Project idea form - small projects

Version 2.1

Registration no. (filled in by MA/JS only) _____

Project Idea Form

Date of submission *dd/mm/yyyy*

1. Project idea identification

Project idea name	Cross-border pilot for biochar production from agricultural residues powered by wind energy in agriculture in the BSR area
Short name of the project	WIND2CHAR
Previous calls	yes ◯ no ◉
Seed money support	yes ◯ no ◉

2. Programme priority

	3. Climate-neutral societies

3. Programme objective

	3.2. Energy transition

4. Potential lead applicant

Name of the organisation (original)	Instytut Maszyn Przepływowych Polskiej Akademii Nauk
Name of the organisation (English)	Institute of Fluid-Flow Machinery Polish Academy of Science
Website	www.imp.gda.pl
Country	PL

Type of Partner	Higher education and research institution

Contact person 1	
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Which organisation(s) in the planned partnership take part in a project within the Interreg Baltic Sea Region Programme for the first time? Please list the respective partners.

Core partner #2 (SE) – Swedish University of Agricultural Sciences (SLU), Uppsala/Alnarp.

5.1 Specific challenge to be adressed

Rural Baltic communities throw away two priceless resources at once: surplus wind (curtailment > 5 % yr^{-1}) and nutrient-rich crop residues that are still burned in the field. WIND2CHAR injects the missing link—a container pyrolyser that powers up only when turbines would otherwise stand idle. The unit locks carbon into durable biochar, delivers low-grade process heat to neighbouring farms and opens new revenue streams from carbon credits. IWEN Energy supplies the containerised pyrolyser and real-time grid interface and hosts the German demo; IMP PAN designs the control philosophy and process integration; SLU validates soil benefits and leads Swedish replication.

5.2 Focus of the call

The call looks for ideas that quietly strengthen local ties, build everyday resilience and spread with ease. WIND2CHAR answers with a compact, modular pyrolyser that a community can assemble for

about €50 000 using readily available components. All blueprints are shared under open-hardware licences, so even a village of just a few thousand residents can adapt the design without chasing proprietary parts or costly consultants. Outreach is simple and welcoming: live-streamed “Technology Days” from the pilot site are paired with a free, multilingual Soil & Carbon Toolkit—infographics, lesson plans and easy garden-trial guides—letting families explore carbon removal at their own pace, wherever they live around the Baltic.

6. Transnational relevance

Poland, Germany and Sweden face different grid codes, pricing mechanisms and straw chemistries. No single country can gather the full dataset needed for EU-wide biochar certification. Pooling IMP PAN’s thermochemical know-how, IWEN’s curtailment analytics and SLU’s agronomy expertise compresses development time and creates a harmonised evidence base that regulators, financiers and farmers across the BSR can trust.

7. Specific aims to be adressed

Building trust that could lead to further cooperation initiatives
Quarterly virtual design reviews keep everyone in sync; an annual two-day retreat rotates between Gdańsk, Rostock and Uppsala. All drawings, BOMs and meeting minutes land in a shared Nextcloud and are mirrored to GitHub under CERN-OHL-S. A one-page code-of-conduct—co-signed at kick-off—spells out authorship and conflict-resolution rules, giving engineers, city clerks and researchers an equal, transparent footing.
Initiating and keeping networks that are important for the BSR
We launch the free BSR Biochar Exchange, a lightweight forum where municipalities post residue offers, SMEs list services and labs share open data. Moderation duty rotates every quarter. Two networking evenings per year piggy-back on existing expos such as GreenPower or WindEnergy Hamburg, using lightning talks and poster corners to match biomass owners with technology providers. A short e-newsletter curates the best discussions and funding calls to keep momentum alive between events.
Bringing the Programme closer to the citizens
Milestones—first ignition, first tonne of char, first soil trial—are broadcast live and saved as subtitled

3-minute clips. The open Soil & Carbon Toolkit (infographics, classroom experiments, community-garden protocols) is free to download in PL/DE/SE and printable on a standard office printer, enabling teachers and NGOs to run their own micro-demos without specialist gear.

Allowing a swift response to unpredictable and urgent challenges

A concise “Rapid-Response Playbook” defines who does what when prices spike, storms hit or feedstock quality drifts. A browser dashboard built with open-source libraries visualises live power prices, curtailment forecasts and key reactor metrics. All control scripts and wiring diagrams are published under Apache-2.0, so other wind-farm operators can fork or adapt the logic in hours, not months.

8. Target groups

Rural wind-farm operators and SPVs (PL: Pomorskie, DK: Jutland, DE: Schleswig-Holstein): >5% annual curtailment, can host and replicate modular pyrolysers.

Village & small-town councils (PL: Kujawy-Pomorskie, SE: Skåne, DK: Zealand): manage local waste logistics, drive circular economy investments.

Biochar and agri-service SMEs (PL, DE, SE): commercialise equipment, services, and carbon credits—core for upscaling.

Research institutions (PL: IMP PAN, SE: SLU, DK: Aalborg Univ.): validate results, provide certification, promote replication through networks.

Farmer cooperatives & climate NGOs : promote biochar use, train growers, sustain adoption after project end.

Each target group is actively involved through co-design workshops, field demos, and co-creation of open-source resources. Outputs and training materials will be distributed region-wide in local languages to ensure uptake

	Please use the drop-down list to define up to five target groups that you will involve through your project’s activities.	Please define a field of responsibility or an economic sector of the selected target group	Specify the countries and regions that the representatives of this target group come from.
1.	Infrastructure and public service provider	Rural wind-farm operators / SPVs that face > 5 % annual curtailment and can host container pyrolysers	PL Pomorskie, DE Schleswig-Holstein

2. Local public authority	Village & small-town councils that co-own RES turbines and manage agricultural-waste logistics	PL Kujawy-Pomorskie, SE Skåne, DK Zealand
3. Small and medium enterprise	Biochar, pellet and pyrolysis-skid SMEs; agri-service contractors turning residues into products	PL, DE, SE – core commercial markets
4. Higher education and research institution	Thermochemical labs and soil-science teams for char analysis, LCA and carbon-removal certification	PL IMP PAN (Gdańsk), SE SLU (Uppsala/ Alnarp), IWEN Energy
5. NGO	Farmer cooperatives & climate NGOs promoting carbon farming and training growers in biochar use	PL Wielkopolska, SE Västra Götaland,

9. Contribution to the EU Strategy for the Baltic Sea Region

Please indicate if your project idea has the potential to contribute to the implementation of the Action Plan of the EU Strategy for the Baltic Sea Region (https://eusbsr.eu/implementation/).

yes ◉ no ◯

Please select which policy area(s) of the EUSBSR your project idea contributes to most.

PA Bio-economy

PA Energy

The MA/JS may share your project idea form with the respective policy area coordinator(s) of the EUSBSR. You can find contacts of PACs at the EUSBSR website (https://eusbsr.eu/contact-us/).

☐ If you disagree, please tick here.

10. Partnership

IMP PAN – Institute of Fluid-Flow Machinery (PL, Lead): control logic, process integration, overall

coordination.
[www.imp.gda.pl]

Swedish University of Agricultural Sciences – SLU (SE): soil trials, life-cycle assessment, Swedish replication roadmap.
[www.slu.se]

IWEN Energy GmbH (DE): supplies the turnkey container pyrolyser, provides grid-integration algorithms, hosts the Rostock demo site.
[www.iwtenergy.com]

Wind-farm host (DK/DE, tbc): Site access, operational feedback, demonstration and first-market user.

To be added: Additional partners from EE/LV/FIN to enhance replication and upscaling, especially among municipalities and rural energy providers.

11. Workplan

Months 0–2 • Launch & rules
IMP PAN finalises the Consortium Agreement; all partners adopt a one-page code-of-conduct. Kick-off webinar held. Shared cloud and public GitHub go live.

Months 1–3 • Spec freeze
SLU finishes biomass sampling; IWEN maps curtailment patterns; IMP PAN defines system boundary and KPIs. Outputs: tech-spec dossier and baseline matrix.

Months 4–6 • Pyrolyser build & FAT
IWEN procures and factory-tests the container unit; IMP PAN uploads PLC v1.0. Deliverables: signed FAT protocol, open PLC on GitHub.

Months 4–6 (parallel) • Citizen toolkit (beta)
Lesson plans, infographics and an explainer storyboard drafted. Output: beta “Soil & Carbon Toolkit”.

Months 7–9 • Commissioning
Container installed, safety checks passed, grid handshake done. Deliverables: commissioning report and CE file.

Months 9–15 • 500 h endurance run
IWEN operates the unit; weekly design reviews with IMP PAN. Char samples sent to SLU. Outputs: full ops dataset and char certificates.

Months 10 & 13 • Tech Days
Live-streamed demos in three languages; video archives posted.

Months 12–18 • Agronomy & LCA

SLU runs pot/field trials; IMP PAN completes cradle-to-gate LCA. Deliverables: draft paper and public summary.

Months 14–20 • Replication Toolkit 1.0
Business calculator, P&ID pack and agronomy FAQ compiled. Toolkit released with webinar.

Months 16–22 • Network build-out
"BSR Biochar Exchange" forum launched; two low-cost networking evenings at major fairs; quarterly residue bulletin issued.

Months 18 & 21 • Consortium sprints
Two-day retreats refresh risk register and investor outreach.

Months 21–24 • Wrap-up & scale-up
Open engineering package (EN/PL/DE/SE) published; draft €4 m follow-on concept. policy brief completed.

Continuous
Monthly steering calls, quarterly reports, ethics oversight (by SLU), plus a Rapid-Response Playbook and live dashboard online from Month 6.

Guiding principles
Open licences, minimal travel, and ready-to-clone control scripts for fast replication.

12. Planned budget

ERDF budget (planned expenditure of partners from the EU)	EUR 500,000.00
Norwegian budget (planned expenditure of partners from Norway)	*EUR XXX*
Total budget (including preparatory costs)	**EUR 500,000.00**

13. Project consultation

Please indicate if you wish to have a consultation (online meeting) with the MA/JS to discuss your project idea	
	yes ◉ no ◯

14. Questions to the MA/JS

Questions related to the content of the planned project	Will it be possible to modify the consortium, change partners and/or add a new one?
Questions related to budgeting and expenditure	*(max.1.000 characters incl. spaces)*
Any other questions	*(max. 1.000 characters incl. spaces)*

15. Additional information

"The project is designed for maximum replicability and post-funding sustainability. All deliverables, including engineering and agronomic results, will be made available in Germany, Polish, and Swedish, with plans for further translations upon scaling. We are actively seeking additional partners and municipalities interested in piloting the system beyond the initial demonstration phase."

Your account in BAMOS+

Please remember that to officially submit your application you need to access our electronic data exchange system BAMOS+. More information about the process of applying for your account in BAMOS+ you will find here:
https://interreg-baltic.eu/gateway/bamos-account