

SEAI 2022 Research Development and Demonstration (RD&D) Call

Topics overview

Full 2022 SEAI RD&D Call details are available at:

<https://www.seai.ie/grants/research-funding/research-development-and-demonstration-fund/SEAI-RDD-Call-Document.pdf>

Call Deadline – 12pm, Monday 16 May 2022

Project Scale/Type

Scale/Type	Typical Duration	Maximum SEAI Funding Available
Small scale projects	Up to 12 months	Up to €200,000
Medium scale projects	12 to 36 months	Up to €650,000
Large scale projects	36 to 48 months	Up to €1,000,000
Academic Fellowships	12 to 36 months	Up to €300,000
SEAI-based Fellowships	12 to 24 months	Up to €200,000

SEAI National Energy RD&D Programme

IMPORTANT DATES 2022

Call Launch

6 April 2022

Application Deadline

16 May 2022

Stage 1 – Eligibility

Q2

Stage 2 – Evaluation and Clarification

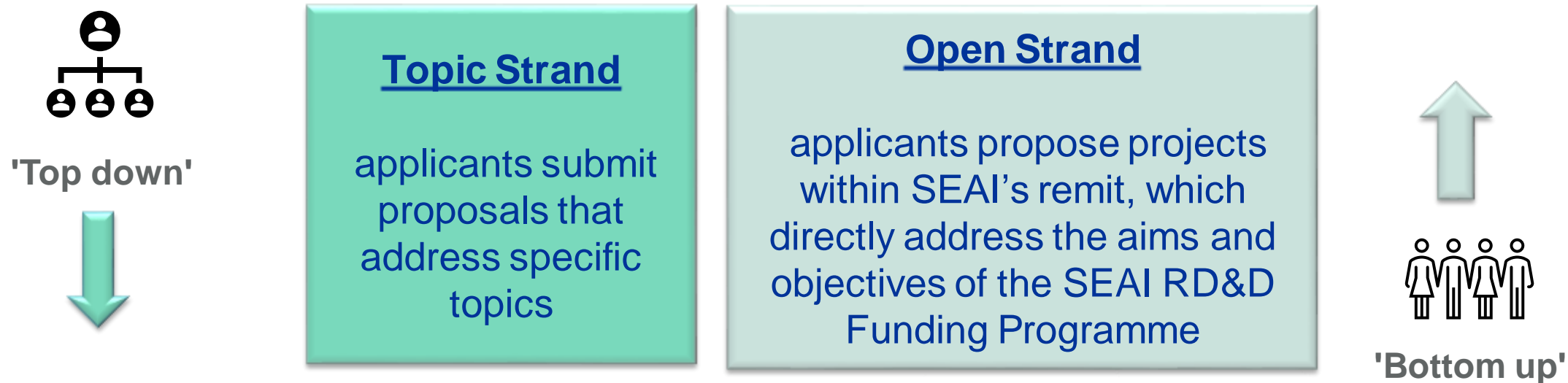
Q2-Q3

Project Awarding

Q4

What projects are eligible?

The 2022 SEAI RD&D Funding Programme provides the opportunity for applicants to submit proposals to either the **Topic Strand** or **Open strand**:



- **All applications compete with each other equally for funding**
- SEAI cannot provide feedback on draft proposals

Topics and Co-funding Partners



Open Strand applications also welcomed



**An Roinn Talmhaíochta,
Bia agus Mara**
Department of Agriculture,
Food and the Marine



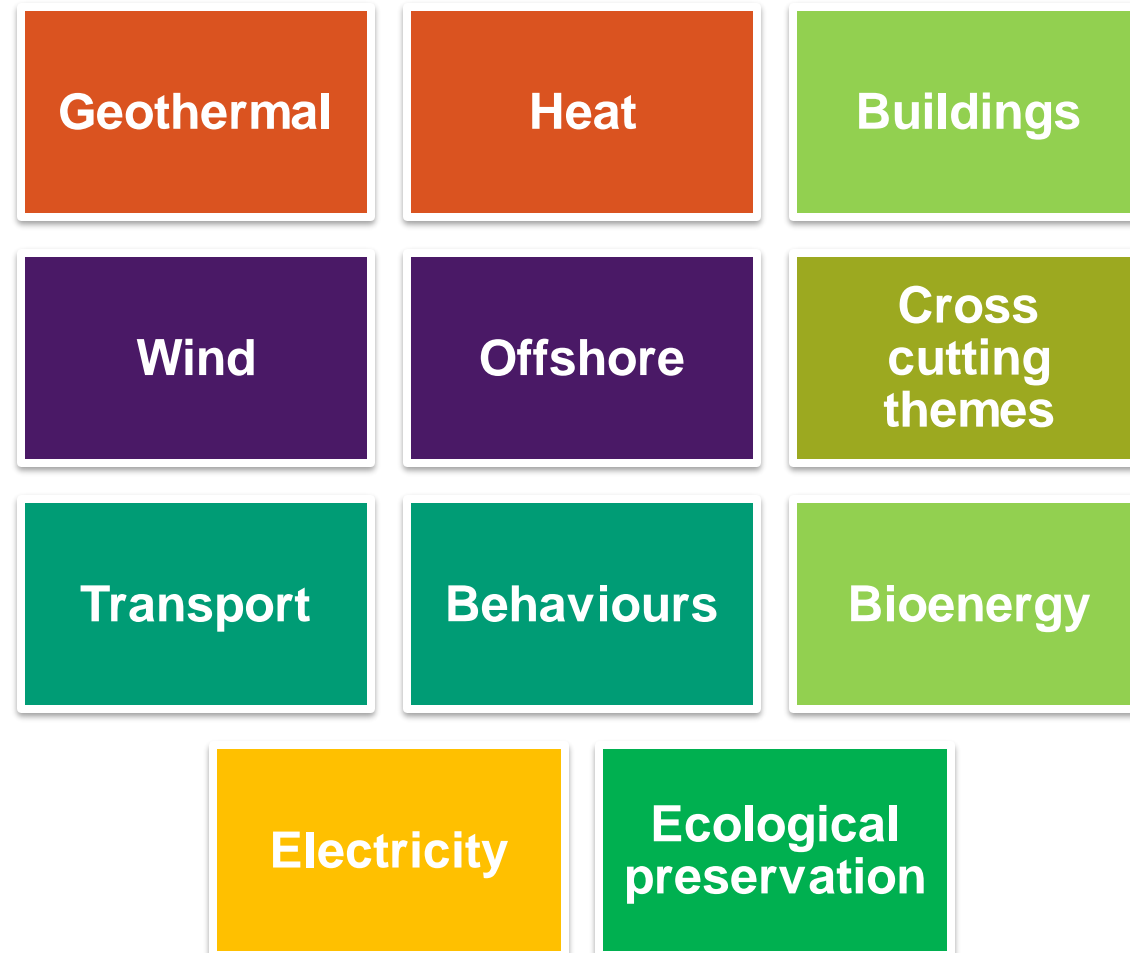
An Roinn Iompair
Department of Transport



**An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht**
Department of Housing,
Local Government and Heritage

What thematic topic areas have been identified?

See Annex 1 p13-44 Call Document



What thematic topic areas have been identified?

See Annex 1 p13-44 Call Document

*High grade heat pumps
District heating*

*Economic evaluation
Industrial applications*

Geothermal

Heat

Buildings

*Compact urban growth
Solar PV residential optimisation*

*Airborne wind energy
Floating Offshore Wind
Green Hydrogen*

Wind

Offshore

Cross-cutting themes

*Equality, diversity, inclusion
Research to impact frameworks
Innovation to impact framework
Gender aspects of the transition*

*EV charging needs
Carbon neutral shipping
Behaviour change interventions*

Transport

Behaviours

Bioenergy

*Bioeconomy renewable energy
Utilising CO₂ from biomass combustion*

*Grid forming inverters
Smart controllers
Addressing dispatch down*

Electricity

Ecological preservation

*Bird conservation
Hen harrier adaptive management
Ecological preservation during the transition*

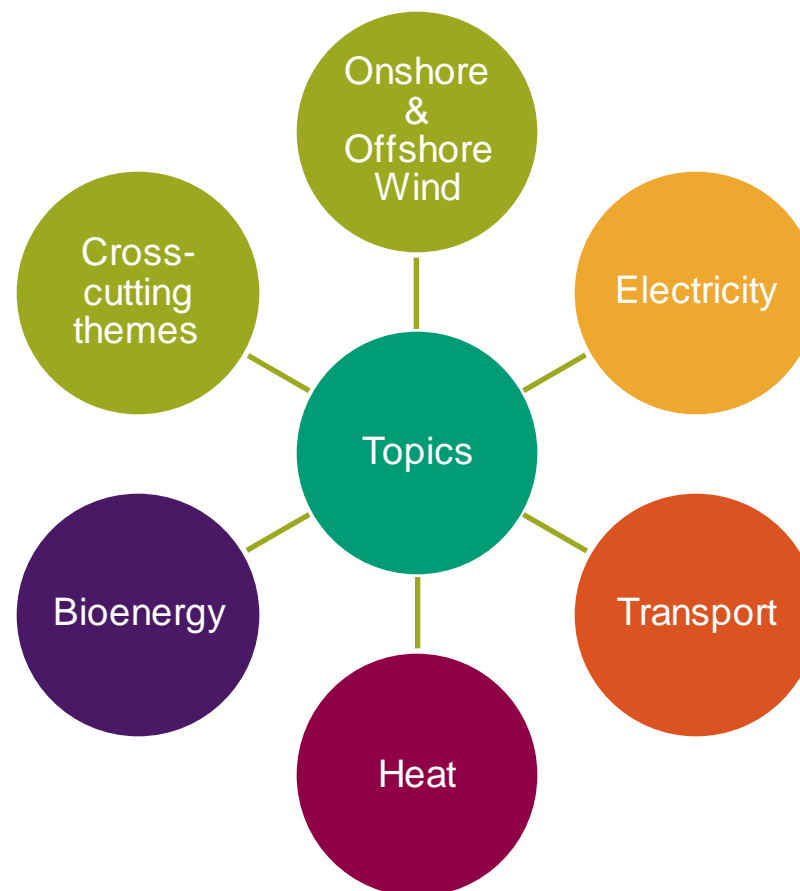
2022 - Topic Areas

For full details of topics please refer to the Call Document

Each topic description in Annex 1 outlines suggested project objectives & expected outputs. **Please note that proposals submitted to these topics are not necessarily expected to address every objective and output listed.**

Applicants should clearly outline which of the suggested objectives & expected outputs they intend to address/deliver as part of their proposed project and may propose additional objectives/outputs.

All proposals should build upon existing research and information available.



Onshore and Offshore Wind Energy

No.	Topic Title	Scale
2	Identifying knowledge gaps in bird conservation in relation to offshore wind farm development and setting out how to address them. (Co-funded by NPWS)	Small
7	Airborne wind energy	Small or Medium
19	Adaptive or risk-based management of wind farm interactions with hen harriers	Large
12	Floating Offshore Wind Development	Small or Medium
13	Green Hydrogen in the Irish energy sector	Small or Medium



Ireland's ambition for 80% renewable electricity by 2030 requires critical research in emerging wind energy technologies, as well as other key areas including ecological conservation, and the potential for the production of green hydrogen.

Wind Energy



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

No.	Topic Title	Scale
2	Identifying knowledge gaps in bird conservation in relation to offshore wind farm development, and setting out how to address them	Small

This topic is co-funded by the National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage.

Ireland's development of offshore wind farms needs key research into how they can be sited in the right areas while also meeting our national obligations to maintain our wild bird populations.



Electricity

No.	Topic Title	Scale
1	Demonstration of Grid Forming Inverters	Small
8	Demonstration of Smart Controllers in conjunction with ESB Networks' NNLC Programme (Co-fund ESNB)	Small or Medium
16	Demonstration to address dispatch down of renewable electricity generation (Co-fund ESNB)	Medium
17	Investigation of residential electricity use and the opportunities to optimise solar PV renewable electricity for self-consumption	Medium

Research is key in addressing how renewable electricity resources can integrate efficiently and effectively with the network, including solar PV and the use of microgeneration.

Novel methods will be key in managing demand flexibly and reducing localised demand/supply mismatches.



Electricity

No.	Topic Title	Scale
8	Demonstration of Smart Controllers in conjunction with ESB Networks' NNLC Programme	Small or Medium
16	Demonstration to address dispatch down of renewable electricity generation	Medium

- **These topics are co-funded by ESB Networks.**
- ESB Networks has established a National Network, Local Connections Programme (NNLCP) to develop a roadmap for flexibility services and system management approaches.
- Research is required relating to the interaction between DSO, and the smart control technology, e.g. whether this interaction shall be direct or indirect through the aggregators and technology developers.
- Cost-benefit analyses is required of plant/system participation in Demand Side Management/Demand Response (DSM/DR) schemes and the flexibility market as well as addressing barriers and enablers identified in terms of scheme design, technical parameters, market design or others.



Transport

No.	Topic Title	Scale
5	Utilising spatial analysis and AI to determine future EV charging requirements	Small
14	Developing pathways to a carbon-neutral shipping and maritime industry (Co-fund by the Department of Transport)	Medium
18	Measuring the impact of behaviour change interventions on changing energy and transport related behaviours in Ireland	Medium or Large

- Novel approaches in spatially mapping parking spaces to inform potential future charging infrastructure for electric vehicles are required.
- Robust evidence of behaviour change interventions that work (or do not work) are required to encourage more sustainable energy behaviours in transport.



Transport



An Roinn Iompair
Department of Transport

No.	Topic Title	Scale
14	Developing pathways to a carbon-neutral shipping and maritime industry	Medium



- **This topic is co-funded by the Department of Transport**
- The shipping and maritime industry must be carbon neutral by 2050 and research is required to explore Ireland's current and future readiness to meet this target.

Heat

No.	Topic Title	Scale
3	Economic evaluation of geothermal energy in Ireland (Co-fund with GSI)	Small (up to €150k)
4	Investigation of geothermal energy for Industrial applications in Ireland (Co-fund with GSI)	Small (up to €150k)
11	District heating deployment in Ireland	Small or Medium
17	High temperature heat pumps for industrial use	Medium

- The National Heat Study (2022) identified that a combination of district heating and heat pumps in homes, businesses and industry will play a vital role in fast decarbonisation.
- Research is key in addressing the remaining barriers to the wide deployment of district heating Ireland.
- Heat pumps can play a key role in catering for higher temperature manufacturing in the industrial sector.



Geothermal Energy

No.	Topic Title	Scale
3	Economic evaluation of geothermal energy in Ireland	Small (up to €150k)
4	Investigation of geothermal energy for Industrial applications in Ireland	Small (up to €150k)

- **These topics are co-funded by Geological Survey Ireland**
- Robust economic modelling analysis is needed to identify the potential and provide guidance to facilitate the deployment of geothermal energy in Ireland.
- The potential for geothermal energy to support industrial applications in Ireland needs research.



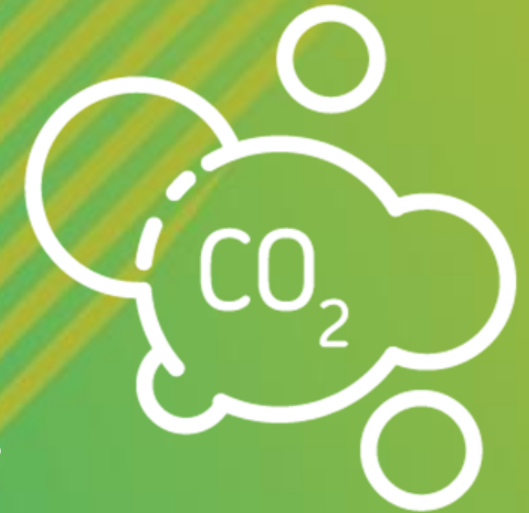
Bioenergy/Bioeconomy



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

No.	Topic Title	Scale
10	Utilising CO ₂ from biomass combustion for greenhouse CO ₂ enhancement	Small or Medium
15	Bioeconomy renewable energy	Medium

- **These topics are co-funded by the Department of Agriculture Food and the Marine (DAFM)**
- An optimum level of CO₂ in greenhouses encourages plant growth and research is required into filtration systems to displace fossil fuel use and filter the products of combustion.
- Research is needed in how to best consider bioeconomy, nature and renewable energy developments in tandem to allow Ireland to focus on integrating sustainable economic development into our economic model.



Cross-cutting topics

No.	Topic Title	Scale
6	Assessing the role of equality, diversity and inclusion in the energy sector	Small
9	Compact urban growth in Ireland	Small or Medium
18	Measuring the impact of behaviour change interventions on changing energy and transport related behaviours in Ireland	Medium or Large

- The above topics incorporate cross-cutting aspects for future development of the energy sector.
- Opportunities exist for diverse approaches and engaged research methods, which may include multidisciplinary, transdisciplinary and interdisciplinary research approaches.



SEAI-based Fellowships

No.	Topic Title	Scale
21	Investigating gender aspects of Ireland's clean energy transition	12-24 months
22	Investigating ecological preservation while maximising Ireland's clean energy transition	12-24 months
23	Investigating innovation to impact frameworks to achieve Ireland's clean energy transition	12-24 months
24	Developing a research impact framework to achieve Ireland's clean energy transition	12-24 months
25	Identifying optimal investments for citizens wishing to reduce energy-related emissions in an Irish context	12-24 months

This category provides the opportunity for postdoctoral researchers to apply for fellowship positions based within SEAI, who have the support of a host Irish research body at the time of application, and who can take a period of up to 24 months away from their current research activities.

Further details:

Research Funding Programme Webpage

<https://www.seai.ie/grants/research-funding/research-development-and-demonstration-fund/>

National Energy Research Database

<https://www.seai.ie/data-and-insights/seai-research/research-database/>

