Kelso Institute in San Francisco, California and contributes to WIMBY with knowledge and experience in **energy law** and **behavioural economics** applied to promoting consumer participation in RE production. The KIE is led by Prof. Lowitzsch holding the Kelso Chair of European University Viadrina, Germany and its team has participated in multiple research and innovation projects funded by the EC. The employed participatory approach stems from the experience of the H2020 project SCORE supporting consumer co-ownership in RE coordinated by Prof. Lowitzsch and the strategic cooperation with the REC task force of the BRIDGE initiative. DBL is an **engineering** company with a solid record of participation in EC funded projects that will contribute to WIMBY in tasks related to the assessment of the **safety of wind turbines**, **usability of software tools** (Human-computer interaction), participation processes and will be the main partners taking care of the communication, dissemination and exploitation of project results. NAZKA is the developer of the **Web-GIS** for the NEWA and will be in charge of ensuring the usability of WIMBY's Web-GIS builds on and surpasses their previous excellent projects. MCN and APREN are the entry points of WIMBY to the **wind power industry in Norway, Portugal and Europe in general**. MCN has provided consultancy services including **environmental impact assessments** to virtually all wind power projects in Norway and to a long list of them in other locations in the world. Similarly, APREN agglomerates the companies responsible for 97% of the wind power installed capacity in Portugal (Independent of the location of their headquarters, which spread across Europe). While MCN will also contribute to the environmental assessment of the offshore pilot in Rogaland, APREN will allow a broad testing of the tools developed in WIMBY by key institutions in the industry.

Letters of Support: WIMBY has received letters of support to join the advisory board, participate in project activities and disseminate project results from several key stakeholders in the wind power industry in multiple countries as well as further academic partners in and outside Europe. These include: ENGIE Renewable Energy BeLux, Siemens Gamesa Renewable Energy, EDP renewables S.A., Greek Public Power Corporation S.A., Greenventory GmbH, TwingTec, Postdam Institute for Advanced Sustainability Studies, European Renewable Energies Federation, Canada Research Chair in Urban Planning for Climate Change, Finerge S.A., EDA Renováveis, S.A., Ventient Energy.

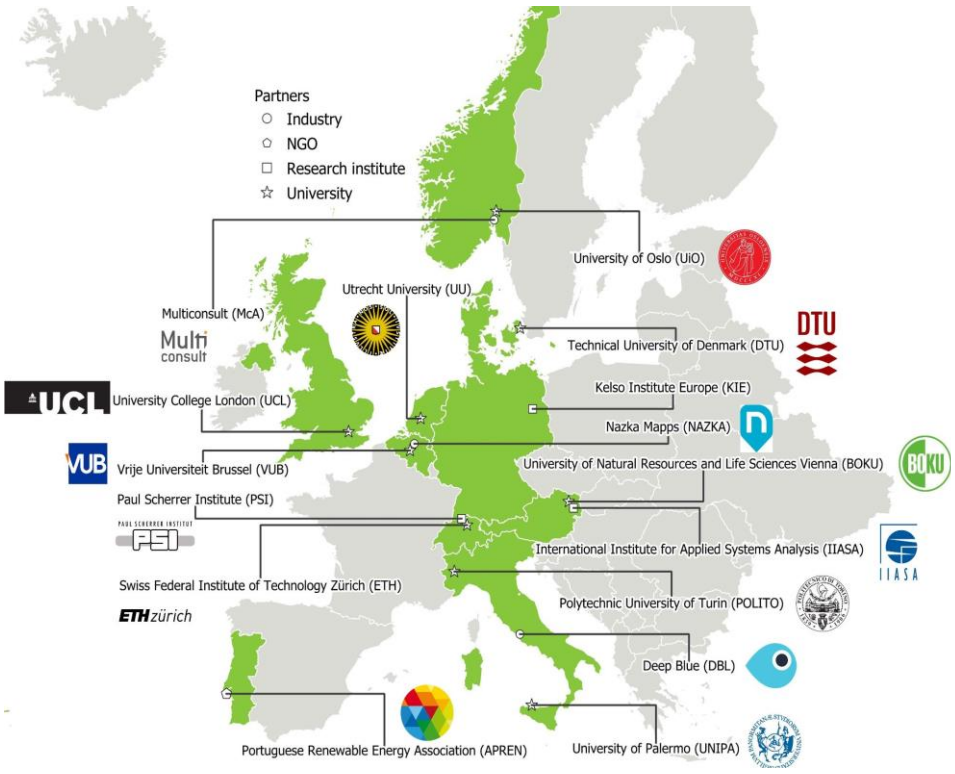


Figure 4. Geographical distribution of consortium partners.

4. Ethics self-assessment

4.1 Ethical dimension of the objectives, methodology and likely impact

WIMBY will involve local stakeholders to investigate the case studies using numerous methodologies. The requested input and information will not include personal data, but mainly the needs and wants of local key players. In case personal data is indeed required, all lawful procedures and measures will be put in place, according to GDPR and national laws and under the guidance of VUB DPO and the VUB legal Department (information form, consent forms, data anonymization/pseudonymization, safe storage). The processing of personal data will always be in accordance with the General Data Protection Regulation (GDPR) and national laws and regulations.

All data related activities (data collection/storage/process/analysis/destruction) will be in accordance with regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation) – hereinafter "GDPR" and also national legislation and regulations. VUB, as Coordinator, will act as a main point of data protection, with the guidance of the VUB DPO.

In order to collect the aforementioned data, surveys and questionnaires will be used, accompanied by information consent and information sheet, in order to ensure that all participants are fully aware of the project objectives and their own rights. VUB already has in place specific templates that will be adapted to WIMBY.

Concerning the use of artificial intelligence: We expect to use and further develop deep learning and other machine learning methods to i) classify landscape images based on their content, location and other metadata, ii) explore links between publicly-expressed sentiments on social media and location- and wind-specific data, iii) investigate links between property prices, scenicness and wind resources and iv) to research the ways in which public opinion and media content reflects and shaped developments in wind energy v) to assess the dispersion, presence and absence of terrestrial and marine species. Therefore, the use of artificial intelligence will not raise any concern related to human rights and values. We will use all the proposed methods to support the search for an answer to our research questions, but no action or recommendation would be made without human oversight.

4.2 Compliance with ethical principles and relevant legislations

• All principles and responsibilities that derive from national and EU law ethics and data protection will be fulfilled. All processes and standards will be followed throughout the implementation of the project, in order to ensure the protection of privacy and data.

• VUB Data protection Officer (DPO) and his contact details will be made available to all data subjects; the DPO will support and guide any and all actions

• The procedures and criteria that will be used to collect and process data, the informed consent procedures, the templates of the informed consent/assent forms and information sheets (in language and terms intelligible to the participants) will be developed, processed and stored in accordance with national and EU law.

• Any personal data will be safely received, stored and anonymized. They will only be used anonymized: no part of personal data will be part of any research or analysis or visible to any parties. Only secondary data (consumption) will be used; name, address, sex, etc will be completely anonymized immediately.

• Explicit consent is required for the collection and use of any personal data. You can withdraw the consent at any time; the legality of the data processing performed on the basis of the consent remains unaffected until the consent is revoked.

• A Data Management Plan will be developed, that will lay out the context of data privacy and data protection.

• Concerning the use of artificial intelligence: We will keep human agency and oversight on the development and results-evaluation process in all the cases listed above. We will comply with all previously listed (international) data protection agreements and the process will be documented and made available open access to the public via a github repository.

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ANNEX 2

ESTIMATED BUDGET FOR THE ACTION

	Estimated eligible[1] costs (per budget category)										Estimated EU contribution[2]			
	Direct costs								Indirect costs	Total costs	EU contribution to eligible costs			Maximum grant amount[6]
	A. Personnel costs			B. Subcontracting costs	C. Purchase costs			D. Other cost categories	E. Indirect costs[3]		Funding rate %[4]	Maximum EU contribution[5]	Requested EU contribution	
	A.1 Employees (or equivalent) A.2 Natural persons under direct contract A.3 Seconded persons		A.4 SME owners and natural person beneficiaries	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.2 Internally invoiced goods and services	E. Indirect costs					
Forms of funding	Actual costs	Unit costs (usual accounting practices)	Unit costs[7]	Actual costs	Actual costs	Actual costs	Actual costs	Unit costs (usual accounting practices)	Flat-rate costs[8]					
	a1	a2	a3	b	c1	c2	c3	d2	e = 0,25 * (a1 + a2 + a3 + c1 + c2 + c3)	f = a + b + c + d + e	U	g = f * U%	h	m
1 - VUB	360 000.00	0.00	0.00	0.00	16 500.00	0.00	20 000.00	0.00	99 125.00	495 625.00	100	495 625.00	495 625.00	495 625.00
2 - DTU	305 000.00	0.00	0.00	0.00	15 000.00	0.00	7 000.00	0.00	81 750.00	408 750.00	100	408 750.00	408 750.00	408 750.00
3 - IIASA	156 000.00	0.00	0.00	0.00	9 000.00	0.00	0.00	0.00	41 250.00	206 250.00	100	206 250.00	206 250.00	206 250.00
4 - BOKU	512 672.00	0.00	0.00	0.00	34 000.00	0.00	7 500.00	0.00	138 543.00	692 715.00	100	692 715.00	692 715.00	692 715.00
5 - UiO	129 861.00	0.00	0.00	0.00	5 964.00	0.00	2 973.00	0.00	34 699.50	173 497.50	100	173 497.50	173 497.50	173 497.50
6 - NAZKA	74 560.00	0.00	0.00	0.00	7 500.00	0.00	3 400.00	0.00	21 365.00	106 825.00	100	106 825.00	106 825.00	106 825.00
7 - KIE	259 275.00	0.00	0.00	0.00	15 000.00	0.00	2 500.00	0.00	69 193.75	345 968.75	100	345 968.75	345 968.75	345 968.75
8 - DEEP BLUE	201 300.00	0.00	0.00	0.00	12 000.00	0.00	17 000.00	0.00	57 575.00	287 875.00	100	287 875.00	287 875.00	287 875.00
9 - UU	214 400.00	0.00	0.00	0.00	12 250.00	0.00	12 000.00	0.00	59 662.50	298 312.50	100	298 312.50	298 312.50	298 312.50
10 - POLITO	15 600.00	0.00	0.00	0.00	16 600.00	0.00	23 932.00	0.00	14 033.00	70 165.00	100	70 165.00	70 165.00	70 165.00
11 - UNIPA	29 500.00	0.00	0.00	0.00	4 000.00	0.00	7 000.00	0.00	10 125.00	50 625.00	100	50 625.00	50 625.00	50 625.00
12 - APREN	36 977.00	0.00	0.00	0.00	5 500.00	0.00	28 650.00	0.00	17 781.75	88 908.75	100	88 908.75	88 908.75	88 908.75
13 - MCN	60 600.00	0.00	0.00	0.00	12 000.00	0.00	24 150.00	0.00	24 187.50	120 937.50	100	120 937.50	120 937.50	120 937.50
14 - ETH Zürich														
15 - PSI														
16 - UCL														
Σ consortium	2 355 745.00	0.00	0.00	0.00	165 314.00	0.00	156 105.00	0.00	669 291.00	3 346 455.00		3 346 455.00	3 346 455.00	3 346 455.00

[1] See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).
[2] The consortium remains free to decide on a different internal distribution of the EU funding (via the consortium agreement; see Article 7).
[3] Indirect costs already covered by an operating grant (received under any EU funding programme) are ineligible (see Article 6.3). Therefore, a beneficiary/affiliated entity that receives an operating grant during the action duration cannot declare indirect costs for the year(s)/reporting period(s) covered by the operating grant, unless they can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please immediately contact us via the EU Funding & Tenders Portal for details.
[4] See Data Sheet for the funding rate(s).
[5] This is the theoretical amount of the EU contribution to costs, if the reimbursement rate is applied to all the budgeted costs. This theoretical amount is then capped by the 'maximum grant amount'.
[6] The 'maximum grant amount' is the maximum grant amount decided by the EU. It normally corresponds to the requested grant, but may be lower.
[7] See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).
[8] See Data Sheet for the flat-rate.

ANNEX 2a

ADDITIONAL INFORMATION ON UNIT COSTS AND CONTRIBUTIONS

SME owners/natural person beneficiaries without salary (Decision C(2020) 7115[1])

Type: unit costs

Units: days spent working on the action (rounded up or down to the nearest half-day)

Amount per unit (daily rate): calculated according to the following formula:

{EUR 5 080 / 18 days = **282,22**}
multiplied by
{country-specific correction coefficient of the country where the beneficiary is established}

The country-specific correction coefficients used are those set out in the Horizon Europe Work Programme (section Marie Skłodowska-Curie actions) in force at the time of the call (see Portal Reference Documents).

HE and Euratom Research Infrastructure actions[2]

Type: unit costs

Units[3]: see (for each access provider and installation) the unit cost table in Annex 2b

Amount per unit*: see (for each access provider and installation) the unit cost table in Annex 2b

* Amount calculated as follows:

For trans-national access:

$$\frac{\text{average annual total trans-national access costs to the installation (over past two years[4])}}{\text{average annual total quantity of trans-national access to the installation (over past two years[5])}}$$

For virtual access:

$$\frac{\text{total virtual access costs to the installation (over the last year[6])}}{\text{total quantity of virtual access to the installation (over the last year[7])}}$$

Euratom staff mobility costs[8]

Monthly living allowance

Type: unit costs

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1 Commission Decision of 20 October 2020 authorising the use of unit costs for the personnel costs of the owners of small and medium-sized enterprises and beneficiaries that are natural persons not receiving a salary for the work carried out by themselves under an action or work programme (C(2020)7715).

2 Decision of 19 April 2021 authorising the use of unit costs for the costs of providing trans-national and virtual access in Research Infrastructure actions under the Horizon Europe Programme (2021-2027) and the Research and Training Programme of the European Atomic Energy Community (2021-2025).

3 Unit of access (e.g. beam hours, weeks of access, sample analysis) fixed by the access provider in proposal.

4 In exceptional and duly justified cases, the granting authority may agree to a different reference period.

5 In exceptional and duly justified cases, the granting authority may agree to a different reference period.

6 In exceptional and duly justified cases, the granting authority may agree to a different reference period.

7 In exceptional and duly justified cases, the granting authority may agree to a different reference period.

8 Decision of 15 March 2021 authorising the use of unit costs for mobility in co-fund actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025).

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit*: see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

* Amount calculated as follows from 1 January 2021:
{**EUR 4 300** multiplied by
country-specific correction coefficient** of the country where the staff member is seconded}[9]

**Country-specific correction coefficients as from 1 January 2021[10]

EU-Member States[11]

Country / Place	Coefficient (%)
Bulgaria	59,1
Czech Rep.	85,2
Denmark	131,3
Germany Bonn Karlsruhe Munich	101,9 95,8 98 113,9
Estonia	82,3
Ireland	129
Greece	81,4
Spain	94,2
France	120,5
Croatia	75,8
Italy Varese	95 90,7
Cyprus	78,2
Latvia	77,5
Lithuania	76,6
Hungary	71,9
Malta	94,7
Netherlands	113,9
Austria	107,9
Poland	70,9
Portugal	91,1
Romania	66,6
Slovenia	86,1

[9] Unit costs for living allowances are calculated by using a method of calculation similar to that applied for the secondment to the European Commission of seconded national experts (SNEs).

[10] ⚠ For the financial statements, the amount must be adjusted according to the actual place of secondment.
The revised coefficients were adopted in the Decision authorising the use of unit costs for the Fusion Programme co-fund action under the Research and training Programme of the European Atomic Energy Community 2021-2025. They are based on the 2020 Annual update of the remuneration and pensions of the officials and other servants of the European Union and the correction coefficients applied thereto (OJ C 428, 11.12.2020) to ensure purchasing power parity. The revised coefficient are applied as from 1 January 2021 through an amendment to the grant agreement.

[11] No correction coefficient shall be applicable in Belgium and Luxembourg.

Slovakia	80,6
Finland	118,4
Sweden	124,3

Third countries

Country/place	Coefficient (%)
China	82,2
India	72,3
Japan	111,8
Russia	92,7
South Korea	92,3
Switzerland	129.2
Ukraine	82.3
United Kingdom	97.6
United States	101,4 (New-York) 90,5 (Washington)

Mobility allowance

Type: Unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit: **EUR 600** per person-month; see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

Family allowance

Type: unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit: **EUR 660** per person-month; see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

Education allowance

Type: Unit costs

Units: months spent by the seconded staff member(s) on research and training in fission and fusion activities (person-month)

Amount per unit*: see (for each beneficiary/affiliated entity and secondment) the unit cost table in Annex 2b

*Amount calculated as follows from 1 January 2021:
{EUR 283.82 x number of dependent children[12]**}**

[12] For the estimated budget (Annex 2): an average should be used. (⚠ For the financial statements, the number of children (and months) must be adjusted according to the actual family status at the moment the secondment starts.)

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

DANMARKS TEKNISKE UNIVERSITET (DTU), PIC 999990655, established in ANKER ENGELUNDSVEJ 1 BYGNING 101 A, KGS LYNGBY 2800, Denmark,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Peter Hauge MADSEN with ECAS id nmadsepe signed in the Participant Portal on 30/09/2022 at 12:14:06 (transaction id SigId-6712-A0OVFH9LVwzikiYY71IzRnroKisqupAKzgWCiKeInJXDZUu5BNWgJHmwLjkMBBLQ07n55ePLgzcoQTO3ym81PzX-yntOf97TTHqrzkhVT9AWTC-gOs1nmlwupEHK4zZyLmJvKpFNzr2zVBTD1uUcgVnniRhv4YWaoF8ptla2qDCfV5jnbt3djv2OoW54Xb0xpmZqw0). Timestamp by third party at 2022.09.30 13:14:14 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

INTERNATIONALES INSTITUT FUER ANGEWANDTE SYSTEMANALYSE (IIASA), PIC 999452596, established in Schlossplatz 1, LAXENBURG 2361, Austria,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Monica MANCHANDA with ECAS id ndieckul signed in the Participant Portal on 26/09/2022 at 15:30:54 (transaction id SigId-3742-uKEEl9y2OIoesgtbh4hSqJ1kTYs8YMr8jrdYrzzwoNbHHW2pXkKc9Sv21MZWxcrl7zwQNvnQm1zMkJ3M9bL7v6y-jpJZscgsw0K1vnrjnpKwvC-oEKFVUULgOPjhDF0fQFfYe8Ly3DzyFyvZdcdzNLzQW5hHAkP1ddKhCuk8xxCfftZGF8W1RcYbdHiGzbPgWfE4O4). Timestamp by third party at 2022.09.26 16:31:00 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITAET FUER BODENKULTUR WIEN (BOKU), PIC 999987357, established in GREGOR MENDEL STRASSE 33, WIEN 1180, Austria,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

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SIGNATURE

For the beneficiary

Christian Obinger with ECAS id n0020zh1 signed in the Participant Portal on 26/09/2022 at 17:17:34 (transaction id SigId-294-GzIcGCa8flOP8FRZpDWxn7T3SS0IM6R3hzTVjL4RHxNTy4ElUYYX6RbKwzVr0VPKb6Gzuc7yqcPNCzGLZNXtzqum-rS0vSrmBGYCszN7m0X3Gk5-IpFuqoc7CBVWkG3hHzTONULzK8nBZ7xFC0236U7lgfX3ITyzzxhbKsPIozhBsfO67dzx318Nm5zsvsoKWLBx82Eu). Timestamp by third party at 2022.09.26 18:17:39 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITETET I OSLO (UiO), PIC 999975814, established in PROBLEMVEIEN 5-7, OSLO 0313, Norway,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

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By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Malena BAKKEVOLD with ECAS id nbakkmal signed in the Participant Portal on 26/09/2022 at 13:26:32 (transaction id SigId-1085-qtf06jsD HiSvjhhGF1FEw0zPzkbsBKFOe1ugFklXQoDWmclNnzzkSPJi9ivMuEKL mRwuKnsS1vKqNk1iPr8mxYG-jpJZscgsw0K1vnrjnpKwvC-C9p6GTDVh jXXLGAIzNLJtOCsXl93atUgbvsdOSfTfG8zSId8D0yOrOGVqxPm4jv4Qb PpEtoLgIhhYXDaTDPkId). Timestamp by third party at 2022.09.26 14:26:37 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

NAZKA MAPPS BVBA (NAZKA), PIC 952237749, established in RAVESTEINSTRAAT 48 A, BOORTMEERBEEK 3191, Belgium,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

ides BAUWENS with ECAS id nbauweni signed in the Participant Portal on 27/09/2022 at 08:56:37 (transaction id SigId-4150-OAStsaR 4AUt9NMb1l680v8UxEWMtP9L4e2TyMYuzon99XNPfON6ErwWCsjEEf 5BNsIad8TcU4gdLyBMTtnliH0-rS0vSrmBGYCszN7m0X3Gk5-ZsfxcBzS THOqFm8U2BwNn9AMLjWj1f4eJzlQpp3A5muzbHuPIQEhlUWHKCYrz pSbba6WfV3zb6OhYP3ayWlV85P). Timestamp by third party at 2022.09.27 09:56:44 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

KELSO INSTITUTE EUROPE GEMEINNUTZIGE GMBH (KIE), PIC 888244424, established in KREUZBERGSTRASSE 76, BERLIN 10965, Germany,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Jens Lowitzsch with ECAS id n008hwu7 signed in the Participant Portal on 10/10/2022 at 15:04:02 (transaction id SigId-26118-6bApY MHv1zpj7BVcaqbR7pmHLyUlH3ghZddGqTvudYHx6ir4wIFQZtKZoaO PM81APkWv9mnChJzu8QceyNIK5zG-jpJZscgsw0KSrzYUBg6dY8-URI7 M1zokUMPiXg2hLAnCaQD9ctr4TmDMSYDUWK29SKWov1zbN0Y6Ry KI1x2LyT2I6lkvF11WRylkmLcQl792R). Timestamp by third party at 2022.10.10 16:04:08 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

DEEP BLUE SRL (DEEP BLUE), PIC 998325941, established in VIA ENNIO QUIRINO VISCONTI 8, ROMA 00193, Italy,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

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SIGNATURE

For the beneficiary

francesca MARGIOTTA with ECAS id nmargiof signed in the Participant Portal on 26/09/2022 at 14:08:15 (transaction id SigId-1987-HptVDzssqFEqvvMKhC3biyVzb25hfOxV8OYG9YBPFCAq88Tw2tCnj4QO5HLX5PsfCzwKoDFOsHM1yCXGzcYvs4m-jpJZscgsw0K1vnrjnpKwvC-no6bc0nMAozLl2PK7DPIi5IbzQWBZt3iGr6bPB1FEhtrJSo2KEUd3wyohVzUCzXyzWUsFZ306eJzo5mpHOpIzsSa). Timestamp by third party at 2022.09.26 15:08:21 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITEIT UTRECHT (UU), PIC 999985805, established in HEIDELBERGLAAN 8, UTRECHT 3584 CS, Netherlands,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

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SIGNATURE

For the beneficiary

Wilco Hazeleger with ECAS id ngeowede signed in the Participant Portal on 27/09/2022 at 09:42:58 (transaction id SigId-5191-bTbK08U8fNxl1sNAnSTWkpCwrkLJmeOo7mzHGgphzYPkDUtqhHr6DuEGnuP1jheGwjMZCSyScU2zt7jH2dzTu8m-rS0vSrmBGYCszN7m0X3Gk5-TiNziLARGHzTCzQK2tlE1xIzurmzJzPtWtKi4frzn4ekEzZimf1bGwl4f3XCXQY0y9a85AOxPV1nU4UIxGWTUmGa). Timestamp by third party at 2022.09.27 10:43:04 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

POLITECNICO DI TORINO (POLITO), PIC 999977754, established in CORSO DUCA DEGLI ABRUZZI 24, TORINO 10129, Italy,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

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SIGNATURE

For the beneficiary

Massimo ROSSETTO with ECAS id nrssemss signed in the Participant Portal on 27/09/2022 at 11:05:50 (transaction id SigId-7171-piA9OYfL8UFlVSdzVJGsKU8vyojybvni67mrn8w36BszRfWpRjfy8v36rczP1BOTdM1Izhpk22msjFgRca4hLN4-rS0vSrmBGYCszN7m0X3Gk5-GXzb3CmIFsdXS9XSDzkG7rzMClEX9LZV1WfrzYUNZjzcSXcj0YRah98hDvdnHl6d0oecY4Iq0fY9dKdzV4kvSNfW). Timestamp by third party at 2022.09.27 12:05:57 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITA DEGLI STUDI DI PALERMO (UNIPA), PIC 999734284, established in PIAZZA MARINA 61, PALERMO 90133, Italy,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

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SIGNATURE

For the beneficiary

Massimo MIDIRI with ECAS id nmidirma signed in the Participant Portal on 29/09/2022 at 14:10:06 (transaction id SigId-9659-7wan6ud Zey2nXfcus3zkLQQ8UAUsNL6etzHqh5v8XqvVtkgoDr7ss4gOm7qpbf HxlK7zPh8GE3KvNB8ab73lZmm-jpJZscgsw0KMcsOCKdig0u-NWN30h 1mWt361qc50M35Mnlrq9noEhyZmzmNbiXKtqkq2eGAvQag7bdwRo PYq5HCsBgXxmGMzzlczgM4iQqJLYu). Timestamp by third party at 2022.09.29 15:10:14 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

APREN-ASSOCIACAO PORTUGUESA DE ENERGIAS RENOVAVEIS (APREN), PIC 928041778, established in AVENIDA SIDONIO PAIS 18 R C ESQ, LISBOA 1050 215, Portugal,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Diogo Carvalheda with ECAS id n005hxbp signed in the Participant Portal on 07/10/2022 at 20:03:04 (transaction id SigId-13545-Tq3bn OFqIKHJzUVcqKCiX2FQzGzuCuk9D191zTvVU65ynKF3K1NqUP2n0cg FLprHzq0IYM5OEbXTrQreuYN7BZc-jpJZscgsw0KSrzYUBg6dY8-kWTn wpic0gDWvzW8aSOhzcnux55tyP1ig6lo8lrY8ymwIAx2uCw4EzmVkU GFRm3ZDG3gpzJjuBIODzt838EV6GC). Timestamp by third party at 2022.10.07 21:03:09 CEST

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

MULTICONSULT NORGE AS (MCN), PIC 910046241, established in NEDRE SKOYEN VEI 2, OSLO 0276, Norway,

hereby agrees

to become beneficiary

in Agreement No 101083460 — WIMBY ('the Agreement')

between VRIJE UNIVERSITEIT BRUSSEL (VUB) **and** the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

Gro Dyrnes with ECAS id n0094p76 signed in the Participant Portal on 26/09/2022 at 14:05:26 (transaction id SigId-1927-9o2pTscztEYNViMVm0auKwt2VwbffwkjaP6Sa8VayDwK84M12BtLchN8zNSjQm06JLeI4hUyjAxVVVmkSs7jsh-jpJZscgsw0K1vnrjnpKwvC-JbEzc29RMIJyIRCos5ksu2eCnij6aR8oknwBpGzTZloMzWg29RdsXlC2JHaRVbEsMqbvSYEIzrKohgvKzzznWb48). Timestamp by third party at 2022.09.26 15:05:35 CEST

FINANCIAL STATEMENT FOR [PARTICIPANT NAME] FOR REPORTING PERIOD [NUMBER]

	Eligible[1] costs (per budget category)																EU contribution[2]				Revenues
	Direct costs															Indirect costs	Total costs	EU contribution to eligible costs			Total requested EU contribution	Income generated by the action
	A. Personnel costs			B. Subcontracting costs	C. Purchase costs			D. Other cost categories								E. Indirect costs[2]		Funding rate %[3]	Maximum EU contribution[4]	Requested EU contribution		
	A.1 Employees (or equivalent) A.2 Natural persons under direct contract A.3 Seconded persons		A.4 SME owners and natural person beneficiaries	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	[D.1 Financial support to third parties]	D.2 Internally invoiced goods and services	[D.3 Transnational access to research infrastructure unit costs]	[D.4 Virtual access to research infrastructure unit costs]	*[OPTION for HE PCP/PPI:* D.5 PCP/PPI procurement costs*]*	*[OPTION for Euratom Programme Cofund Actions:* D.6 Euratom Cofund staff mobility costs*]*	*[OPTION for HE ERC Grants:* D.7 ERC additional funding*]*	*[OPTION for HE ERC Grants:* D.8 ERC additional funding (subcontracting, FSTP and internally invoiced goods and services)*]*	E. Indirect costs						
Forms of funding	Actual costs	Unit costs (usual accounting practices)	Unit costs[5]	Actual costs	Actual costs	Actual costs	Actual costs	[Actual costs]	Unit costs (usual accounting practices)	[Unit costs[5]]	[Unit costs[5]]	[Actual costs]	[Unit costs[5]]	[Actual costs]	[Actual costs]	Flat-rate costs[6]						
	a1	a2	a3	b	c1	c2	c3	[d1a]	d2	[d3]	[d4]	[d5]	[d6]	[d7]	[d8]	e = 0,25 * (a1 + a2 + a3 ~~+b+~~ c1 +c2 + c3 ~~+d1a + d2 + d3 + d4 (+ d5][+ d6]~~ [+d7] ~~[+ d8]~~)	f = a+b+c+d+e	U	g = f*U%	h	m	n
XX – [short name beneficiary/affiliated entity]																						

The beneficiary/affiliated entity hereby confirms that:

The information provided is complete, reliable and true.

The costs and contributions declared are eligible (see Article 6).

The costs and contributions can be substantiated by adequate records and supporting documentation that will be produced upon request or in the context of checks, reviews, audits and investigations (see Articles 19, 20 and 25).

For the last reporting period: that all the revenues have been declared (see Article 22).

① Please declare all eligible costs and contributions, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Only amounts that were declared in your individual financial statements can be taken into account lateron, in order to replace costs/contributions that are found to be ineligible.

[1] See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).

[2] If you have also received an EU operating grant during this reporting period, you cannot claim indirect costs - unless you can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please contact us immediately via the Funding & Tenders Portal for details.

[3] See Data Sheet for the reimbursement rate(s).

[4] This is the *theoretical* amount of EU contribution to costs that the system calculates automatically (by multiplying the reimbursement rates by the costs declared). The amount you request (in the column 'requested EU contribution') may be less.

[5] See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).

[6] See Data Sheet for the flat-rate.

ANNEX 5

SPECIFIC RULES

CONFIDENTIALITY AND SECURITY (— ARTICLE 13)

Sensitive information with security recommendation

Sensitive information with a security recommendation must comply with the additional requirements imposed by the granting authority.

Before starting the action tasks concerned, the beneficiaries must have obtained all approvals or other mandatory documents needed for implementing the task. The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary.

For requirements restricting disclosure or dissemination, the information must be handled in accordance with the recommendation and may be disclosed or disseminated only after written approval from the granting authority.

EU classified information

If EU classified information is used or generated by the action, it must be treated in accordance with the security classification guide (SCG) and security aspect letter (SAL) set out in Annex 1 and Decision 2015/444[1] and its implementing rules — until it is declassified.

Deliverables which contain EU classified information must be submitted according to special procedures agreed with the granting authority.

Action tasks involving EU classified information may be subcontracted only with prior explicit written approval from the granting authority and only to entities established in an EU Member State or in a non-EU country with a security of information agreement with the EU (or an administrative arrangement with the Commission).

EU classified information may not be disclosed to any third party (including participants involved in the action implementation) without prior explicit written approval from the granting authority.

ETHICS (— ARTICLE 14)

Ethics and research integrity

The beneficiaries must carry out the action in compliance with:

- ethical principles (including the highest standards of research integrity)

[1] Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

and

- applicable EU, international and national law, including the EU Charter of Fundamental Rights and the European Convention for the Protection of Human Rights and Fundamental Freedoms and its Supplementary Protocols.

No funding can be granted, within or outside the EU, for activities that are prohibited in all Member States. No funding can be granted in a Member State for an activity which is forbidden in that Member State.

The beneficiaries must pay particular attention to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of persons, the right to non-discrimination, the need to ensure protection of the environment and high levels of human health protection.

The beneficiaries must ensure that the activities under the action have an exclusive focus on civil applications.

The beneficiaries must ensure that the activities under the action do not:

- aim at human cloning for reproductive purposes
- intend to modify the genetic heritage of human beings which could make such modifications heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed)
- intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer, or
- lead to the destruction of human embryos (for example, for obtaining stem cells).

Activities involving research on human embryos or human embryonic stem cells may be carried out only if:

- they are set out in Annex 1 or
- the coordinator has obtained explicit approval (in writing) from the granting authority.

In addition, the beneficiaries must respect the fundamental principle of research integrity — as set out in the European Code of Conduct for Research Integrity[2].

This implies compliance with the following principles:

- reliability in ensuring the quality of research reflected in the design, the methodology, the analysis and the use of resources
- honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair and unbiased way

[2] European Code of Conduct for Research Integrity of ALLEA (All European Academies).

- respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment

- accountability for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts

and means that beneficiaries must ensure that persons carrying out research tasks follow the good research practices including ensuring, where possible, openness, reproducibility and traceability and refrain from the research integrity violations described in the Code.

Activities raising ethical issues must comply with the additional requirements formulated by the ethics panels (including after checks, reviews or audits; see Article 25).

Before starting an action task raising ethical issues, the beneficiaries must have obtained all approvals or other mandatory documents needed for implementing the task, notably from any (national or local) ethics committee or other bodies such as data protection authorities.

The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary, which shows that the documents cover the action tasks in question and includes the conclusions of the committee or authority concerned (if any).

VALUES (— ARTICLE 14)

Gender mainstreaming

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action and, where applicable, in line with the gender equality plan. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS — ACCESS RIGHTS AND RIGHTS OF USE (— ARTICLE 16)

Definitions

Access rights — Rights to use results or background.

Dissemination — The public disclosure of the results by appropriate means, other than resulting from protecting or exploiting the results, including by scientific publications in any medium.

Exploit(ation) — The use of results in further research and innovation activities other than those covered by the action concerned, including among other things, commercial exploitation such as developing, creating, manufacturing and marketing a product or process, creating and providing a service, or in standardisation activities.

Fair and reasonable conditions — Appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.

FAIR principles — 'findability', 'accessibility', 'interoperability' and 'reusability'.

Open access — Online access to research outputs provided free of charge to the end-user.

Open science — An approach to the scientific process based on open cooperative work, tools and diffusing knowledge.

Research data management — The process within the research lifecycle that includes the organisation, storage, preservation, security, quality assurance, allocation of persistent identifiers (PIDs) and rules and procedures for sharing of data including licensing.

Research outputs — Results to which access can be given in the form of scientific publications, data or other engineered results and processes such as software, algorithms, protocols, models, workflows and electronic notebooks.

Scope of the obligations

For this section, references to 'beneficiary' or 'beneficiaries' do not include affiliated entities (if any).

Agreement on background

The beneficiaries must identify in a written agreement the background as needed for implementing the action or for exploiting its results.

Where the call conditions restrict control due to strategic interests reasons, background that is subject to control or other restrictions by a country (or entity from a country) which is not one of the eligible countries or target countries set out in the call conditions and that impact the exploitation of the results (i.e. would make the exploitation of the results subject to control or restrictions) must not be used and must be explicitly excluded from it in the agreement on background — unless otherwise agreed with the granting authority.

Ownership of results

Results are owned by the beneficiaries that generate them.

However, two or more beneficiaries own results jointly if:

- they have jointly generated them and
- it is not possible to:
    - establish the respective contribution of each beneficiary, or
    - separate them for the purpose of applying for, obtaining or maintaining their protection.

The joint owners must agree — in writing — on the allocation and terms of exercise of their joint ownership ('**joint ownership agreement**'), to ensure compliance with their obligations under this Agreement.

Unless otherwise agreed in the joint ownership agreement or consortium agreement, each joint owner may grant non-exclusive licences to third parties to exploit the jointly-owned results (without any right to sub-license), if the other joint owners are given:

- at least 45 days advance notice and
- fair and reasonable compensation.

The joint owners may agree — in writing — to apply another regime than joint ownership.

If third parties (including employees and other personnel) may claim rights to the results, the beneficiary concerned must ensure that those rights can be exercised in a manner compatible with its obligations under the Agreement.

The beneficiaries must indicate the owner(s) of the results (results ownership list) in the final periodic report.

Protection of results

Beneficiaries which have received funding under the grant must adequately protect their results — for an appropriate period and with appropriate territorial coverage — if protection is possible and justified, taking into account all relevant considerations, including the prospects for commercial exploitation, the legitimate interests of the other beneficiaries and any other legitimate interests.

Exploitation of results

Beneficiaries which have received funding under the grant must — up to four years after the end of the action (see Data Sheet, Point 1) — use their best efforts to exploit their results directly or to have them exploited indirectly by another entity, in particular through transfer or licensing.

If, despite a beneficiary's best efforts, the results are not exploited within one year after the end of the action, the beneficiaries must (unless otherwise agreed in writing with the granting authority) use the Horizon Results Platform to find interested parties to exploit the results.

If results are incorporated in a standard, the beneficiaries must (unless otherwise agreed with the granting authority or unless it is impossible) ask the standardisation body to include the funding statement (see Article 17) in (information related to) the standard.

Additional exploitation obligations

Where the call conditions impose additional exploitation obligations (including obligations linked to the restriction of participation or control due to strategic assets, interests, autonomy or security reasons), the beneficiaries must comply with them — up to four years after the end of the action (see Data Sheet, Point 1).

Where the call conditions impose additional exploitation obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) grant for a limited period of time specified in the request, non-exclusive licences — under fair and reasonable conditions — to their results to legal entities that need the results to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action (see Data Sheet, Point 1).

Additional information obligation relating to standards

Where the call conditions impose additional information obligations relating to possible standardisation, the beneficiaries must — up to four years after the end of the action (see Data Sheet, Point 1) — inform the granting authority, if the results could reasonably be expected to contribute to European or international standards.

Transfer and licensing of results

Transfer of ownership

The beneficiaries may transfer ownership of their results, provided this does not affect compliance with their obligations under the Agreement.

The beneficiaries must ensure that their obligations under the Agreement regarding their results are passed on to the new owner and that this new owner has the obligation to pass them on in any subsequent transfer.

Moreover, they must inform the other beneficiaries with access rights of the transfer at least 45 days in advance (or less if agreed in writing), unless agreed otherwise in writing for specifically identified third parties including affiliated entities or unless impossible under the applicable law. This notification must include sufficient information on the new owner to enable the beneficiaries concerned to assess the effects on their access rights. The beneficiaries may object within 30 days of receiving notification (or less if agreed in writing), if they can show that the transfer would adversely affect their access rights. In this case, the transfer may not take place until agreement has been reached between the beneficiaries concerned.

Granting licences

The beneficiaries may grant licences to their results (or otherwise give the right to exploit them), including on an exclusive basis, provided this does not affect compliance with their obligations.

Exclusive licences for results may be granted only if all the other beneficiaries concerned have waived their access rights.

Granting authority right to object to transfers or licensing — Horizon Europe actions

Where the call conditions in Horizon Europe actions provide for the right to object to transfers or licensing, the granting authority may — up to four years after the end of the action (see Data Sheet, Point 1) — object to a transfer of ownership or the exclusive licensing of results, if:

- the beneficiaries which generated the results have received funding under the grant
- it is to a legal entity established in a non-EU country not associated with Horizon Europe, and
- the granting authority considers that the transfer or licence is not in line with EU interests.

Beneficiaries that intend to transfer ownership or grant an exclusive licence must formally notify the granting authority before the intended transfer or licensing takes place and:

- identify the specific results concerned
- describe in detail the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or licence on EU interests, in particular regarding competitiveness as well as consistency with ethical principles and security considerations.

The granting authority may request additional information.

If the granting authority decides to object to a transfer or exclusive licence, it must formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information it has requested).

No transfer or licensing may take place in the following cases:

- pending the granting authority decision, within the period set out above
- if the granting authority objects
- until the conditions are complied with, if the granting authority objection comes with conditions.

A beneficiary may formally notify a request to waive the right to object regarding intended transfers or grants to a specifically identified third party, if measures safeguarding EU interests are in place. If the granting authority agrees, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

Granting authority right to object to transfers or licensing — Euratom actions

Where the call conditions in Euratom actions provide for the right to object to transfers or licensing, the granting authority may — up to four years after the end of the action (see Data Sheet, Point 1) — object to a transfer of ownership or the exclusive or non-exclusive licensing of results, if:

- the beneficiaries which generated the results have received funding under the grant
- it is to a legal entity established in a non-EU country not associated to the Euratom Research and Training Programme 2021-2025 and
- the granting authority considers that the transfer or licence is not in line with the EU interests.

Beneficiaries that intend to transfer ownership or grant a licence must formally notify the granting authority before the intended transfer or licensing takes place and:

- identify the specific results concerned
- describe in detail the results, the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or licence on EU interests, in particular regarding competitiveness as well as consistency with

ethical principles and security considerations (including the defence interests of the EU Member States under Article 24 of the Euratom Treaty).

The granting authority may request additional information.

If the granting authority decides to object to a transfer or licence, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

No transfer or licensing may take place in the following cases:

- pending the granting authority decision, within the period set out above
- if the granting authority objects
- until the conditions are complied with, if the granting authority objection comes with conditions.

A beneficiary may formally notify a request to waive the right to object regarding intended transfers or grants to a specifically identified third party, if measures safeguarding EU interests are in place. If the granting authority agrees, it will formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information requested).

Limitations to transfers and licensing due to strategic assets, interests, autonomy or security reasons of the EU and its Member States

Where the call conditions restrict participation or control due to strategic assets, interests, autonomy or security reasons, the beneficiaries may not transfer ownership of their results or grant licences to third parties which are established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) — unless they have requested and received prior approval by the granting authority.

The request must:

- identify the specific results concerned
- describe in detail the new owner and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or license on the strategic assets, interests, autonomy or security of the EU and its Member States.

The granting authority may request additional information.

Access rights to results and background

Exercise of access rights — Waiving of access rights — No sub-licensing

Requests to exercise access rights and the waiver of access rights must be in writing.

Unless agreed otherwise in writing with the beneficiary granting access, access rights do not include the right to sub-license.

If a beneficiary is no longer involved in the action, this does not affect its obligations to grant access.

If a beneficiary defaults on its obligations, the beneficiaries may agree that that beneficiary no longer has access rights.

Access rights for implementing the action

The beneficiaries must grant each other access — on a royalty-free basis — to background needed to implement their own tasks under the action, unless the beneficiary that holds the background has — before acceding to the Agreement —:

- informed the other beneficiaries that access to its background is subject to restrictions, or

- agreed with the other beneficiaries that access would not be on a royalty-free basis.

The beneficiaries must grant each other access — on a royalty-free basis — to results needed for implementing their own tasks under the action.

Access rights for exploiting the results

The beneficiaries must grant each other access — under fair and reasonable conditions — to results needed for exploiting their results.

The beneficiaries must grant each other access — under fair and reasonable conditions — to background needed for exploiting their results, unless the beneficiary that holds the background has — before acceding to the Agreement — informed the other beneficiaries that access to its background is subject to restrictions.

Requests for access must be made — unless agreed otherwise in writing — up to one year after the end of the action (see Data Sheet, Point 1).

Access rights for entities under the same control

Unless agreed otherwise in writing by the beneficiaries, access to results and, subject to the restrictions referred to above (if any), background must also be granted — under fair and reasonable conditions — to entities that:

- are established in an EU Member State or Horizon Europe associated country

- are under the direct or indirect control of another beneficiary, or under the same direct or indirect control as that beneficiary, or directly or indirectly controlling that beneficiary and

- need the access to exploit the results of that beneficiary.

Unless agreed otherwise in writing, such requests for access must be made by the entity directly to the beneficiary concerned.

Requests for access must be made — unless agreed otherwise in writing — up to one year after the end of the action (see Data Sheet, Point 1).

Access rights for the granting authority, EU institutions, bodies, offices or agencies and national authorities to results for policy purposes — Horizon Europe actions

In Horizon Europe actions, the beneficiaries which have received funding under the grant must grant access to their results — on a royalty-free basis — to the granting authority, EU institutions, bodies, offices or agencies for developing, implementing and monitoring EU policies or programmes. Such access rights do not extend to beneficiaries' background.

Such access rights are limited to non-commercial and non-competitive use.

For actions under the cluster 'Civil Security for Society', such access rights also extend to national authorities of EU Member States for developing, implementing and monitoring their policies or programmes in this area. In this case, access is subject to a bilateral agreement to define specific conditions ensuring that:

- the access rights will be used only for the intended purpose and
- appropriate confidentiality obligations are in place.

Moreover, the requesting national authority or EU institution, body, office or agency (including the granting authority) must inform all other national authorities of such a request.

Access rights for the granting authority, Euratom institutions, funding bodies or the Joint Undertaking Fusion for Energy — Euratom actions

In Euratom actions, the beneficiaries which have received funding under the grant must grant access to their results — on a royalty-free basis — to the granting authority, Euratom institutions, funding bodies or the Joint Undertaking Fusion for Energy for developing, implementing and monitoring Euratom policies and programmes or for compliance with obligations assumed through international cooperation with non-EU countries and international organisations.

Such access rights include the right to authorise third parties to use the results in public procurement and the right to sub-license and are limited to non-commercial and non-competitive use.

Additional access rights

Where the call conditions impose additional access rights, the beneficiaries must comply with them.

COMMUNICATION, DISSEMINATION, OPEN SCIENCE AND VISIBILITY (— ARTICLE 17)

Dissemination

Dissemination of results

The beneficiaries must disseminate their results as soon as feasible, in a publicly available format, subject to any restrictions due to the protection of intellectual property, security rules or legitimate interests.

A beneficiary that intends to disseminate its results must give at least 15 days advance notice to the other beneficiaries (unless agreed otherwise), together with sufficient information on the results it will disseminate.

Any other beneficiary may object within (unless agreed otherwise) 15 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the results may not be disseminated unless appropriate steps are taken to safeguard those interests.

Additional dissemination obligations

Where the call conditions impose additional dissemination obligations, the beneficiaries must also comply with those.

Open Science

Open science: open access to scientific publications

The beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications

- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and

- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

Metadata of deposited publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Open science: research data management

The beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the FAIR principles and by taking all of the following actions:

- establish a data management plan ('DMP') (and regularly update it)

- as soon as possible and within the deadlines set out in the DMP, deposit the data in a trusted repository; if required in the call conditions, this repository must be federated in the EOSC in compliance with EOSC requirements

- as soon as possible and within the deadlines set out in the DMP, ensure open access — via the repository — to the deposited data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights, following the principle 'as open as possible as closed as necessary', unless providing open access would in particular:

    - be against the beneficiary's legitimate interests, including regarding commercial exploitation, or

    - be contrary to any other constraints, in particular the EU competitive interests or the beneficiary's obligations under this Agreement; if open access is not provided (to some or all data), this must be justified in the DMP

- provide information via the repository about any research output or any other tools and instruments needed to re-use or validate the data.

Metadata of deposited data must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: datasets (description, date of deposit, author(s), venue and embargo); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

Open science: additional practices

Where the call conditions impose additional obligations regarding open science practices, the beneficiaries must also comply with those.

Where the call conditions impose additional obligations regarding the validation of scientific publications, the beneficiaries must provide (digital or physical) access to data or other results needed for validation of the conclusions of scientific publications, to the extent that their legitimate interests or constraints are safeguarded (and unless they already provided the (open) access at publication).

Where the call conditions impose additional open science obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) immediately deposit any research output in a repository and provide open access to it under a CC BY licence, a Public Domain Dedication (CC 0) or equivalent. As an exception, if the access would be against the beneficiaries' legitimate interests, the beneficiaries must grant non-exclusive licenses — under fair and reasonable conditions — to legal entities that need the research output to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action (see Data Sheet, Point 1).

Plan for the exploitation and dissemination of results including communication activities

Unless excluded by the call conditions, the beneficiaries must provide and regularly update a plan for the exploitation and dissemination of results including communication activities.

SPECIFIC RULES FOR CARRYING OUT THE ACTION (— ARTICLE 18)

Implementation in case of restrictions due to strategic assets, interests, autonomy or security of the EU and its Member States

Where the call conditions restrict participation or control due to strategic assets, interests, autonomy or security, the beneficiaries must ensure that none of the entities that participate as affiliated entities, associated partners, subcontractors or recipients of financial support to third parties are established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) — unless otherwise agreed with the granting authority.

The beneficiaries must moreover ensure that any cooperation with entities established in countries which are not eligible countries or target countries set out in the call conditions (or, if applicable, are controlled by such countries or entities from such countries) does not affect the strategic assets, interests, autonomy or security of the EU and its Member States.

Recruitment and working conditions for researchers

The beneficiaries must take all measures to implement the principles set out in the Commission Recommendation on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers[3], in particular regarding:

- working conditions
- transparent recruitment processes based on merit, and
- career development.

The beneficiaries must ensure that researchers and all participants involved in the action are aware of them.

Specific rules for access to research infrastructure activities

Definitions

Research Infrastructures — Facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. This definition includes the associated human resources, and it covers major equipment or sets of instruments; knowledge-related facilities such as collections, archives or scientific data infrastructures; computing systems, communication networks, and any other infrastructure, of a unique nature and open to external users, essential to achieve excellence in research and innovation. Where relevant, they may be used beyond research, for example

[3] Commission Recommendation 2005/251/EC of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers (OJ L 75, 22.3.2005, p. 67).

for education or public services, and they may be 'single-sited', 'virtual' or 'distributed'[4]:

When implementing access to research infrastructure activities, the beneficiaries must respect the following conditions:

- for transnational access:
  - access which must be provided:

    The access must be free of charge, transnational access to research infrastructure or installations for selected user-groups.

    The access must include the logistical, technological and scientific support and the specific training that is usually provided to external researchers using the infrastructure. Transnational access can be either in person (hands-on), provided to selected users that visit the installation to make use of it, or remote, through the provision to selected user-groups of remote scientific services (e.g. provision of reference materials or samples, remote access to a high-performance computing facility).

  - categories of users that may have access:

    Transnational access must be provided to selected user-groups, i.e. teams of one or more researchers (users).

    The majority of the users must work in a country other than the country(ies) where the installation is located (unless access is provided by an international organisation, the Joint Research Centre (JRC), an ERIC or similar legal entity).

    Only user groups that are allowed to disseminate the results they have generated under the action may benefit from the access (unless the users are working for SMEs).

    Access for user groups with a majority of users not working in a EU Member State or Horizon Europe associated country is limited to 20% of the total amount of units of access provided under the grant (unless a higher percentage is foreseen in Annex 1).

  - procedure and criteria for selecting user groups:

    The user groups must request access by submitting (in writing) a description of the work that they wish to carry out and the names, nationalities and home institutions of the users.

    The user groups must be selected by (one or more) selection panels set up by the consortium.

[4] See Article 2(1) of the Horizon Europe Framework Programme Regulation 2021/695.

The selection panels must be composed of international experts in the field, at least half of them independent from the consortium (unless otherwise specified in Annex 1).

The selection panels must assess all proposals received and recommend a short-list of the user groups that should benefit from access.

The selection panels must base their selection on scientific merit, taking into account that priority should be given to user groups composed of users who:

- have not previously used the installation and
- are working in countries where no equivalent research infrastructure exist.

It will apply the principles of transparency, fairness and impartiality.

Where the call conditions impose additional rules for the selection of user groups, the beneficiaries must also comply with those.

- other conditions:

The beneficiaries must request written approval from the granting authority for the selection of user groups requiring visits to the installations exceeding 3 months (unless such visits are foreseen in Annex 1).

In addition, the beneficiaries must:

- advertise widely, including on a their websites, the access offered under the Agreement
- promote equal opportunities in advertising the access and take into account the gender dimension when defining the support provided to users
- ensure that users comply with the terms and conditions of the Agreement
- ensure that its obligations under Articles 12, 13, 17 and 33 also apply to the users
- keep records of the names, nationalities, and home institutions of users, as well as the nature and quantity of access provided to them

- for virtual access:
  - access which must be provided:

The access must be free of charge, virtual access to research infrastructure or installations.

'Virtual access' means open and free access through communication networks to digital resources and services needed for research, without selecting the users to whom access is provided.

The access must include the support that is usually provided to external users.

Where allowed by the call conditions, beneficiaries may in justified cases define objective eligibility criteria (e.g. affiliation to a research or academic institution) for specific users.

- other conditions:

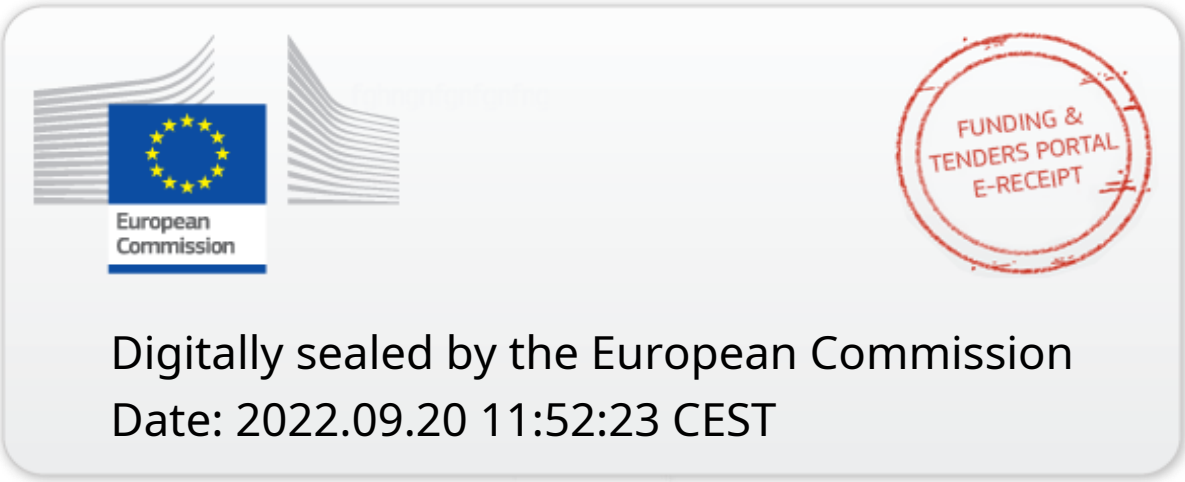
  The beneficiaries must have the virtual access services assessed periodically by a board composed of international experts in the field, at least half of whom must be independent from the consortium (unless otherwise specified in Annex 1). For this purpose, information and statistics on the users and the nature and quantity of the access provided, must be made available to the board.

  The beneficiaries must advertise widely, including on a dedicated website, the access offered under the grant and the eligibility criteria, if any.

  Where the call conditions impose additional traceability[5] obligations, information on the traceability of the users and the nature and quantity of access must be provided by the beneficiaries.

These obligations apply regardless of the form of funding or budget categories used to declare the costs (unit costs or actual costs or a combination of the two).

[5] According to the definition given in ISO 9000, i.e.: "Traceability is the ability to trace the history, application, use and location of an item or its characteristics through recorded identification data." The users can be traced, for example, by authentication and/or by authorization or by other means that allows for analysis of the type of users and the nature and quantity of access provided.



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