

Agenda

- **Introduction & Welcome** - Declan McGarrigle, SEUPB
- **Overview of PEACEPLUS Programme** - Declan McGarrigle, Director of PEACEPLUS Development
- **Overview of Policy Interests from Northern Ireland** - Dave Loyal, Department for Economy
- **Overview of Policy Interests from Ireland** – Monica Lee, Department of the Environment, Climate and Communications
- **Overview of Investment Area 5.5, Pre-Development Support & Concept Note**– Eimear Bush
- **Questions and Answers**

PEACEPLUS Programme

Investment Area 5.5 Geothermal Energy Demonstration

 linktr.ee/seupb

 seupb.eu/PEACEPLUS



PEACEPLUS Programme

**Area 5.5 Geothermal
Energy Demonstration**

Pre-Application Workshop

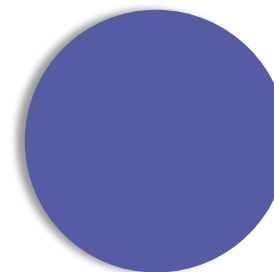
Introduction & Outline of Workshop

- PEACEPLUS Programme. Context and Development
- Overview of Area 5.5: Geothermal Energy Demonstration
- Pre-Application Support & Concept Note
- How to Build a Strong Proposal
- Q&A





PEACEPLUS Programme



PEACEPLUS: Context

How did we get here?

- Support of the NI Executive, the Government of Ireland, the UK Government and the European Union.
- Building upon previous PEACE & INTERREG programmes.
- Renewed focus on peace and reconciliation.
- Ensuring all projects contribute to cross-border and economic and territorial development.



The Peace Bridge
Derry-Londonderry



How was PEACEPLUS developed?

Intensive review, research and public engagement:

- Stakeholder engagement (2019-2020)
- Public events – including specific events with young people
- Survey submissions
- Public consultation (2021)
- Bi-laterals with government north-south (ongoing)

PEACEPLUS (2021-2027)



- Programme area: Northern Ireland & the border counties of Ireland
- Programme value: **€1.144bn**
- Up to 80% maximum ERDF funding (100% grants available)
- Six themes, 22 investment areas
- Participation from partners outside the area

PEACEPLUS – Where does Geothermal Energy Demonstration sit within the programme?

Thematic Areas

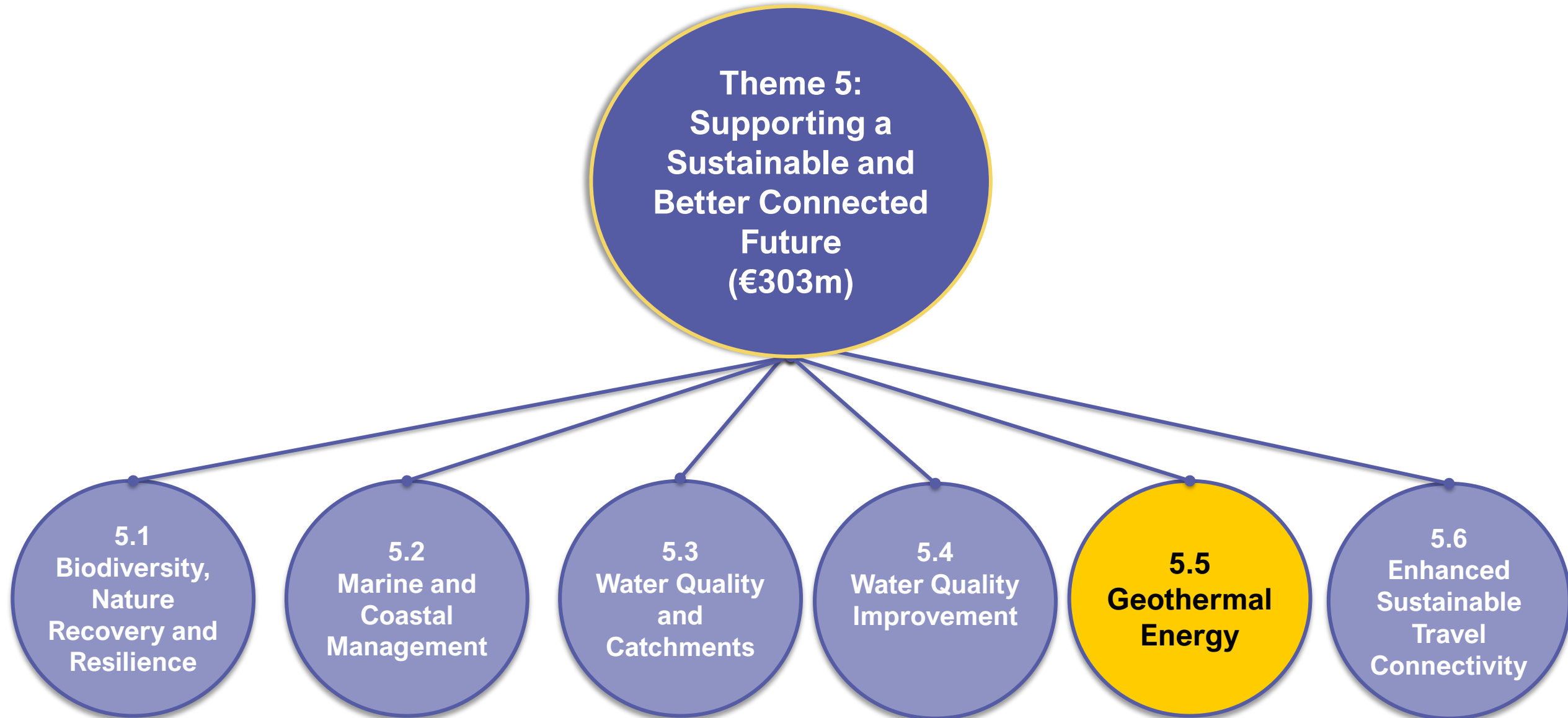
Investment Areas





Theme 5: Supporting a Sustainable and Better Connected Future

PEACEPLUS – Geothermal Energy Demonstration





Department for the
Economy
www.economy-ni.gov.uk

Energy/Heat Policy Overview

28 September 2022





Overview

- NI Energy Strategy
- Action Plan 2022
- Heat Policy (inc. low carbon heat support scheme and recognising that geothermal energy has a role to play in decarbonising heating, cooling and hot water)

NI Energy Strategy – Context

- Evidence base through ongoing research, energy modelling, policy development and external coordination & collaboration.
- Challenges of climate change, our dependency on imported fuels and the energy crisis. (Energy Trilemma)



NI Energy Strategy – Further context

- Publication of a Green Growth Strategy Consultation (DAERA)
- Climate Change Act
 - Sets emissions targets for 2050, with targets required for 2030 & 2040. Also, a target that at least 80% of electricity comes from renewable sources by 2030.
- Publication of DoF revised standards in relation to Part F of the Building Regulations
- Steep global fossil fuel price rises, reflected locally in significant tariff increases



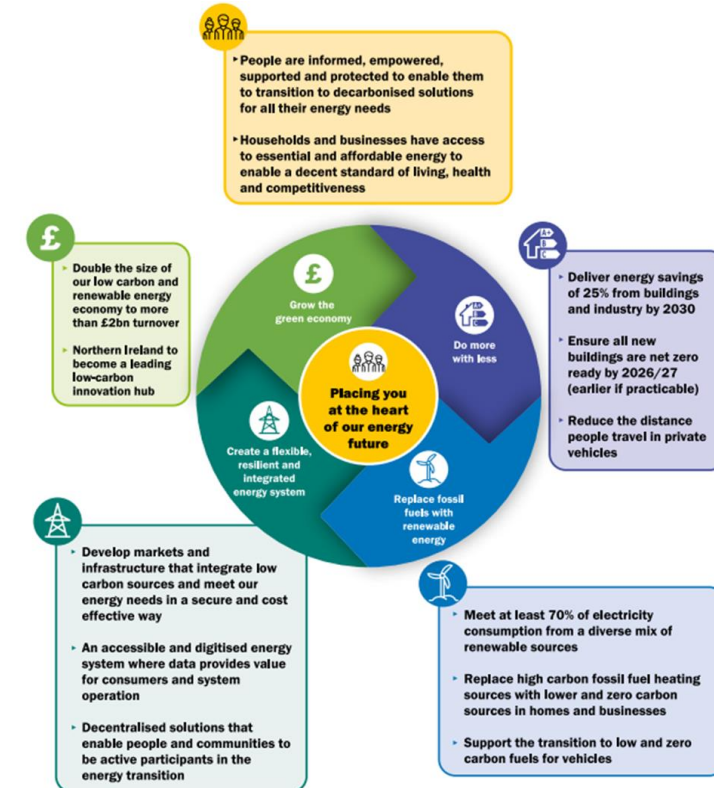
NI Energy Strategy – The Path to Net Zero

VISION

Net zero carbon and affordable energy

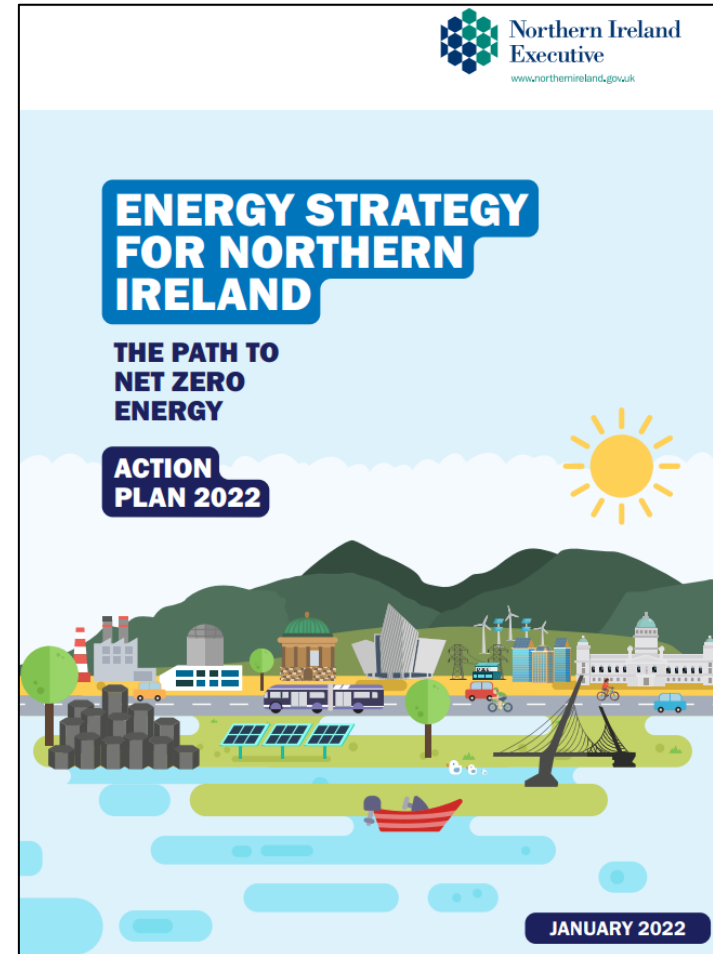
5 PRINCIPLES

- Grow the Green Economy
- Do more with less
- Replace fossil fuels with renewable energy
- Create a flexible, resilient and integrated energy system
- Placing you at the heart of our energy future



Energy Strategy Action Plan 2022

- 22 Targets covering each of the 5 principles: Examples relevant to heat policy:
 - 15 – Develop and commence delivery of low carbon heat demonstration projects
 - 16 – Develop and commence delivery of a geothermal demonstrator project



Action 15

- **‘Develop and commence delivery of low carbon heat demonstrator projects’**
- Projects should include homes, communities, businesses and heat networks.
- Engaging with a range of stakeholders e.g. other Depts, Health Trusts, Academia, NIHE, Housing Associations etc.
- Many projects will only ‘commence’ in 2022 due to longer timeframes sometimes associated with heat.
- Current intention is to report on progress, to include case studies of relevant projects.

Action 16

Action 16: the Department commencing two projects – primary objective is to inform, educate and demystify geothermal technology:

- The first project will assess the suitability of the Stormont Estate for a shallow geothermal system – potentially providing heating and cooling for government buildings. This project will be very much a ‘show-and-tell’ demonstration of proven technology and government commitment to playing to our strengths in decarbonising its buildings.
- In partnership with DAERA/CAFRE at Greenmount to demonstrate that the Sherwood Sandstone aquifer can be used to provide heat at round 70°C, and that this may in the future be used to help decarbonise the agri-food sector.



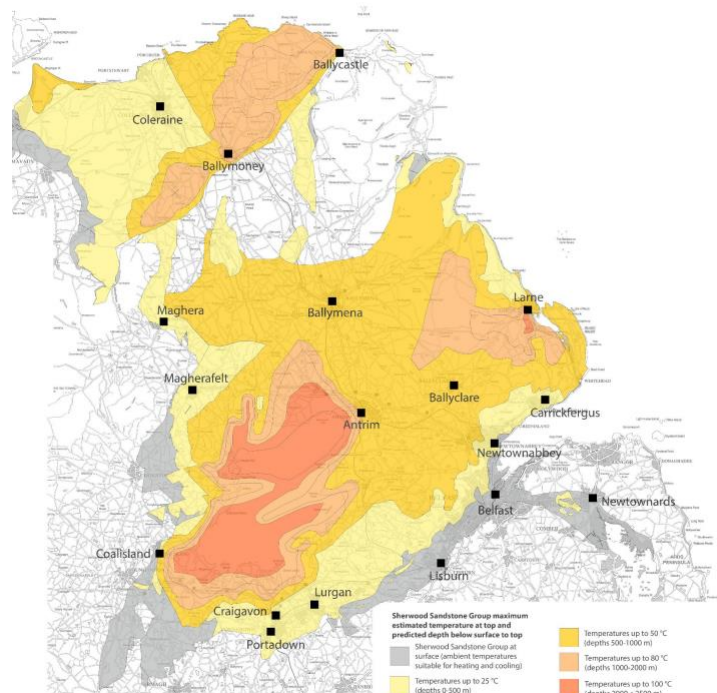
Geothermal policy the work so far...

- December 2020 - conference co-hosted with the Centre for Sustainable Energy and Climate Action at Queen's University Belfast (QUB) - throughout 2021 and 2022 - a monthly webinar series co-hosted by GSNI and QUB and featuring guest geothermal experts
- **June 2021 – Geothermal Advisory Committee set up to steer geothermal policy**
 - **Chaired by the Geological Survey of Northern Ireland**
 - **Brings together industry, academia and policy makers**
- **Nov 2021 – GSNI publish a geothermal heat map for NI**
- **Dec 2021 - Energy Strategy – recognises the potential for geothermal heat to play a role in decarbonising heat**
- **January 2022 – Action 16 in the Energy Strategy Action Plan is to commence a geothermal demonstrator project.**
- June 2022 - #NIGeothermalweek – aimed at raising the profile of geothermal technology and informing policies to support growth

Research

- June 2022 – Publishing the Queen's School of Management Report: Growing the Geothermal Sector in NI
- September 2022 – QUB School of Management –Geothermal Vision wheel
- October 2022 – Geothermal Sector Report – technology and policy benchmarking

The Geology



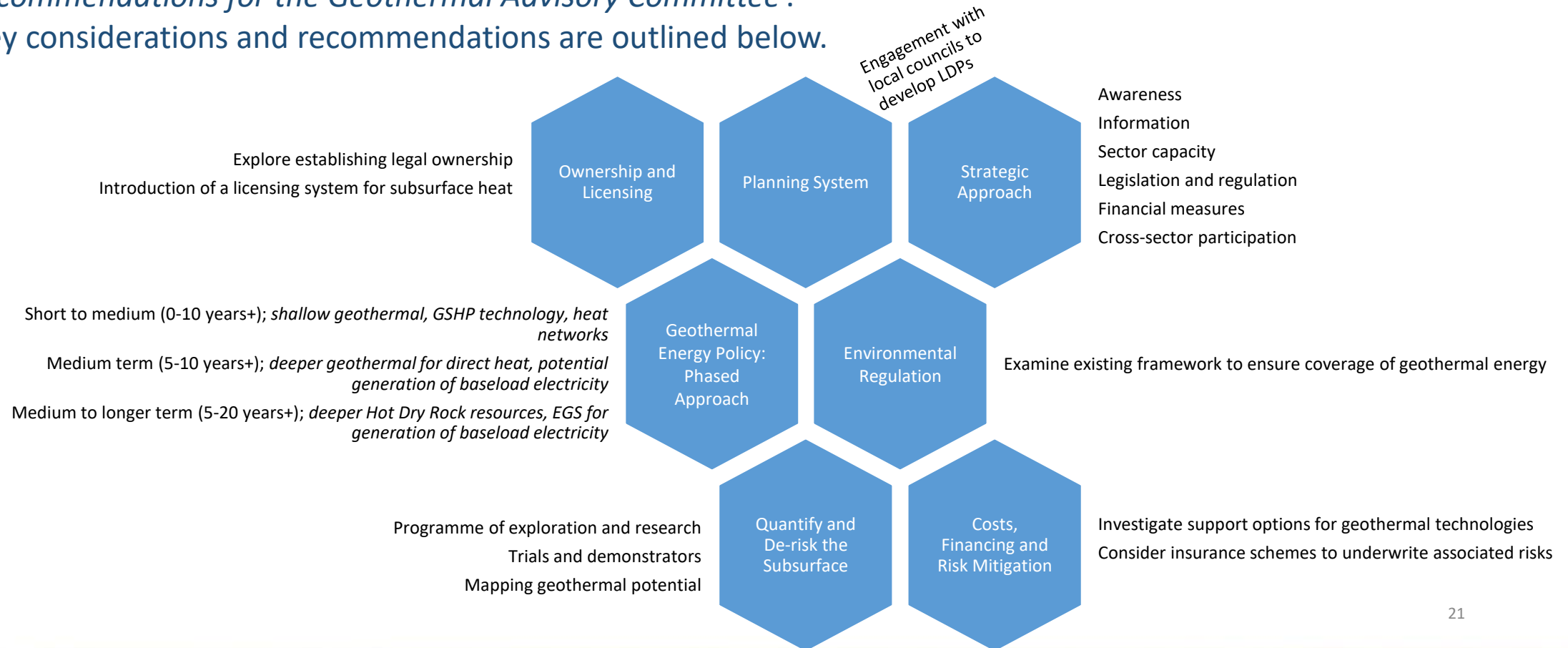
- Potential for shallow geothermal systems across the whole of NI
- NI has a higher geothermal gradient than the rest of the UK and Ireland meaning that higher temperatures are predicted at accessible depths
- The Sherwood Sandstone aquifer underlies Belfast providing the opportunity for geothermal district heating
- Significant potential for deep geothermal in Co Antrim where



Geothermal Policy Research: GSNI Technical Report

In 2021, GSNI published a paper entitled ‘*Geothermal energy potential in Northern Ireland: Summary and recommendations for the Geothermal Advisory Committee*’.

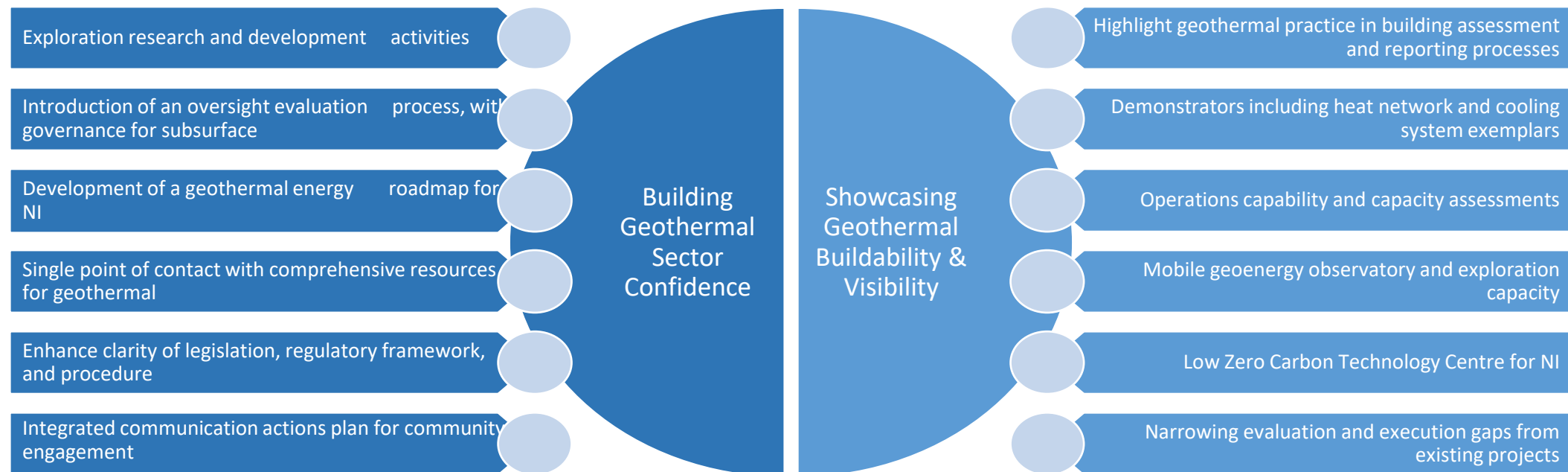
Key considerations and recommendations are outlined below.





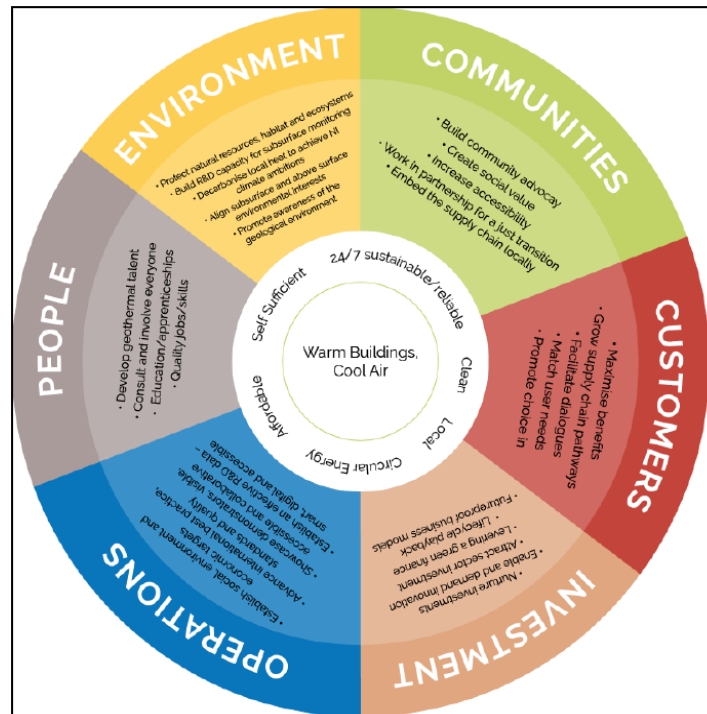
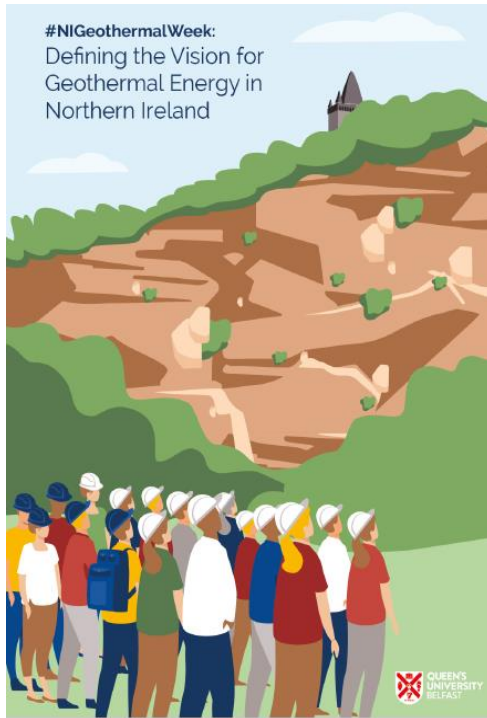
Geothermal Policy Research: Queen's University Belfast

In 2022, Queen's University Belfast prepared a report for the Department for the Economy and the Geothermal Advisory Committee, entitled '*Net zero pathways: Building the geothermal energy sector in Northern Ireland*'. Some high-level policy suggestions are outlined below.



Geothermal Vision

As part of #NIGeothermalWeek, the below Steering Wheel Vision and associated vision statements for the sector were agreed upon by attending stakeholders.



Communities

To deliver geothermal energy to all communities.

People

To build talent to drive geothermal excellence, capacity development and policy engagement.

Customers

To grow and facilitate geothermal customers in a sustainable way.

Environment

To protect and preserve the environment for all communities.

Operations

To build administrative, operational, and policy support.

Investment

To nurture, shield and protect sector investment funding.

Heat Policy – Future priorities

- Specific policy position / options papers to be progressed e.g. heat pumps, biomass etc.
- Establishment of heat policy stakeholder group.
- Options for **Heat Decarbonisation Call for Evidence** in 2023
- Geothermal demonstration projects to progress (x2)
- Further engagement with DoF on future building regulation uplifts
- Longer term engagement on sector skills, training & accreditation
- Geothermal road map – building on research
- Future Action Plan(s).



Stay informed

<https://www.economy-ni.gov.uk/publications/energy-strategy-path-net-zero-energy>

energystrategy@economy-ni.gov.uk

Sharon Clements

DfEHeatPolicy@economy-ni.gov.uk





An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Overview of Policy Interests from Ireland

PEACEPLUS Investment Area 5.5 Pre-Application Workshop

Koen Verbruggen and Monica Lee

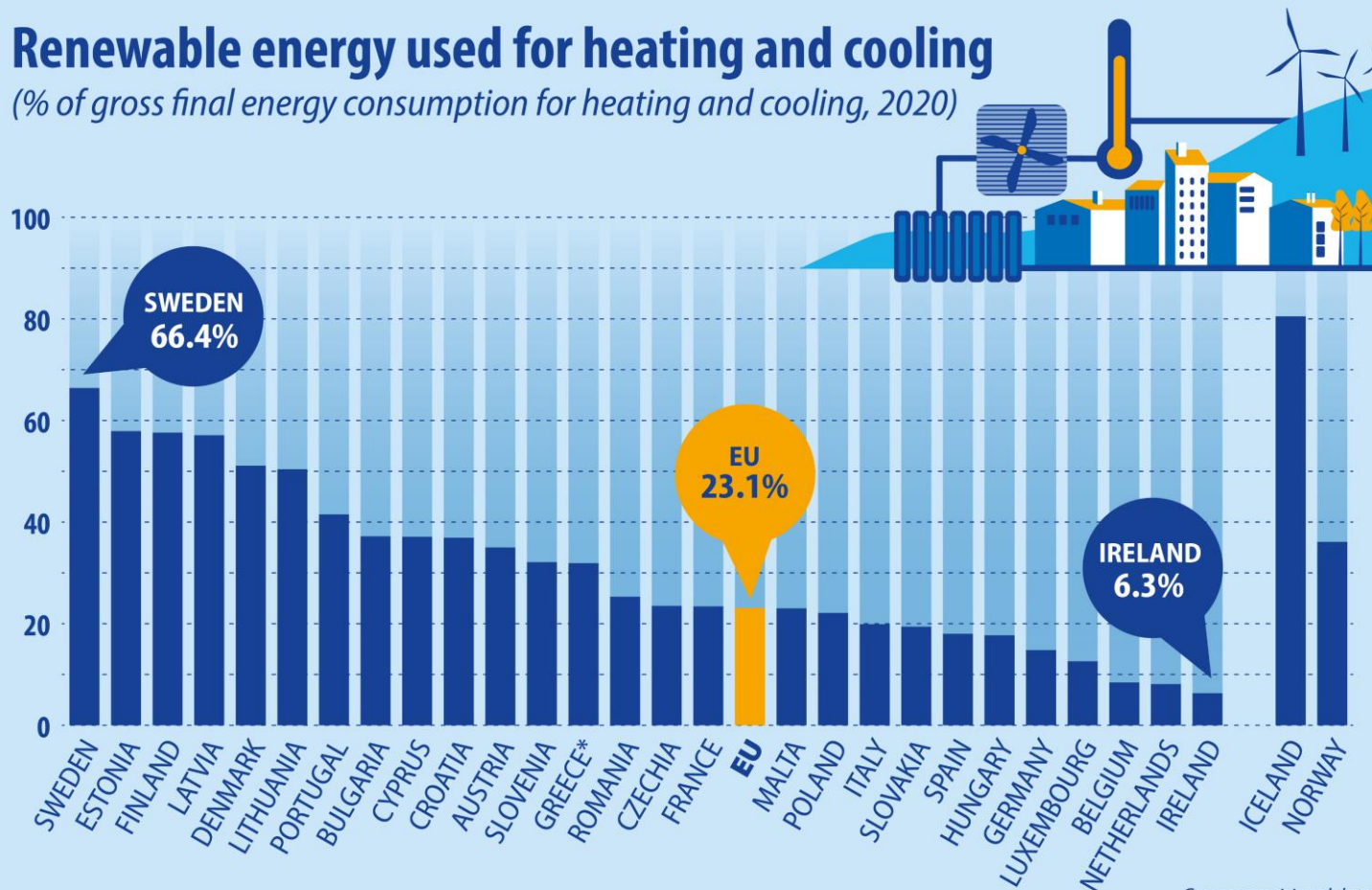
28th September 2022



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Renewable energy used for heating and cooling

(% of gross final energy consumption for heating and cooling, 2020)

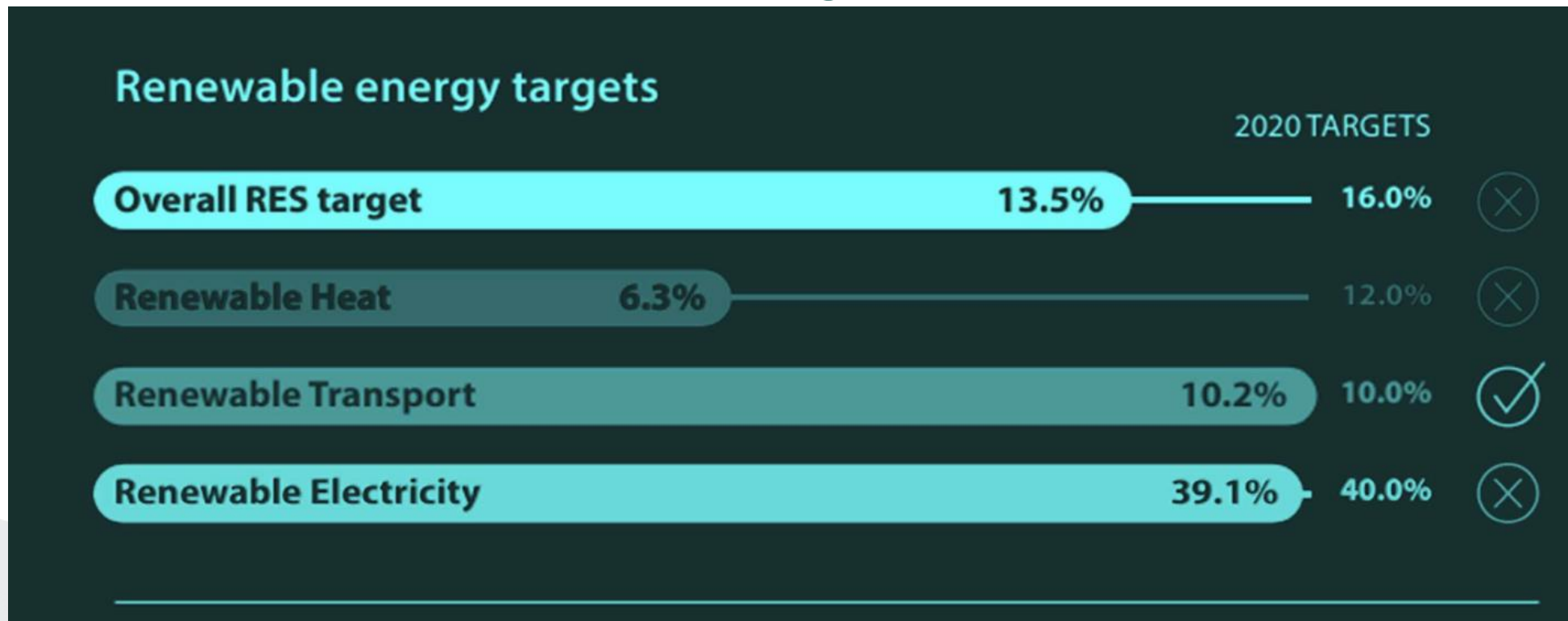


Greece: provisional data



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Climate Action: 2020 Targets



Heat represents c.40% of all energy used.



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Climate Action Plan: Heat and Built Environment Policy

Reduce emissions for the Built Environment by:

- Improving the fabric and energy efficiency
 - *Scale up retrofitting*
- Rolling out zero-carbon heating solutions:
 - *District heating/networks in cities*
 - *Zero-emission heating in commercial/municipal buildings*
- Consider the introduction of a Renewable Heat Obligation
- Planning for the full phase out of fossil fuels in buildings by 2050
- Promote behavioural change in how households use energy



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Climate Action Plan: Heat and Built Environment Targets

By 2030:

- Deliver up to 2.7 TWh of district heating.
- 50,000 – 55,000 commercial buildings with zero-emissions heating.
- Reduce emissions from public sector buildings.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Climate Action Plan: Heat and Built Environment Actions

- Support the delivery of district heating projects.
- Conduct appropriate research to inform and support the growth and development of district heating.
- Develop a regulatory framework to ensure structured development and consumer protection.
- Ensure planning frameworks encourage and facilitate development of district heating.
- Establish a system of governance.
- Identify appropriate financing mechanisms.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Climate Action Plan: Geothermal Energy

November 2020:

- GSI Assessment of Geothermal Energy for District Heating in Ireland.
- 2020 Non-Technical Roadmap for a Policy and Regulatory Framework.

2021 Climate Action Plan:

- Published Draft Policy Statement end 2021
- Propose to Government in Q4 2022
- Legislation in place by end 2023



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Scope of the Geothermal Energy Policy Statement

Set out an approach to:

1. Regulating the exploration for and the ‘capture’, or ‘harnessing’, of geothermal energy as a natural resource.
2. Engaging with the public and providing information resources.
3. Gathering data and bridging gaps in knowledge.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

Focus on Regulation

The draft policy statement proposes an approach to the regulatory framework that will:

1. Give certainty regarding the ownership and use of geothermal energy.
2. Create a process for licencing the exploration for and harnessing of geothermal energy resources.
3. Create a system of reporting on geothermal projects.
4. Integrate with existing environmental, health and safety and planning regulatory frameworks.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

PEACEPLUS Investment Area 5.5

To promote energy efficiency and reduce green-house gas emissions.

Actions to be supported:	Policy targets/actions met or informed:
Demonstration projects which build awareness regarding the benefits of and support for increased uptake of geothermal technologies in the residential, industrial and public sectors	1. Make geothermal energy relevant to the energy conversation – the way off shore wind is now part of the renewable energy mix.
Initiatives which demonstrate the application and efficiency of heat networks using shallow geothermal energy and Ground Source Heat Pump (GSHP) systems, including those within the SME sector	2. Understanding the pathways for geothermal energy projects to contribute to our climate goals and how to compare these projects to other forms of renewable energy.
Initiatives which demonstrate the application of Deep Geothermal Energy (>400m), particularly for decarbonising District Heating Systems	3. Conduct appropriate research to inform and support the growth and development of district heating.
Initiatives designed to increase market penetration of GSHPs	4. Gathering data and bridging gaps in knowledge.
Initiatives which involve the design, build and operation of geothermal surface infrastructure within social housing sector in the Programme area;	5. Develop a regulatory framework to ensure structured development and consumer protection.
Initiatives which support the growing geothermal technologies sector in the Programme area	6. Ensure planning frameworks encourage and facilitate development of district heating.
Initiatives which contribute to the development of a cross border policy framework designed to promote and support cross-sectoral uptake of geothermal technologies across the Programme area	7. Establish a system of governance.
Geothermal related energy efficiency studies focused on areas most affected by fuel poverty	8. Identify appropriate financing mechanisms.
Programmes for citizens to raise awareness and understanding of the benefits of Geothermal heating solutions	9. Engaging with the public and providing information resources. 10. Promote behavioural change in how households use energy.



**An Roinn Comhshaoil,
Aeráide agus Cumarsáide**
Department of the Environment,
Climate and Communications

PEACEPLUS Investment Area 5.5

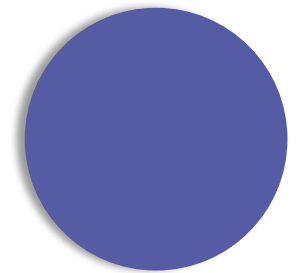
Unique opportunity to:

- Provide demonstration projects that will increase awareness of geothermal energy.
- Gather much needed subsurface data and results to improve our knowledge and understanding, and modelling and predictive capabilities.
- Accurately communicate the installation processes (including learnings) and the benefits to the public and stakeholders.
- Monitor and learn from an end-to-end project.
- Growing the market and increasing uptake.
- Demonstrate how geothermal energy can be used to address fuel poverty.
- Increase the proportion of renewables used for heat.
- Reduce emissions for the Built Environment.



Geothermal Energy Demonstration Programme

OVERVIEW OF AREA 5.5



Geothermal Energy Demonstration



Specific Objective

“To promote energy efficient measures and reduce green-house gas emissions.”

Resulting in:

“an increased awareness and uptake of geothermal technologies for heat production across the Programme area”



PEACEPLUS

What does Geothermal Energy Demonstration seek to achieve?

This investment area seeks to build the knowledge, skills and capacity required to develop a policy framework and encourage Programme area investment in the geothermal technology sector.

● How?

Through the expansion of the fledgling geothermal sector and demonstrating its viability.



Geothermal Energy Demonstration

Who?

- A suitable cross-border partnership with the capacity to deliver on all of the outputs, results and actions detailed is required.
- A partnership able to develop solutions and have the capacity/influence to upscale and build awareness of the micro and macro benefits of geothermal.
- A partnership able to develop, implement the project within the project's lifetime (4 years).

Geothermal Energy Demonstration

Scope and Range

The scope may include:

- testing procedures
- new instruments
- tools
- experimentation or the transfer of practices





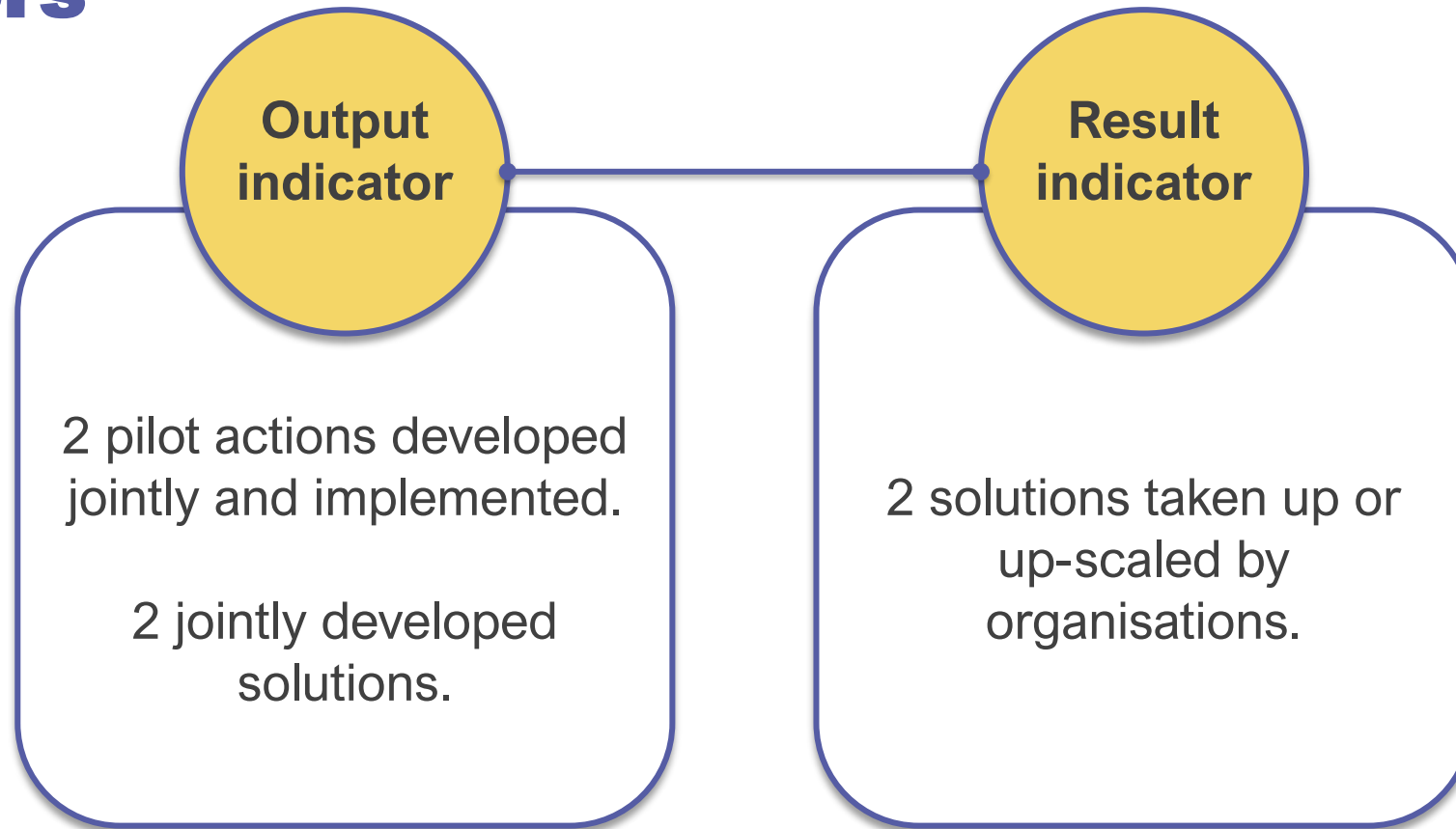
Geothermal Energy Demonstration

Measuring Change

Your project must result in new policy actions, in jointly developed solutions and in these solutions taken up or up-scaled by organisations. In addition, PEACEPLUS requires you to consider, integrate and demonstrate how this project contributes to a more peaceful, prosperous and stable society in N. Ireland and the border counties of Ireland.

Geothermal Energy Demonstration

Indicators



Geothermal Energy Demonstration

Indicative Actions (I)

- 🕒 Demonstration projects which build awareness regarding the benefits of and support for increased uptake of geothermal technologies in the residential, industrial and public sectors;
- 🕒 Initiatives which demonstrate the application of heat networks using shallow geothermal energy and Ground Source Heat Pump (GSHP) systems, including those within the SME sector;
- 🕒 Initiatives which demonstrate the application of Deep Geothermal Energy (>400m), particularly for decarbonising District Heating Systems

Geothermal Energy Demonstration

Indicative Actions (II)

- 🕒 Initiatives designed to increase market penetration of GSHPs;
- 🕒 Initiatives which involve the design, build and operation of geothermal surface infrastructure within social housing sector in the Programme area;
- 🕒 Initiatives which support the growing geothermal technologies sector in the Programme area;



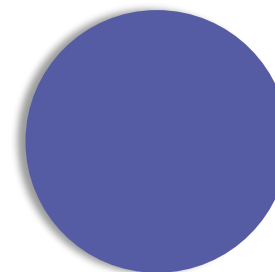
Geothermal Energy Demonstration

Indicative Actions (III)

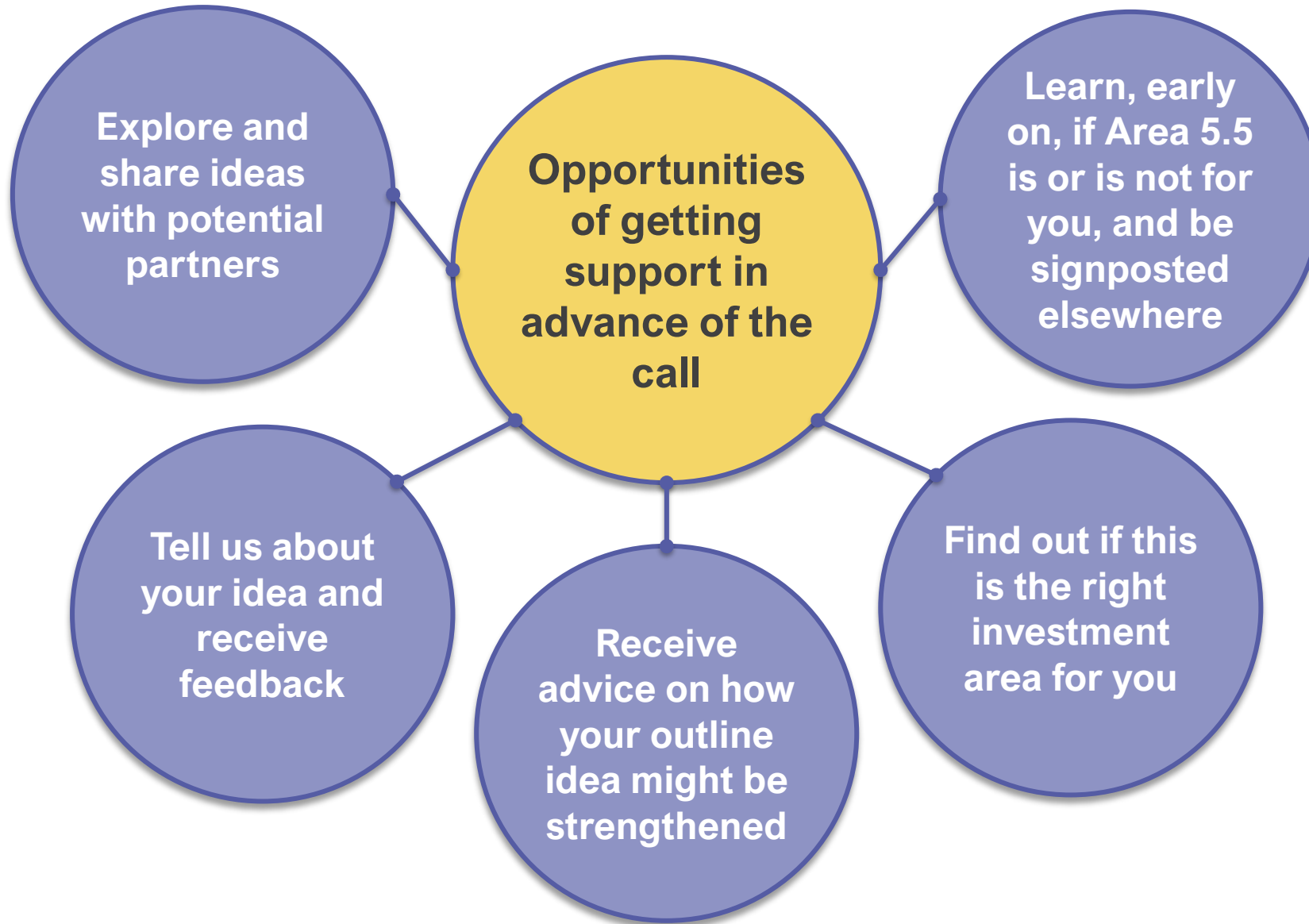
- 🕒 Initiatives which contribute to the development of a cross-border policy framework designed to promote and support cross-sectoral uptake of geothermal technologies across the Programme area;
- 🕒 Geothermal related energy efficiency studies focused on areas most affected by fuel poverty; and
- 🕒 Programmes for citizens to raise awareness and understanding of the benefits of Geothermal heating solutions.



PRE-APPLICATION SUPPORT & CONCEPT NOTE



Prepare and Plan in Advance



Geothermal Energy Demonstration

Concept Note (CN)

From today, 28th September, any organisation interested in becoming a Lead Partner under Area 5.5 may complete and submit a Concept Note for comment, advice, and support.

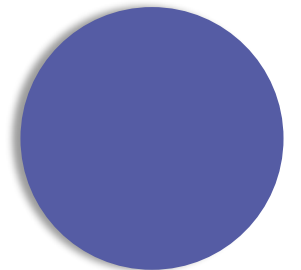
The Concept Note:

- covers some (but not all) of the questions that will be in the application-proper;
- will help you put in place the foundations of your project so you are better prepared when the call opens;
- is not a formal application;
- is not scored



Geothermal Energy Demonstration

HOW TO BUILD A STRONG PROPOSAL





Geothermal Energy Demonstration

Concept Note

- The uncompleted form is short, 3 pages, with one page of guidance.
- Provide high level project details and answer five questions, each between 300-500 words.
- Advice is available pre- and post-completion.
- Please complete and return it **no later than 23rd November** to Eimear.bush@seubp.eu

Geothermal Energy Demonstration

Concept Note: Question 1

About Your Project



- How does it align with PEACEPLUS and, specifically, the objectives of Area 5.5?
- What is the expected change your project will make to the current situation, in particular how it will contribute to the peace and prosperity of the region?
- What are the main actions and who will benefit from them?
- What is the approach you plan to take and why a cross-border/transnational/inter-regional approach is needed?

Geothermal Energy Demonstration

Concept Note: Question 2

Outputs and Results

Tell us how

- Your project must deliver on the nine anticipated actions (slides 18-20).
- During the course of your project, two pilot actions must be jointly developed and implemented.
- During the course of your project, two solutions must be jointly developed
- By the end of your project, two solutions must be taken up, or up-scaled by organisations.

Geothermal Energy Demonstration

Concept Note: Question 3

Relevance and Context

- Need and demand (to a large extent has been described in the CP);
- Additionality and displacement
- Cross-border and cross-community participation and impact
- Who will benefit from the project outputs and results?
- What contribution does the project make to wider strategies and policies?



Geothermal Energy Demonstration

Concept Note: Question 4

Proposed Team, Partnership, and Implementing Arrangements

- Staffing – who is doing what?
- Suitable experience and qualifications?
- Practical arrangements for implementation?
- Rationale for partnership composition.
- Structure of partnership.



Geothermal Energy Demonstration

Concept Note: Question 5

Value for Money

- Is it appropriately costed?
- Competitive tender where appropriate?
- Will inputs achieve required outputs and results and meet overall objective?
- Exit strategy and durability of results; critical to this IA
- How is the long-term impact of the project to be secured?



Geothermal Energy Demonstration


Lead Partner Role

- Coordination
- Financial management
- Reporting
- Communication
- Training
- Policies & Procedures

In short, accepts overall responsibility for ensuring implementation of entire project

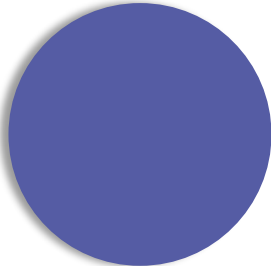


Other things to bear in mind

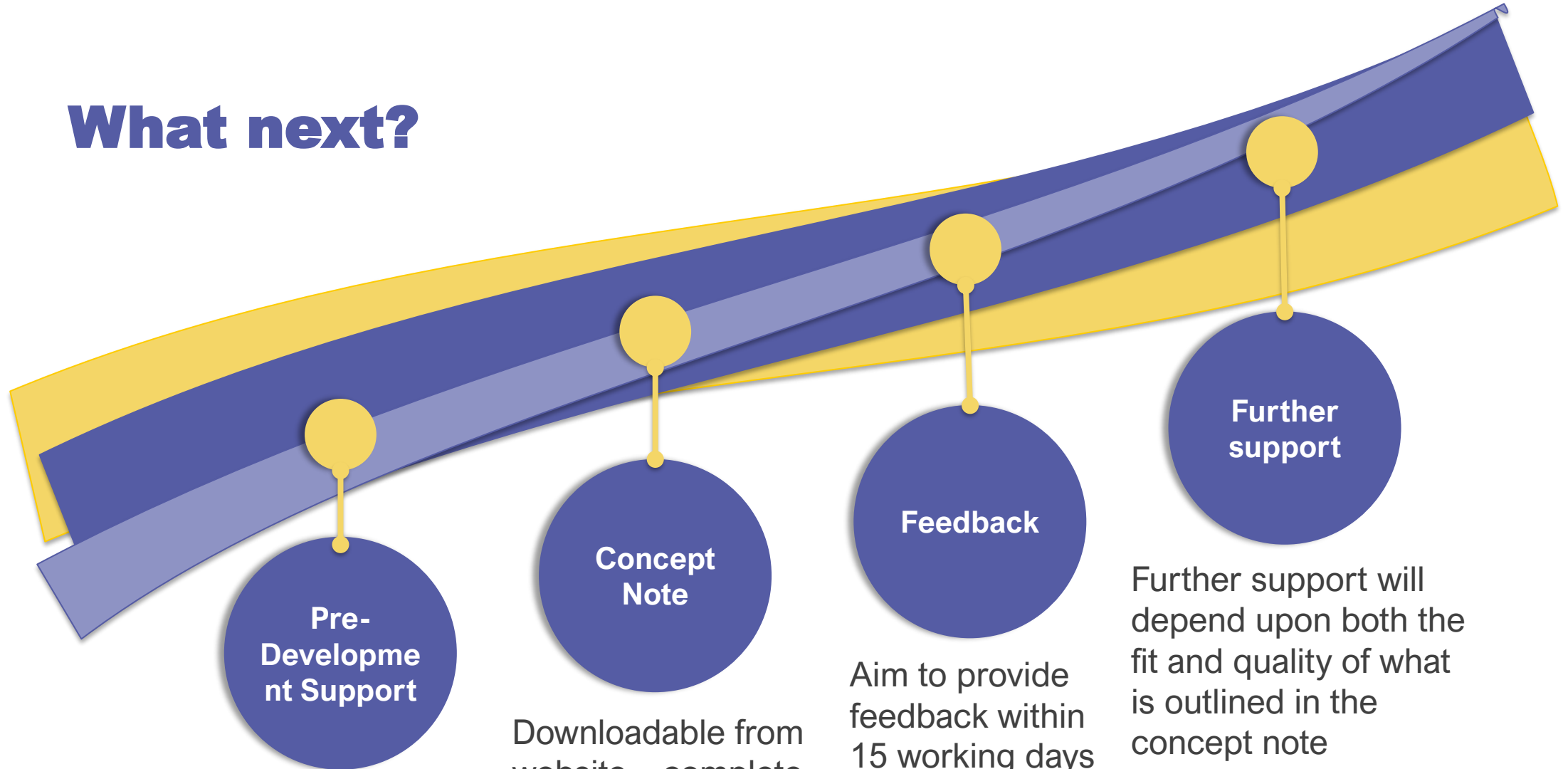
- Take this time to build your partnership: be clear on who is doing what; build a framework for communications and for M&E
 - Don't bite off more than you can chew: can you really deliver on this scale?
 - Think about finance: can you manage the cash flows?
 - Have clarity of purpose; your project must always consider its focus on building peace and prosperity for the region
- 



TIMESCALES



What next?



Now available for Area 5.5 of the PEACEPLUS Programme.

Downloadable from website – complete and return as soon as you can (23 Nov)

Aim to provide feedback within 15 working days

Further support will depend upon both the fit and quality of what is outlined in the concept note

● **Any Questions:** Contact Eimear Eimear.bush@seupb.eu

In Due Course...

In due course, the following documents will be made available and should be consulted before completing the formal application form:

- **PEACEPLUS Cooperation Programme**
- **The Programme Rules**
- **Guide for Applicants**
- **Call for Applications to Area 5.5**

The Programme Overview is available





Questions

