

## CETP-FP-2024-00127

Phase: Full-proposal

Submission Date (UTC): 01/04/2025

### PROJECT DATA

#### GENERAL DETAILS

**Project Acronym:** GEOGUARD

**Project Title:** De-risking Geothermal Heat Extraction from Tight Hot Sedimentary Aquifer

**Project Abstract:** Geothermal energy production in Europe is an important and growing renewable energy source with the potential to cover a significant share of the energy needs. This requires suitable and cost-effective exploration and production solutions covering the wide range of geothermal options available. One of the options that has not yet been targeted in great detail are widely distributed and generally massive tight Hot Sedimentary Aquifers (HSAs) that occur at variable geological depth and temperature conditions. They have in common that matrix permeability is generally low, with flow pathways often defined by fracture networks providing strongly heterogeneous flow systems. This fracture-controlled heterogeneity poses risks in terms of practical reservoir utilisation and induced seismicity. GEOGUARD will develop a workflow for derisking exploration and production of such reservoirs. Technical developments will include novel concepts for the characterisation of reservoir properties, the identification of sweet-spots from seismic data, the evaluation and modelling of uncertainty and risk associated with reservoir production and stimulation (if required) and the integration of geoscientific/subsurface engineering considerations into social-economic models, including financing. We will further develop novel concepts to communicate our findings to regulators, the general public and stakeholders involved in geothermal operations.

**Project Relevance:** Risks associated with geothermal operations (e.g., costs of project development; risk to people, environment, infrastructure) remains a major barrier for implementing low-carbon geothermal energy in Europe at scale. As such, de-risking is key to guarantee financial, regulatory, and societal buy-in. GEOGUARD will develop exploration and production/stimulation tools to de-risk tight hot sedimentary aquifers which are a relatively underdeveloped resource from a low carbon energy perspective.

**Project Duration (months):** 36

**Start Date:** 01/11/2025

## PROJECT CONTACT

**First Name:** Andreas  
**Family Name:** Busch  
**Organization** Heriot-Watt University  
**Email** a.busch@hw.ac.uk  
**Telephone Number**  
**Mobile Number** 447981344156

## CALL MODULE AND DESCRIPTION

**Call Module:** CM2024-07 Geothermal energy technologies  
**Transition Initiative:** TRI4 Heating and cooling  
**Project Description:**  
**TRL at Project Start:** TRL 2 – technology concept formulated  
**TRL at Project End:** TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)  
**Keywords:** geothermal energy,stimulation,hot sedimentary aquifers,uncertainty quantification,tight reservoirs  
**Predefined Keyword:** Geothermal Geology Economic and socio-economic evaluation, economic-financial modelling Risk assessment

## TOTAL BUDGET

This table represents the Total Budget of the project. It shows the sum of all partners' costs.

Items	Total cost (€)	Funding requested (in €)	Own funding (€)
Personnel	2.322.609,62	1.863.314,50	459.295,12
Subcontracting	64.394,00	36.197,00	28.197,00
Travel and subsistence	170.013,00	136.131,00	33.882,00
Equipment	87.168,00	59.959,00	27.209,00
Other direct costs (Goods and Services)	250.142,00	186.800,00	63.342,00
Indirect costs (overheads)	679.961,55	479.184,55	200.777,00

Items	Total cost (€)	Funding requested (in €)	Own funding (€)
<b>Total</b>	3.574.288,17	2.761.586,05	812.702,12

## WORKLOAD

This table represents the total workload of the project.

Partner	Status eligibility	Short Name	Country	Person months	Overall percentage
HERIOT-WATT UNIVERSITY	Conditional	HWU	UK - United Kingdom	71.5	21.73%
KAUNO TECHNOLOGIJOS UNIVERSITETAS	Eligible	UNIVERSITY OF TECHNOLOGY, KAUNAS	LT - Lithuania	36	10.94%
TOWNROCK ENERGY LIMITED	Eligible	TownRock Energy	UK - United Kingdom	70	21.27%
Scene Connect Limited	Eligible	Scene	UK - United Kingdom	30.1	9.15%
Montanuniversität Leoben	Eligible	Montanuniversität Leoben	AT - Austria	93.5	28.41%
UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN	n.d	NUID UCD	IE - Ireland	28	8.51%
<b>Total</b>				<b>329.1</b>	<b>100%</b>

## DNSH

### SECTION 1

Climate change mitigation YES

Climate change adaption NO  
geothermal energy is not a climate adaption technology

The sustainable use and protection of water and marine resources YES

The circular economy, including waste prevention and recycling YES

Pollution prevention and control to air, water or land YES

The protection and restoration of biodiversity and ecosystems YES

## SECTION 2

Climate change mitigation: is the measure expected to lead to significant GHG emissions? NO

Substantive justification

We are aiming for the opposite. By an increased use of geothermal resources GHG emissions are expected to be reduced rather than increased

Climate change adaptation: is the measure expected to lead to an increased adverse impact of the current climate and the expected future climate, on the measure itself or on people, nature or assets? n.d

The sustainable use and protection of water and marine resources: Is the measure expected to be detrimental: (i) to the good status or the good ecological potential of bodies of water, including surface water and groundwater; or (ii) to the good environmental status of marine waters? NO

Substantive justification

Geothermal energy production is not expected to impact surface or groundwater through contamination. We expect a closed loop production of geothermal fluids, whereby spillage/leakage is prevented.

The transition to a circular economy, including waste prevention and recycling: is the measure expected to: (i) lead to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste; or (ii) lead to a significant inefficiencies in the direct or indirect use of any natural resource (1) at any stage of its life cycle which are not minimised by adequate measures(2); or (iii) cause significant and long-term harm to the environment in respect to the circular economy (3)? NO

Substantive justification

geothermal energy will help reducing other sources of energy for heating, such as fossil fuels. As such, we expect less pollution, less impact on the marine ecosystems and less contamination of groundwater

Pollution prevention and control: Is the measure expected to lead to a significant increase in the emissions of pollutants (4) into air, water or land? NO

Substantive justification

see above. The more we use geothermal energy, the less we rely on fossil fuels, ultimately leading to a reduction in pollution

The protection and restoration of biodiversity and ecosystems: Is the measure expected to be: significantly detrimental to the good condition (5) and resilience of ecosystems; or detrimental to the conservation status of habitats and species, including those of Union interest? NO

Substantive justification

we expect the technology to not be detrimental to any ecosystem.

# ETHICS AND SELF ASSESSMENT

## HUMAN EMBRYONIC STEM CELLS AND HUMAN EMBRYOS

Does this activity involve Human Embryonic Stem Cells (hESCs)? NO

If yes, will they be directly derived from embryos within this project? n.d

If yes, are they previously established cells lines? n.d

If yes, are the cell lines registered in the European registry for human embryonic stem cell lines? n.d

Does this activity involve the use of human embryos? NO

If yes, will the activity lead to their destruction? n.d

## HUMANS

Does your research involve human participants? NO

If yes, are they volunteers for nonmedical studies (e.g. social or human sciences research)? n.d

If yes, are they healthy volunteers or medical studies? n.d

If yes, are they patients for medical studies? n.d

If yes, are they potentially vulnerable individuals or groups? n.d

If yes, are they children / minors? n.d

If yes, are they other persons unable to give informed consent? n.d

Does your research involve physical interventions on the study participants? NO

If yes, does it involve invasive techniques? n.d

If yes, does it involve collection of biological samples? n.d

Does this activity involve conducting a clinical study as defined by the Clinical Trial Regulation (EU 536/2014)? (using pharmaceuticals, biologicals, radiopharmaceuticals, or advanced therapy medicinal products) NO

If yes, is it a clinical trial? n.d

If yes, is it a low-intervention clinical trial? n.d

## HUMAN CELLS / TISSUES

Does this activity involve the use of human cells or tissues? NO

If yes, are they human embryonic or foetal cells or tissues? n.d

If yes, are they available commercially? n.d

If yes, are they obtained within this project? n.d

If yes, are they obtained from another project, laboratory or institution? n.d

If yes, are they obtained from biobank? n.d

## PERSONAL DATA

Does this activity involve processing of personal data? NO

If yes, does it involve the processing of special categories of personal data (e.g.: sexual lifestyle, ethnicity, genetic, biometric and health data, political opinion, religious or philosophical n.d

If yes, does it involve profiling, systematic monitoring of individuals, or processing of large scale of special categories of data or intrusive methods of data processing (such as, surveillance, geolocation tracking etc.)? n.d

Does this activity involve further processing of previously collected personal data (including use of pre-existing data sets or sources, merging existing data sets)? NO

Is it planned to export personal data from the EU to non-EU countries? NO

Is it planned to import personal data from non-EU countries into the EU or from a non-EU country to another non-EU country? NO

## ANIMALS

Does your research involve animals? NO

If yes, are they vertebrates? n.d

If yes, are they non-human primates (NHP)? n.d

If yes, are they genetically modified? n.d

If yes, are they cloned farm animals? n.d

If yes, are they endangered species? n.d

## NON-EU COUNTRIES

Will some of the activities be carried out in non-EU countries? **NO**

In case non-EU countries are involved, do the activities undertaken in these countries raise potential ethics issues? **NO**

Is it planned to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)? **NO**

Is it planned to import any material (other than data) from non-EU countries into the EU or from a non-EU country to another non-EU country? For data imports, see section 4. **NO**

Is it planned to export any material (other than data) from the EU to non-EU countries? For data exports, see section 4. **NO**

Does this activity involve low and/or lower-middle income countries? (if yes, detail the benefit- sharing actions planned in the self-assessment)  
**NO**

Does this activity involve low and/or lower-middle income countries? (if yes, detail the benefit- sharing actions planned in the self-assessment) Could the situation in the country put the individuals taking part in the activity at risk? **NO**

## ENVIRONMENT & HEALTH and SAFETY

Does this activity involve low and/or lower-middle income countries? (if yes, detail the benefit- sharing actions planned in the self-assessment) Could the situation in the country put the individuals taking part in the activity at risk? Does this activity involve the use of substances or processes that may cause harm to the environment, to animals or plants (during the implementation of the activity or further to the use of the results, as a possible impact)? **NO**

Does this activity deal with endangered fauna and/or flora / protected areas? **NO**

Does this activity involve the use of substances or processes that may cause harm to humans, including those performing the activity (during the implementation of the activity or further to the use of the results, as a possible impact)? **NO**



## ARTIFICIAL INTELLIGENCE

Does this activity involve the development, deployment and/or use of Artificial Intelligence? (if yes, detail in the self-assessment whether that could raise ethical concerns related to human rights and values and detail how this will be addressed). YES

Part of the research will involve machine learning for evaluation of reservoir simulations. We will use existing principles but not develop new ones. These are standard practices that have been used before but might now be applied in a different context.

## OTHER ETHICS ISSUES

Are there any other ethics issues that should be taken into consideration? NO

ADDITIONAL PARTNER INFORMATION

**PARTNER 0**

Partner Name:

Type User:

Partner Role:

# PARTNERS' DATA

Coordinator - PARTNER 1

## PRINCIPAL INVESTIGATOR DETAILS

Title	Dr
Family Name	Busch
First Name	Andreas
Gender	Male
Nationality	DE - Germany
E-Mail	a.busch@hw.ac.uk
Phone	+497981344156
Career Stage	Category A: Top grade researcher
Type of Identifier	ORCID Id
Identifier	0000-0002-3279-5202
Employment Status	On permanent position
Curriculum	short CV Andreas Busch.pdf

## ORGANISATION DETAILS

### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	Conditional
PIC	999853400
Legal full name	HERIOT-WATT UNIVERSITY
Short Name	HWU
Short Name	
VAT/National Registration Number from Participant portal	GB270800579
VAT / National Registration Number	GB270800579

### PARTICIPANT ORGANISATION TYPE

Organization Participant Type	HES – Higher education institutions
Status	Private
SME Status	No
Statistical Classification of Economic Activities (NACE)	72.19
Website	www.hw.ac.uk

#### Registered Office address of the research organization / company

Street Name and Number	RICCARTON
Postal Box	
Postal Code	EH144AS
CEDEX	
City	EDINBURGH
Country	UK - United Kingdom
Division, Department, Unit or Laboratory	The Lyell Centre

#### Division / Department / Unit or Laboratory

Street Name and Number	Res Ave S
Postal Box	
Postal Code	EH144AS
CEDEX	
Town	Edinburgh
Country	UK - United Kingdom

## BUDGET

Funding organization(s) to which you are applying for funding

United Kingdom/Scotland - Scottish Enterprise - SE

Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	467.366,00	373.893,00	93.473,00
Subcontracting	0,00	0,00	0,00
Travel and subsistence	65.000,00	52.000,00	13.000,00
Equipment	0,00	0,00	0,00
Other direct costs (Goods and Services)	170.595,00	136.476,00	34.119,00
Indirect costs (overheads)	388.946,00	311.157,00	77.789,00
Total	1.091.907,00	873.526,00	218.381,00

### Costs justification

- PDRA1 (1 FTE) for 30 months to perform outcrop geological work, lab testing and construction of the geological model in W1
- PDRA2 (0.5 FTE) for 24 months on upscaled modelling for permeability enhancement. This will be a split position with TownRock Energy to foster collaboration and integration between geoscience and techno-economic modelling in WP3
- Project manager (0.5 FTE) for 36 months to support coordination of the project, coordination of deliverables and reporting

Academic time: Busch (12%, PI, WP3/7 lead), Doster (4%, task lead WP3), Forbes Inskip (8%, WP1 lead); Gough (4%, task lead WP), Nicholson (4%, task co-lead WP1)

EUR 51k£ for consumables, IT and micro-CT scanning

EUR 65k for hosting and travelling to project meetings (7 people), conferences (UK, EU, non-EU: 5 each), dissemination events. Some costs to support visa/NHS charges of the PDRAs.

### Workload

71.5

## TEAM MEMBERS

Team members to be involved in the project: Already Identified

### TEAM MEMBER 1

Title	Dr
First Name	Nathaniel
Family Name	Forbes Inskip
Gender	Male
E-mail	n.forbes_inskip@hw.ac.uk
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=8pvKOiEAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=8pvKOiEAAAAJ&amp;hl=en</a>
Career stage	Category C - Recognised researcher
Role of researcher	Leading

### TEAM MEMBER 2

Title	Prof.
First Name	Florian
Family Name	Doster
Gender	Male
E-mail	f.doster@hw.ac.uk
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=YOh8aUgAAAAJ&amp;hl=de">https://scholar.google.com/citations?user=YOh8aUgAAAAJ&amp;hl=de</a>
Career stage	Category A - Top grade researcher
Role of researcher	Team Member

### TEAM MEMBER 3

Title	Dr
First Name	Amy
Family Name	Gough
Gender	Female

E-mail	a.gough@hw.ac.uk
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=gPk9DoAAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=gPk9DoAAAAAJ&amp;hl=en</a>
Career stage	Category C - Recognised researcher
Role of researcher	Team Member

#### TEAM MEMBER 4

Title	Dr
First Name	Uisdean
Family Name	Nicholson
Gender	Male
E-mail	u.nicholson@hw.ac.uk
Type of Identifier	Other
Identifier	<a href="https://researchportal.hw.ac.uk/en/persons/uisdean-nicholson">https://researchportal.hw.ac.uk/en/persons/uisdean-nicholson</a>
Career stage	Category B - Senior researcher
Role of researcher	Team Member

## PARTNER 2

### PRINCIPAL INVESTIGATOR DETAILS

Title	Dr
Family Name	Pal
First Name	Mayur
Gender	Male
Nationality	IN - India
E-Mail	mayur.pal@ktu.lt
Phone	861295386
Career Stage	Category B: Senior researcher
Type of Identifier	ORCID Id
Identifier	0000-0002-1387-4124
Employment Status	On fixed-term position
Duration of contract	60
Employer Name	Kaunas University of Technology Lithuania
Curriculum	CV_Mayur Pal-1.pdf

### ORGANISATION DETAILS

#### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	Eligible
PIC	999844961
Legal full name	KAUNO TECHNOLOGIJOS UNIVERSITETAS
Short Name	UNIVERSITY OF TECHNOLOGY, KAUNAS
Short Name	
VAT/National Registration Number from Participant portal	LT119505811
VAT / National Registration Number	LT119505811

#### PARTICIPANT ORGANISATION TYPE



Organization Participant Type	HES – Higher education institutions
Status	Public
SME Status	No
Statistical Classification of Economic Activities (NACE)	85.42
Website	www.ktu.lt

#### Registered Office address of the research organization / company

Street Name and Number	K DONELAICIO 73
Postal Box	
Postal Code	LT-44249
CEDEX	
City	KAUNAS
Country	LT - Lithuania
Division, Department, Unit or Laboratory	Department of Mathematical Modelling

#### Division / Department / Unit or Laboratory

Street Name and Number	MLAB
Postal Box	51368
Postal Code	LT-51368
CEDEX	
Town	Kaunas
Country	LT - Lithuania

## BUDGET

Funding organization(s) to which you are applying for funding

Lithuania - Research Council of Lithuania - LMT

Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	98.000,00	98.000,00	0,00
Subcontracting	8.000,00	8.000,00	0,00
Travel and subsistence	8.000,00	8.000,00	0,00
Equipment	4.000,00	4.000,00	0,00
Other direct costs (Goods and Services)	12.000,00	12.000,00	0,00
Indirect costs (overheads)	19.500,00	19.500,00	0,00
Total	149.500,00	149.500,00	0,00

### Costs justification

The project involves up to four researchers (a lead researcher and three early stage researcher) working at 0.25 load distributed over three years, focusing on uncertainty modeling, geochemical analysis, machine learning, simulations, and disseminating results. Travel funds support onsite meetings and international conferences for collaboration and result dissemination. Equipment costs include high-performance computing resources and software for simulations and machine learning-based uncertainty modeling. Direct cost for experimental data collection from third-party labs will validate and refine models. Indirect costs (15%) cover university overheads. This allocation optimizes resources to advance geothermal research, address uncertainties, and drive innovation.

### Workload

36

## TEAM MEMBERS

Team members to be involved in the project: Already Identified

### TEAM MEMBER 1

Title	Dr
First Name	Mayur
Family Name	Pal
Gender	Male
E-mail	mayur.pal@ktu.lt
Type of Identifier	ORCID Id
Identifier	<a href="https://orcid.org/0000-0002-1387-4124">https://orcid.org/0000-0002-1387-4124</a>
Career stage	Category B - Senior researcher
Role of researcher	Leading

### TEAM MEMBER 2

Title	Mr
First Name	Pijus
Family Name	Makauskas
Gender	Male
E-mail	pijus.makauskas@ktu.lt
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=BmGqqDMAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=BmGqqDMAAAAJ&amp;hl=en</a>
Career stage	Category D - First stage researcher
Role of researcher	PhD candidate

### TEAM MEMBER 3

Title	Mr
First Name	Shankar Lal
Family Name	Dangi
Gender	Male

E-mail	shankar.dangi@ktu.edu
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=CveR0MMMAAAJ&amp;hl=en">https://scholar.google.com/citations?user=CveR0MMMAAAJ&amp;hl=en</a>
Career stage	Category D - First stage researcher
Role of researcher	PhD candidate

TEAM MEMBER 4

Title	Mr
First Name	Abdul Rashid
Family Name	Abdul Nabi Memon
Gender	Male
E-mail	abdul.memon@ktu.lt
Type of Identifier	Other
Identifier	<a href="https://sciprofiles.com/profile/3473775">https://sciprofiles.com/profile/3473775</a>
Career stage	Category D - First stage researcher
Role of researcher	PhD candidate

## PARTNER 3

### PRINCIPAL INVESTIGATOR DETAILS

Title	Dr
Family Name	Watson
First Name	Sean
Gender	Male
Nationality	UK - United Kingdom
E-Mail	morven.chisholm@townrock.com
Phone	+447425338315
Career Stage	
Type of Identifier	
Identifier	
Employment Status	On permanent position
Curriculum	2025_03_TRE_Sean Watson_CV.pdf

### ORGANISATION DETAILS

#### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	Eligible
PIC	905118932
Legal full name	TOWNROCK ENERGY LIMITED
Short Name	TownRock Energy
Short Name	
VAT/National Registration Number from Participant portal	171 3361 29
VAT / National Registration Number	171 3361 29

#### PARTICIPANT ORGANISATION TYPE

Organization Participant Type	PRC – Private sector
Status	Private
SME Status	Yes

Statistical Classification of Economic Activities  
(NACE)

71.12 Engineering activities and related technical  
consultancy

Website

www.townrock.com

### Registered Office address of the research organization / company

Street Name and Number

East Woodlands House, Pitmedden Road, Dyce

Postal Box

Postal Code

AB21 0HD

CEDEX

City

Aberdeen

Country

UK - United Kingdom

Division, Department, Unit or Laboratory

Operations Office

### Division / Department / Unit or Laboratory

Street Name and Number 36 St Andrews Square

Postal Box

Postal Code

EH2 2AD

CEDEX

Town

Edinburgh

Country

UK - United Kingdom

## BUDGET

Funding organization(s) to which you are applying for funding

United Kingdom/Scotland - Scottish Enterprise - SE

### Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	348.746,00	174.373,00	174.373,00
Subcontracting	56.394,00	28.197,00	28.197,00
Travel and subsistence	25.383,00	12.691,00	12.692,00
Equipment	52.018,00	26.009,00	26.009,00
Other direct costs (Goods and Services)	42.465,00	21.233,00	21.232,00
Indirect costs (overheads)	188.622,00	94.311,00	94.311,00
Total	713.628,00	356.814,00	356.814,00

### Costs justification

TownRock Energy (TRE), an award-winning Scottish geothermal energy consultancy and technology R&D company, will undertake techno-economic modelling, configuring real energy and heat demand, and temperature and flow sensitivity modelling.

The majority of funding is for skilled personnel (engineering and geothermal geologists; financial modeler) to research, as well as financial and project management; this comprises 5 existing staff, 1 new permanent full time role, and hiring 1 post-doctoral researcher (jointly between Heriot-Watt University and TRE).

(61 P/M primarily for delivery of WP4+1,3,5,6,7; 9 P/M for financial and project management).

Funding is required for sub-contractors and consultants to bring additional expertise to this work, as well as equipment costs for sensors and other monitoring and measuring equipment.

Travel and subsistence for site visits, consortium meetings etc.

Overheads are included according to national regulations.

GBP to Euro conversion rate: 1.2

### Workload

70

## TEAM MEMBERS

Team members to be involved in the project: Already Identified

### TEAM MEMBER 1

Title	Dr
First Name	Sean
Family Name	Watson
Gender	Male
E-mail	sean.watson@townrock.com
Type of Identifier	ORCID Id
Identifier	
Career stage	Category C - Recognised researcher
Role of researcher	Leading

### TEAM MEMBER 2

Title	Ms
First Name	Morven
Family Name	Chisholm
Gender	Female
E-mail	morven.chisholm@townrock.com
Type of Identifier	
Identifier	
Career stage	
Role of researcher	Team Member

### TEAM MEMBER 3

Title	Ms
First Name	Barbora
Family Name	Hovorkova
Gender	Female



E-mail barbora.hovorkova@townrock.com

Type of Identifier

Identifier

Career stage

Role of researcher Team Member

#### TEAM MEMBER 4

Title Mr

First Name Michael

Family Name Schiltz

Gender Male

E-mail michael.schiltz@townrock.com

Type of Identifier

Identifier

Career stage

Role of researcher Team Member

#### TEAM MEMBER 5

Title Mr

First Name Michael

Family Name van Mourik

Gender Male

E-mail michael.vanmourik@townrock.com

Type of Identifier

Identifier

Career stage

Role of researcher Team Member

#### TEAM MEMBER 6

Title Mr

First Name David

Family Name

	Townsend
Gender	Male
E-mail	david.townsend@townrock.com
Type of Identifier	
Identifier	
Career stage	
Role of researcher	Leading

## PARTNER 4

### PRINCIPAL INVESTIGATOR DETAILS

Title	Mr
Family Name	Robinson
First Name	Sandy
Gender	Male
Nationality	UK - United Kingdom
E-Mail	sandy.r@scene.community
Phone	07944037549
Career Stage	Category B: Senior researcher
Type of Identifier	Google Scholar
Identifier	<a href="https://scholar.google.com/citations?user=Nt-ObY0AAAAJ&amp;hl=en">https://scholar.google.com/citations?user=Nt-ObY0AAAAJ&amp;hl=en</a>
Employment Status	On permanent position
Curriculum	SR_Scene 1 Page CVs.pdf

### ORGANISATION DETAILS

#### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	Eligible
PIC	918784680
Legal full name	Scene Connect Limited
Short Name	Scene
Short Name	
VAT/National Registration Number from Participant portal	166 2411 22
VAT / National Registration Number	166 2411 22

#### PARTICIPANT ORGANISATION TYPE

Organization Participant Type	PRC – Private sector
Status	Private

SME Status	Yes
Statistical Classification of Economic Activities (NACE)	71.12 Engineering activities and related technical consultancy
Website	www.scene.community

## Registered Office address of the research organization / company

Street Name and Number	46a Constitution Street
Postal Box	
Postal Code	EH3 9DR
CEDEX	
City	Edinburgh
Country	UK - United Kingdom
Division, Department, Unit or Laboratory	Scene

## Division / Department / Unit or Laboratory

Street Name and Number	Scene
Postal Box	
Postal Code	EH3 9DR
CEDEX	
Town	Edinburgh
Country	UK - United Kingdom

## BUDGET

Funding organization(s) to which you are applying for funding

United Kingdom/Scotland - Scottish Enterprise - SE

Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	286.777,00	143.389,00	143.388,00
Subcontracting	0,00	0,00	0,00
Travel and subsistence	16.380,00	8.190,00	8.190,00
Equipment	2.400,00	1.200,00	1.200,00
Other direct costs (Goods and Services)	15.982,00	7.991,00	7.991,00
Indirect costs (overheads)	57.355,00	28.678,00	28.677,00
Total	378.894,00	189.448,00	189.446,00

### Costs justification

Labour: €286,777 (TOTAL €143,389)

- Project Manager – €72,000 (3-year average) – 5.8 person months.
- Research Lead – €72,000 (3-year average) – 6.9 person months.
- Civil Engineer – €52,960 (3-year average) – 3.5 person months.
- Researcher – €52,960 (3-year average) – 9.0 person months.
- Impact Analyst – €46,340 (3-year average) – 4.9 person months.

Equipment: €2,400 (TOTAL €1,200)

€2,400: Two Windows laptops required for 1) Engineering assessment and 2) Mapping

Indirect Costs: €7,991 (TOTAL €15,982)

€6,000: EnergyPro4 licence for technical and impact analysis

€382: Two licences for graphics and mapping programmes (Affinity 2)

€9,600: Accountancy to cover IAR auditing.

Travel: €8,190 (TOTAL €16,380)

Annual Meeting 1 (UK) - €2,700 - 4 staff / 2 nights / UK travel / Subsistence.

Annual Meeting 2 (IE) - €5,700 - 4 staff / 2 nights / IE travel / Subsistence.

Annual Meeting 3 (NL) - €5,700 - 4 staff / 2 nights / NL travel / Subsistence.

Conference Presentation - €2,280 - 2 staff / 1 nights / EU travel / Subsistence.

Overheads: €28,678 (TOTAL €57,355)

Covering software, HR management, office / desk rental, an all other overhads applied to staff months.

**Workload**

30.1

## TEAM MEMBERS

Team members to be involved in the project: Already Identified

### TEAM MEMBER 1

Title	Mr
First Name	Jim
Family Name	O'Donnell
Gender	Male
E-mail	jim.o@scene.community
Type of Identifier	Other
Identifier	N/A
Career stage	Category B - Senior researcher
Role of researcher	Team Member

### TEAM MEMBER 2

Title	Mr
First Name	Rhys
Family Name	Watkins
Gender	Male
E-mail	rhys.w@scene.community
Type of Identifier	Other
Identifier	N/A
Career stage	Category D - First stage researcher
Role of researcher	Team Member

### TEAM MEMBER 3

Title	Mr
First Name	Elliot
Family Name	Price
Gender	Male

E-mail	elliott.p@scene.community
Type of Identifier	Other
Identifier	N/A
Career stage	Category B - Senior researcher
Role of researcher	Team Member

#### TEAM MEMBER 4

Title	Mr
First Name	Ross
Family Name	Williamson
Gender	Male
E-mail	ross.w@scene.community
Type of Identifier	Other
Identifier	N/A
Career stage	Category C - Recognised researcher
Role of researcher	Team Member

#### TEAM MEMBER 5

Title	Mr
First Name	Alex
Family Name	Schlicke
Gender	Male
E-mail	alex.s@scene.community
Type of Identifier	Other
Identifier	N/A
Career stage	Category C - Recognised researcher
Role of researcher	Team Member



## PARTNER 5

### PRINCIPAL INVESTIGATOR DETAILS

Title	Dr
Family Name	Ott
First Name	Holger
Gender	Male
Nationality	DE - Germany
E-Mail	holger.ott@unileoben.ac.at
Phone	+43 3842 402 3000
Career Stage	Category A: Top grade researcher
Type of Identifier	ORCID Id
Identifier	<a href="https://orcid.org/0000-0002-7297-9380">https://orcid.org/0000-0002-7297-9380</a>
Employment Status	On permanent position
Curriculum	CV_Holger_Ott_english.pdf

### ORGANISATION DETAILS

#### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	Eligible
PIC	912390537
Legal full name	Montanuniversität Leoben
Short Name	Montanuniversität Leoben
Short Name	
VAT/National Registration Number from Participant portal	57480504
VAT / National Registration Number	57480504

#### PARTICIPANT ORGANISATION TYPE

Organization Participant Type	REC – Research organizations
Status	Public

SME Status	No
Statistical Classification of Economic Activities (NACE)	72.1 Research and experimental development on natural sciences and engineering
Website	www.unileoben.ac.at

### Registered Office address of the research organization / company

Street Name and Number	Franz Josef Str. 18
Postal Box	
Postal Code	8700
CEDEX	
City	Leoben
Country	AT - Austria
Division, Department, Unit or Laboratory	Department Geoenergy

### Division / Department / Unit or Laboratory

Street Name and Number	Parkstrasse 27
Postal Box	
Postal Code	8700
CEDEX	
Town	Leoben
Country	AT - Austria

## BUDGET

Funding organization(s) to which you are applying for funding

Austria - Austrian Research Promotion Agency - FFG

### Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	926.902,50	926.902,50	0,00
Subcontracting	0,00	0,00	0,00
Travel and subsistence	41.250,00	41.250,00	0,00
Equipment	26.250,00	26.250,00	0,00
Other direct costs (Goods and Services)	2.100,00	2.100,00	0,00
Indirect costs (overheads)	0,00	0,00	0,00
Total	996.502,50	996.502,50	0,00

### Costs justification

Personnel costs:

275.726,75 Euro:

Senior Scientist (PostDoc): Reservoir simulations /uncertainty analysis

366.123,50 Euro:

Senior Scientist (PostDoc): Geophysics / seismic reservoir characterization

88.515,50 Euro:

PhD Student: Reservoir Simulation and formal analysis

146.350,30 Euro

Prof. and associated Prof.: leadership, conceptualization of research, supervision, formal analysis

Other costs

41.250,00 Euro

Travel costs for conferences and project meetings on a regular basis

13.125,00 Euro

Computer and related equipment

### Workload

93.5

## TEAM MEMBERS

Team members to be involved in the project: Already Identified

### TEAM MEMBER 1

Title	Prof.
First Name	Florian
Family Name	Bleibinhaus
Gender	Male
E-mail	florian.bleibinhaus@unileoben.ac.at
Type of Identifier	ORCID Id
Identifier	0000-0003-2176-4045
Career stage	Category A - Top grade researcher
Role of researcher	Team Member

### TEAM MEMBER 2

Title	Dr
First Name	Siroos
Family Name	Azizmohammadi
Gender	Male
E-mail	siroos.azizmohammadi@unileoben.ac.at
Type of Identifier	ORCID Id
Identifier	0000-0003-2258-111X
Career stage	Category B - Senior researcher
Role of researcher	Team Member

### TEAM MEMBER 3

Title	Dr
First Name	Eva
Family Name	Caspari
Gender	Female

E-mail	eva.caspari@unileoben.ac.at
Type of Identifier	ORCID Id
Identifier	0000-0002-2080-3615
Career stage	Category A - Top grade researcher
Role of researcher	Leading

TEAM MEMBER 4

Title	Mr
First Name	Mohab
Family Name	Abdellatif
Gender	Male
E-mail	mohab.abdellatif@unileoben.ac.at
Type of Identifier	ORCID Id
Identifier	0000-0001-8751-751X
Career stage	Category D - First stage researcher
Role of researcher	Team Member

## PARTNER 6

### PRINCIPAL INVESTIGATOR DETAILS

Title	Dr
Family Name	Manzocchi
First Name	Tom
Gender	Male
Nationality	UK - United Kingdom
E-Mail	tom.manzocchi@ucd.ie
Phone	+353872709237
Career Stage	Category B: Senior researcher
Type of Identifier	Other
Identifier	<a href="https://people.ucd.ie/tom.manzocchi/about">https://people.ucd.ie/tom.manzocchi/about</a>
Employment Status	On permanent position
Curriculum	CVManzocchi.pdf

### ORGANISATION DETAILS

#### PARTICIPANT IDENTIFICATION CODE (PIC)

Status eligibility	
PIC	999974359
Legal full name	UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN
Short Name	NUID UCD
Short Name	UCD
VAT/National Registration Number from Participant portal	IE6517386K
VAT / National Registration Number	IE6517386K

#### PARTICIPANT ORGANISATION TYPE

Organization Participant Type	HES – Higher education institutions
Status	

	Public
SME Status	No
Statistical Classification of Economic Activities (NACE)	72.19 Other research and experimental development on natural sciences and engineering; 85.42 Tertiary education
Website	<a href="https://www.ucd.ie/">https://www.ucd.ie/</a>

#### Registered Office address of the research organization / company

Street Name and Number	BELFIELD
Postal Box	
Postal Code	D04 V1W8
CEDEX	
City	DUBLIN
Country	IE - Ireland
Division, Department, Unit or Laboratory	School of Earth Sciences

#### Division / Department / Unit or Laboratory

Street Name and Number	UCD College of Science
Postal Box	
Postal Code	D04 V1W8
CEDEX	
Town	Dublin
Country	IE - Ireland

## BUDGET

Funding organization(s) to which you are applying for funding

Ireland - Geological Survey Ireland - GSI

Budget Table

Items	Total cost (in €)	Funding requested (in Euro, including VAT depending on national rules)	Own funding (equal to the difference between total cost and funding requested)
Personnel	194.818,12	146.757,00	48.061,12
Subcontracting	0,00	0,00	0,00
Travel and subsistence	14.000,00	14.000,00	0,00
Equipment	2.500,00	2.500,00	0,00
Other direct costs (Goods and Services)	7.000,00	7.000,00	0,00
Indirect costs (overheads)	25.538,55	25.538,55	0,00
Total	243.856,67	195.795,55	48.061,12

### Costs justification

Requested Personnel funding is for a 24-month Post Doc Level 2 for the period November 2025 – October 2027, including an increment from Point 1 to Point 2 after 12 months.

Total personnel costs include 4 months from permanent researchers not charged to project (two months Manzocchi, one month each for English and Torremans).

Travel costs include attending partner meetings for this international consortium, results dissemination plus visits to core store / outcrop sites for sampling.

Equipment costs is the price of purchase for a workstation PC for geomodelling.

Other direct costs include contributions to modelling software, including Leapfrog, Fracman, FEFLOW, and laboratory costs including the analysis and testing of rock samples for petrophysical and mechanical properties.

Requested overheads are 15% of requested funding in line with GSI requirements.

### Workload

28



## TEAM MEMBERS

Team members to be involved in the project:

### TEAM MEMBER 1

Title	Dr
First Name	Tom
Family Name	Manzocchi
Gender	Male
E-mail	tom.manzocchi@ucd.ie
Type of Identifier	Other
Identifier	<a href="https://people.ucd.ie/tom.manzocchi">https://people.ucd.ie/tom.manzocchi</a>
Career stage	Category B - Senior researcher
Role of researcher	Leading

### TEAM MEMBER 2

Title	Dr
First Name	Kara
Family Name	English
Gender	Female
E-mail	kara.english@ucd.ie
Type of Identifier	Other
Identifier	<a href="https://people.ucd.ie/kara.english">https://people.ucd.ie/kara.english</a>
Career stage	Category B - Senior researcher
Role of researcher	Team Member

### TEAM MEMBER 3

Title	Dr
First Name	Koen
Family Name	Torresman
Gender	Male

E-mail	koen.torresman@ucd.ie
Type of Identifier	Other
Identifier	<a href="https://people.ucd.ie/koen.torremans">https://people.ucd.ie/koen.torremans</a>
Career stage	Category B - Senior researcher
Role of researcher	Team Member

#### TEAM MEMBER 4

Title	Prof.
First Name	John
Family Name	Walsh
Gender	Male
E-mail	john.walsh@ucd.ie
Type of Identifier	Other
Identifier	<a href="https://people.ucd.ie/john.walsh">https://people.ucd.ie/john.walsh</a>
Career stage	Category A - Top grade researcher
Role of researcher	Team Member

*By submitting your proposal you agree that the following data: Acronym, Project title, Abstract, Coordinator and partners can be published on the CETPartnership communication channels in case the project is selected for funding.*