Funding Schemes for Geothermal in Europe

EGEC Practical Guide

March 2017

EGEC, the European Geothermal Energy Council, was founded in 1998 as an international non-profit association in Brussels, with the aim of promoting the use of geothermal energy in Europe.

EGEC has 128 members from 28 European countries: private companies, national associations, consultants, research centres, geological surveys and other public authorities.

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Introduction

**A publication to which end?**

The European Union is widely seen as a leader on climate action, being among the first regions in the world to propose binding greenhouse gases emission reduction targets. The EU is also a major provider of public funding for renewable energy and energy efficiency projects through the many funding facilities established across European institutions. With its many, sometimes overlapping, facilities, the EU proposes mechanisms to allocate funding for every type of projects – from the most innovative to the most proven technologies, from small-scale R&D to large plants.

This publication is an update of the 2015 *Funding Schemes for Geothermal Energy in Europe and in the World*. It comes to clarify, actualise funding schemes descriptions, update the figures, data and dates – notably regarding the calls for tenders. Both publications are based on the use of European institutions website as a core source of data. As such, in some cases, the information provided on these sites has been replicated in the publication – the link to the source website being available at the end of the description. It comes to clarify the galaxy of European financing facilities by gathering description of the different programmes available for geothermal projects in a single document, explaining what types of projects they finance, how is it relevant for geothermal energy, and when possible the application modalities.

This 2017 guide to European funding schemes for geothermal aims at providing a clear and thorough, if not exhaustive, listing and description of available facilities geothermal energy projects may rely upon to receive financing.

This publication is conceived around a modular structure that allows to easily modify it to account for the end of a facility or the development of a new one. This guide is designed to be dynamic and evolve to best represent the state of the Funding schemes for geothermal in the EU and further. In that regard, EGECC welcomes any inputs regarding schemes that are relevant and that may have been overlooked during the update of this guide.

**Understanding European funding schemes**

As a complex, technocratic organisation, the European Union tends to rely on technical or financial facilities to steer economic sectors in the direction it wants them to. Deprived of the possibility to act through fiscal actions, bound by stringent rules to prevent market distortion, the EU does not have a mandate to act as a Member State could – setting feed-in tariffs or tax credit to a given technology. This leads the EU to often propose facilities with a narrower scope and often complex and rigid administrative procedures.

Among the most well-known of such facilities and funds are the European Structural and Investment Funds, which allocate about one third of the total EU budget to a wide array of projects, from building highways or railways to preserving cultural heritage. These massive funds also award support to renewable energy projects in many different forms. Horizon 2020 is another key resource for renewable projects in search of financial support. It is the main European facilities financing research, innovation and development projects, notably for renewable energy and energy
efficiency. These funds however encompass many programmes and facilities, each with different eligibility criteria and funding different types of projects.

European Instruments are typically organised around sets of policy priorities. Climate action generally is at the top of the list for generalist instruments. As for specialised facilities, there are many that primarily focus on scaling up renewable energy and energy efficiency investments through a wide array of dedicated mechanisms. Among them, one can notably think of ELENA or PF4EE.

However, while European Funds used to be mostly channelled through grants, the current tendency is to increasingly rely on so-called financial instruments. These “instruments” are presented as a more efficient use of European money. The underlying idea of these vehicles is to do “more with as much”, meaning that a same amount of European money allocated through financial instruments should trigger greater amounts of investment than if it were channelled through grants. The core idea of these tools being the leverage: this means that 1 euro of EU financing in a project should attract X (with at least X>1 euro) of private financing. Typically, financial instruments aim at leverage ratios of 15 to 20. This leads the EU to propose an increasing number of facilities offering risk guarantees, loans or technical assistance. A major facility established in recent years, embodying this trend to “financialise” European support to projects is the European Fund for Strategic Investments (EFSI), which aims to unlock some EUR 315 billion of new investment in the EU, by leveraging some EUR 21 billion of public money.

This guide is structured around two parts. The first one focuses on providing an overview of European funding scheme, notably listing EU and EIB facilities. The second part lays out some of the facilities made available by in Europe by international actors. This includes programmes of international financial institutions such as the EBRD dedicated to geothermal. This guide does not however detail national support schemes and facilities, which may be available across Europe.
Part I. European Funding Schemes

A. Research, Development & Innovation (RD&I)

Horizon 2020

Horizon 2020 is the main EU Research and Innovation programme with nearly €80 billion of funding available over 7 years (2014 to 2020). It serves the “Innovation Union”, a EU initiative that aims at promoting Europe’s competitiveness.

Funding opportunities under Horizon 2020 are set out in multiannual work programmes, which cover a large array of issues across different EU priorities, from education to climate action, including the digital economy. The work programmes are prepared by the European Commission within the framework provided by the Horizon 2020 legislation.

What is funded under Horizon 2020?

The “Secure, Clean and Efficient Energy” work programme for the years 2016-2017 is designed to support the transition to a reliable, sustainable and competitive energy system. The Commission structured it around a number of priority axis:

- Reducing energy consumption and carbon footprint
- Low-cost, low-carbon electricity supply
- Alternative fuels and mobile energy sources
- A single, smart European electricity grid
- New knowledge and technologies
- Robust decision making and public engagement
- Market uptake of energy and ICT innovation.

In total, a budget of EUR 5 931 million has been allocated to non-nuclear energy research for the period 2014-2020 in the Horizon2020 facility. The work programme 2016 – 2017 “Secure, Clean and Efficient Energy” amounts to over EUR 1 billion. Beside this work programme, geothermal energy project may be eligible under other dimension of H2020, notably the “Leadership in Enabling and Industrial Technologies”, which includes sub priorities “Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnologies” and “Information and Communication Technologies”. The focus on “Cross-cutting activities” can also be opened to geothermal project, notably with sub-priorities on “Industry 2020 in the Circular Economy” and “Smart and Sustainable Cities”.

Projects at different stage of the research and innovation process can receive funding under Horizon2020. It is designed to be used easily by all actors initiating projects corresponding to related priorities. The specific areas eligible for funding are listed through calls for proposals by the work programmes.

How to get funding? Application process

The Horizon 2020 Participant Portal contains the necessary information regarding on-going calls for proposal and application processes. The detailed information is also available in the Horizon 2020 online manual.
All the Calls are published by the Commission on the Participant Portal. It is also possible to search calls from previous programmes on the portal and dedicated National Contact Point can help find the most suitable call for a given profile.

Many calls require a team of at least three partners. In this view, candidates need to create an account on the Participant portal and register their organisation.

The adoption and publication of the Work Programme 2018-2020 for Horizon 2020 is expected for October 2017.


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**Box 1 – Example of geothermal H2020 project:**

As a renewable energy technology still on the steep end of the “learning curve”, geothermal has been a core focus of the Horizon2020 facility. Below is a list (thorough but not exhaustive) of the H2020 projects dedicated to geothermal energy during the past years:

**Research and innovation action**

**IMAGE** (Integrated Methods for Advanced Geothermal Exploration): develop an integrated geothermal exploration approach to maximise the chances of success during the drilling process.

**CHPM2030** (Combined Heat, Power and Metal extraction from ultra-deep ore bodies): develop a technology that, through “orebody-Enhanced Geothermal System” combines heat & metal extraction.

**DESCRAMBLE** (Drilling in dEep, Super-CRitical AMBients of continental Europe): develop new drilling techniques and technology to reach deep reservoir (3/3.5 km) for geothermal energy production.

**ThermoDrill** (Fast track innovative drilling system for deep geothermal challenges in Europe): development of innovative drilling technique to increase the speed (and thus the cost) of the process.

**GeoWell** (Innovative materials and designs for long-life high-temperature geothermal wells): improve the quality and lifetime of the wells by improving cementing procedures, design/material choices, better risk and well-integrity monitoring.

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**Innovation Action**

**Cheap GSHPs** (Cheap and efficient application of Reliable Ground Source Heat exchangers and Pumps): reduce the cost of low enthalpy GSHP systems by 20-30% by improving GS heat exchangers.

**DE Stress** (Demonstration of soft stimulation treatments of geothermal reservoirs): use the scientific development from the oil & gas industry to improve the quality (economic viability) of reservoirs in EGS.

**DEEPGS** (Deployment of Deep Enhanced Geothermal Systems for Sustainable Energy Business): develop the supply of energy from EGS systems through demonstration projects in three geothermal reservoirs.

**GEOTECH** (Geothermal Technology for Economic Cooling and Heating): experiment “dry auger” drilling to reduce water usage in the process, development of co-axial heat exchanger for reducing thermal resistance.

**MATCHING** (Materials Technologies for performance improvement of Cooling Systems in Power Plants): reduction of water consumption in the geothermal power plants through new techniques & materials.
SURE (Novel Productivity Enhancement Concept for a Sustainable Utilization of a Geothermal Resource): investigation of “radial water jet drilling” technique to increase output of underperforming wells.


**Coordinated and support action**

CoolHeating (Market uptake of small modular renewable district heating and cooling grids for communities): development of small H&C grids in South-East Europe based on knowledge transfer from experiences MS.

GEMEX (Cooperation in Geothermal energy research Europe-Mexico for development of Enhanced Geothermal Systems and Superhot Geothermal Systems): based on three pillars: 1) resource assessment at unconventional sites, 2) Reservoir characterisation through innovating techniques, 3) Concept for site development.

**Example of a European Project promoting RD&I in geothermal energy: GEOTHERMICA**

The GEOTHERMICA project started in January 2017 and should last until December 2021. On the meanwhile, it will pool the knowledge, experience and expertise of 16 geothermal energy research and innovation programmes to contribute to the development of this underutilised source of energy across the EU. The GEOTHERMICA project will focus on bringing innovative geothermal techniques, process or technologies to market, by identifying a path to commerciality. The project will support demonstration project in geothermal energy.

A first joint call will be issued on April 10 2017 for EUR 30 million, targeting a 50% contribution of the industry.

More information on the GEOTHERMICA call for project:

**EUROGIA2020**

EUROGIA2020 supports and promotes international partnerships developing innovative projects in low-carbon energy technologies. It is a bottom-up programme, with a strong market focus. With an industry-driven approach, it addresses all areas of the energy mix.

EUROGIA2020 is a part of the EUREKA network, which is a decentralized intergovernmental initiative started in 1985 to enhance European competitiveness by supporting businesses, research centers and universities that take part in trans-national projects.

The programme aims at supporting innovative energy technologies that will:

- reduce the carbon footprint of energy production and use
- develop new technologies for energy such as solar, wind, biomass, geothermal, energy efficiency, etc.
Funding

EUROGIA2020, the Eureka Cluster for low carbon technologies, does not fund projects. Funding is granted via Eureka Countries' national programmes. With the assistance of EUROGIA2020 Public Authorities Committee, Project Proposers are informed about the funding possibilities from the beginning of submission process.

Public Authorities representing the national funding programmes follow the Technical Committee Meetings where project outlines and full project proposals are evaluated by the independent experts.

More information: http://www.eurogia.com/funding/funding.html

B. Cohesion and Regional Development

European Structural and Investment Funds (ESIF) – Cohesion policy

The ‘Cohesion policy’ is behind the hundreds of thousands of projects all over Europe that receive funding from the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (Cohesion Fund applies to EU Member States which have a GDP lower than 90% of the EU-27 average – the average is calculated not including Croatia).

Economic and social cohesion – as defined in the 1986 Single European Act – is about ‘reducing disparities between the various regions and the backwardness of the least-favoured regions’. The EU’s most recent treaty, the Lisbon Treaty, adds another facet to cohesion, referring to ‘economic, social and territorial cohesion’.

EU Structural and Investments Funds dedicated to Cohesion policy of interest for the geothermal sector are the following ones:

- The Cohesion Fund
- The European Regional Development Fund (ERDF)
- The European Social Fund (ESF)
- The European Agricultural Fund for Rural Development (EAFRD)

The funds of the Cohesion policy are allocated by seven-year programming periods which are defined in the European budget. EUR 351.8 billion are set aside for cohesion policy measures in the 28 EU member countries for the 2014-2020 period. This amounts to about one third of the EU budget.

The ESIF is allocated via different types of schemes:

- direct aid to investment in companies (notably SMEs) to create sustainable jobs
- infrastructures linked notably to research and innovation, telecommunications, environment, energy and transport
- financial instruments (capital risk funds, local development funds, etc.) to support regional and local development and to foster cooperation between towns and regions
- technical assistance measures.
Since the 2007-2013 programming period, the European Structural and Investment Funds are increasingly allocated by the mean of financial instruments. The European Commission, in charge of the management of these funds actively promotes this type of vehicle to allocate the Funds.


To browse the list of Managing Authorities:

### a. Cohesion Fund

The Cohesion Fund is aimed at Member States whose Gross National Income (GNI) per inhabitant is below the EU average. It aims to reduce economic and social disparities and to promote sustainable development.

For the 2014-2020 period, the Cohesion Fund concerns Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

The Cohesion Fund allocates a total of € 63.4 billion to projects focusing on environment, notably energy efficiency and renewables).

**Eligibility criteria**

A project is eligible for funding under the cohesion if it occurs in a Member State that is part of the list above.

**Procedure**

In order to receive EU Structural Funds each Member State must submit a National Development Plan (NDP) to the European Commission, setting out its investment priorities. This plan forms the basis of negotiations between governments and the European Commission on the allocations of EU funding.

**Budget**

The maximum contribution of the funds to a project depends on the type of project and where it takes place. In addition to EU funds, national (public or private) funds are also needed. Projects generally receive Cohesion Fund support for up to 50% of the investment.


### b. European Regional Development Fund (ERDF)

**What is funded?**
The ERDF funds a wide array of projects including productive investments with an impact on job creation, infrastructure or local development initiatives. The fund also puts a strong emphasis on supporting SMEs (for the 2014-2020 programming period, projects focusing on the “SMEs” priority area receive the bulk of ERDF support).

All development areas are covered: transport, communication technologies, energy, the environment, research and innovation, social infrastructure, training, urban redevelopment and the conversion of industrial sites, rural development, the fishing industry, tourism and culture.

The ERDF focuses its investments on several key priority areas, so-called ‘thematic concentration’:

- Innovation and research;
- The digital agenda;
- Support for small and medium-sized enterprises (SMEs);
- The low-carbon economy.

The allocation of ERDF resources to projects depend on the extent to which they contribute to the achievement of the objectives translated in these priorities, with differences according to the category of region where the project is implemented:

- In more developed regions, at least 80 % of funds must focus on at least two of these priorities;
- In transition regions, this focus is for 60 % of the funds;
- This is 50 % in less developed regions.

For the 2014-2020 funding period, the rules on the European Regional Development Fund (ERDF) required for the first time Member States to allocate a minimum proportion of the funding they receive to promote the transition to a low-carbon economy:

- 20% of national ERDF resources in more developed regions
- 15% in transition regions
- 12% in less developed regions

Besides, under the 2014-2020 programming period, the ERDF allocates a minimum of 5% of its resources to be managed by cities to promote sustainable and socially inclusive development through so-called “integrated actions”.

**Who is eligible?**

An ordinary citizen, director of a company, a member of a local development association or a local official.


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c. European Social Fund

The European Social Fund investments cover all EU regions. It supports human capital investment in Member States between, with EUR 80 billion for the 2014-2020 period. This fund focuses on alleviating poverty and exclusion and strengthening labour skills on the field.
For the 2014-2020 period, the ESF will focus on four of the cohesion policy’s thematic objectives:

- promoting employment and supporting labour mobility
- promoting social inclusion and combating poverty
- investing in education, skills and lifelong learning
- enhancing institutional capacity and an efficient public administration

In addition, 20% of ESF investments will be committed to activities improving social inclusion and combating poverty.


d. European Agriculture Fund for Rural Development (EAFRD)

The European Agricultural Fund for Rural Development (EAFRD) focuses on helping the rural areas of Europe on economic, environmental and social issues. It provides them with financing, representing the EU’s contribution to rural development programmes in view of helping rural actors to consider the long-term potential of their local region.

**Objectives**

1. improving the competitiveness of the agricultural and forestry sector;
2. improving the environment and the countryside;
3. improving the quality of life in rural areas and encouraging diversification of the rural economy.


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**Box 1 – Example of technical assistance project in Intelligent Energy Europe: MLEI GEOKEC - CITY OF KECSKEMET**

Hungary has a significant geothermal potential, with several cities making use of this energy source to feed their district heating networks. In the case of the city of Kecskemét, there is a district heating network (cut in two separate sub-networks), and exploitable geothermal resource. The purpose of this MLEI project was for the city to benefit from assistance in order to develop a district network that connects the two existing sub-networks and exploit geothermal energy to feed in this district heating.

The MLEI facility comes to provide help in assessing the feasibility of the project and build the financing scheme to be able to fund the implementation of the project. The purpose of the MLEI technical assistance facility is to provide financial and technical expertise to the project leaders in Kecskemét to allow them to complete their projects while fulfilling the objectives of reducing carbon emissions and lowering the cost of heating by 15-20% compared to natural gas prices.

The result is a total investment of EUR 379 million spent over three investment phases, of which EUR 284 million coming from the Cohesion policy funds. For the geothermal energy part of the project, investments total EUR 30 million spent over three phases (Phase 1 being EUR 15 million), yielding carbon emission reduction of 10,000 tonnes of CO₂eq, generating 44GWh of renewable energy.
e. European Structural and Investment Funds – Financial Instruments (FI)

Financial instruments take an increasing importance in the attribution of Cohesion Policy funds, as the European Commission sees them as a solution for a “more efficient” use of the Structural Funds. For the European Institutions, Financial Instruments are a solution to maximise the impact of the Structural Funds by relying on mechanisms other than grants. Typical examples of financial instruments include technical assistance (such as pioneered by ELENA), soft loan schemes or revolving funds. For the 2014/2020 programming period, about EUR 4 billion of the European Structural and Investment Funds are channelled through the so-called Financial Instruments.

The definition of these instruments allows a “bottom-up” deployment, where the Managing Authorities of the ESIF, or the project leaders, can set up a Financial Instrument to fit their purposes. Their establishment does not require a modification of the Operational Programme, which makes it easy for a Managing Authority to repurpose ESIF funds to set up a FI.

To promote the development of this type of funding scheme, the EC proposes some “off-the-shelf” mechanisms that have a standardised structure, which is meant to be easily replicable locally.

Although Financial Instruments were part of the ESIF 2007/2013 programming period, the 2014/2020 period sees a widening of their scope to all ESIF thematics, the introduction of compulsory ex-ante assessment of the FIs and compulsory reporting. Changes also include a widening of the possibilities for FIs (at the local, national or EU level, with the possibility to set up custom-made or off-the-shelf instruments).

Some examples of European Financial Instruments include:

- **JESSICA (2007-2013, no new platform in the current period)**

  JESSICA (Joint European Support for Sustainable Investment in City Areas) is an instrument that sets up platforms in a given area to promote investment in sustainable urban infrastructure. This notably includes RES or EE investments.

  The platform invests in projects through revolving funds – so-called Urban Development Funds – that can reinvest in sustainable urban development once the capital injected in a previous project has been retrieved. Although the JESSICA facility does not set up new platforms for the current 2014/2020 period, previous platforms are still running and may provide financing to urban renewable energy projects.


- **FI Compass**

  FI Compass is a platform set up by the European Commission to help project leaders, local authorities, etc. looking for guidance regarding Financial Instruments. The platform notably provides instruction regarding the use of given FIs, and proposes some assessments of previous experimentations.
FI Compass also proposes advisory services towards the establishment of a Financial Instrument by a managing authority.

More information: https://www.fi-compass.eu/

**Interreg: European territorial cooperation**

The Cohesion policy encourages regions and cities from different EU Member States to work together and learn from each other through joint programmes, projects and networks. The Interreg programme serves to the promotion on this cross-regional and international cooperation in the European Union.

In the period 2014-2020 the European Territorial Cooperation objective covers different types of programmes, from:

- **cross-border co-operation** along internal EU borders (for an ERDF contribution of EUR 6.6 billion);
- **transnational co-operation**, which covers larger areas such as the Baltic Sea, Alpine and Mediterranean regions (for an ERDF contribution of EUR 2.1 billion);
- and the **interregional co-operation programme** (INTERREG Europe) and 3 networking programmes (Urbact III, Interact III and ESPON), which cover all 28 Member States of the EU. They provide a framework for exchanging experience between regional and local bodies in different countries. (ERDF contribution: EUR 500 million).

**Interreg V**

Interreg V helps regions of Europe work together and share their knowledge and experience. The fifth period of Interreg corresponds to the 2014-2020 period. It is based on the 11 investment priorities laid down in the ERDF Regulation, which notably emphasise combating climate change and environment and resource efficiency. At least, 80% of the budget for each cooperation programme must concentrate on a maximum of 4 thematic objectives among the eleven EU priorities, among which:

- Research and innovation
- Low-carbon economy
- Combating climate change
- Environment and resource efficiency.

Beyond financial support, Interreg beneficiaries may tap into side-benefits of the programme, notably in terms on network expansion (including internationally), and improved organisational and expertise capabilities.

All European regions as well as Switzerland and Norway (regional and local public authorities) are eligible for the Interreg programme.

**The Third call for Interreg V is open from 01/03/2017 to 30/06/2017.** Among the listed priorities of the call are the Low-Carbon economy “Improving the implementation of regional development policies and programmes (…) addressing the transition to a low-carbon economy” and Environment and resource efficiency.
To apply: http://www.interregeurope.eu/apply/

More information:
https://portal.cor.europa.eu/egtc/Pages/welcome.aspx
http://www.interregeurope.eu/

**Interreg Mediterranean:** The second call for project proposal for the Interreg Mediterranean facility is open from **January 30th to March 31st 2017.**


**European Union Solidarity Fund**

The European Union Solidarity Fund was set up in 2002 in the wake of disastrous floods to assist Member States in recovering from natural disasters. They can notably be used for:

- Immediate restoration to working order of infrastructure and plant in the fields of energy, drinking water, waste water, transport, telecommunications, health and education;
- Providing temporary accommodation and emergency services to meet the immediate needs of the population;
- Immediate securing of prevention infrastructures and measures to protect the cultural heritage;
- Cleaning up of disaster-stricken areas, including natural zones.

**Budget**

The facility has an annual budget of EUR 500 million. One quarter of this amount must remain available on 1 October of every year to meet possible needs until the end of the year. In exceptional cases and if the resources remaining are insufficient, the shortfall may be met out of the next year’s budget.

This Fund cannot be used directly to fund projects. It is an aid allocated to States by the European Union to help with the financial impact of a disaster.


**EU external cooperation programmes**


The Instrument for Pre-accession Assistance (IPA) is the mean by which the EU supports reforms in 'enlargement countries' with financial and technical help. IPA II is the programme covering the 2014-2020 period. It has a budget of EUR 11.7 billion.

Investments on the energy demand side contributing to the energy performance of the buildings and industry sector are eligible to receive funding under the Pre-accession Assistance facility.

The support is generally allocated in the form of credit facility and investment incentive for end-beneficiaries, credit facility plus administration fee for financial intermediaries.
Who is eligible?

Beneficiary countries are divided into two categories:

- EU candidate countries (Turkey and the former Yugoslav Republic of Macedonia) are eligible for all five components of IPA;
- Potential candidate countries in the Western Balkans (Albania, Bosnia-Herzegovina, Montenegro, Serbia, and Kosovo under UN Security Council Resolution 1244/99) are eligible only for the first two components.

The programme is managed by the European Commission DG ENLARGEMENT, while implementing authorities include the European Investment Bank and the European Bank for Reconstruction and Development.

The assistance is channelled through Country Action Programmes. Beneficiaries can be:

- Eligible Financial Intermediaries are banks or leasing companies locally registered, licensed, or incorporated entities, including subsidiaries of EU banks and EU leasing companies, in the beneficiary countries and operating in the beneficiary countries.
- Eligible end-borrowers are private entities; residents organized in collectives of individuals, such as housing associations; Public entities like Municipalities and their associations.


b. The European Neighbourhood Instrument (ENI)

It is designed to promote sustainable development and the approximation to EU policies and standards in European Neighbourhood Policy countries. They are the following: Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Morocco, the Occupied Palestinian Territory, Syria (currently suspended), Tunisia and Ukraine. Russia is only eligible for ENI regional and Cross-Border Cooperation Programmes, for which it co-finances projects.

The ENI supports cross-border contacts and co-operation between local, regional actors and civil society on a wide range of issues including energy cooperation and climate action.

Support through the ENI is programmed and can be allocated through:

- Bilateral programmes covering support to one partner country;
- Multi-country programmes which address challenges common to all or several partner countries, and regional and sub-regional cooperation between two or more partner countries;
- Cross-Border Cooperation programmes between Member States and partner countries taking place along their shared part of the external border of the EU (including Russia).


C. European Investment Bank (EIB)
a. Overview of the EIB’s main funding activities

The EIB is the European Union’s bank. It is owned by the Member States and acts according to their policy priorities. The Bank works closely with other EU institutions to implement EU policy. It focuses on specific priorities including climate action and strategic infrastructure.

The EIB can intervene to support project through different channels such as:
- **Loans**: recipients range from large corporations to municipalities and small and medium-sized enterprises;
- **Technical Assistance**: which is provided by a team of experts (economists, engineers and sectoral specialists) to complement EIB financing facilities;
- **Guarantees**;
- **Venture Capital**: channelled through intermediaries.

**Examples of geothermal projects financed**

1. Deep-seated geothermal energy that contribute to the EU economic policy objectives

2. Smaller projects served through project aggregation through an intermediary. Distinction is made between (I) mature and (ii) Research, Development and Innovation project

3. Currently EIB does not fund projects in early stages, but only projects which have proven their economic viability, i.e. exploitation phase.

**Budget**

In 2016, the EIB dedicated 26% of its EUR 83.75 billion of total financing to climate action-related projects. The Bank contributed to financing 4,800 MW of new renewable electricity generation capacity. Also, EUR 13.5 billion were allocated to RD&I activities.

More information: [www.eib.org](http://www.eib.org);

More information on how to receive EIB support (to apply): [http://www.eib.org/products/clients.htm](http://www.eib.org/products/clients.htm)

**EIB lending policy**

The European Investment Bank is a public financial institution. Its lending policy obeys policy-led guidelines, notably regarding investment in climate action.

Link to the EIB energy lending criteria: [http://www.eib.org/attachments/strategies/eib_energy_lending_criteria_en.pdf](http://www.eib.org/attachments/strategies/eib_energy_lending_criteria_en.pdf)

The EIB also is an AAA graded financial institution: its financial decisions are taken to keep this highest mark of creditworthiness – which means that the Bank will not expose itself to projects embedding “excessive” levels of risk.

Lending represents 90% of the financial commitment of the Bank, which uses several channels to provide financing:
• **Project loans**: these are the main vehicle for EIB financing. It is a direct lending to an actor (company, public authority, etc.) for large single projects. The Bank typically provides loans for a **minimum of EUR 25 million**, which usually cover no more than 50% of the total investment cost of the project. They are generally awarded in sectors of key importance with impacts on the economy, notably infrastructure investments (transports, energy, water…);

• **Intermediate loans**: this type of loans is made through a local bank to which the EIB issues a loan to finance smaller scale projects on which the local financial institution can more easily gather information and propose adapted vehicles. They notably allow the EIB to reach SMEs, midcaps or local authorities.

• **Venture capital**: through the European Investment Fund, the EIB intervenes on the venture capital market to provide financing to start ups, high tech businesses and other innovative SMEs.

• **Equity**: the Bank also intervenes through equity, notably taking parts in funds promoting EU policy priorities – on infrastructure & environment or on carbon for instance.

The EIB lending policy forces the Bank to account for issues such as the climate impact of its investment portfolio. The Bank’s annual climate action target is currently set at 25% of total Bank lending based on a clearly defined set of eligible sectors and projects. Over the last few years, renewable energy and energy efficiency projects constitute approximately one half of the Bank’s climate action projects, equivalent to around 40 percent of total climate action lending¹.

The Bank allocates funding in line with its Corporate Operational Plan, which assesses projects on the basis of “Soundness” (its economic and environmental quality), “Relevance” (contribution to EU policy priorities) and “EIB Contribution” (what is needed of the EIB). This means that: “The Bank’s borrowers must be capable of repaying the loan and must provide adequate financial security” and “Projects must comply with the Bank’s other policies particularly on procurement, Environmental and Social Principles and Standards and anti-fraud”. The Greenhouse gas impact of the projects is also accounted for. Where needed, environmental impact assessments may be required by the EIB.

Geothermal energy is among the energy sources targeted by the Bank for its renewable energy investments, notably for the heating and cooling sector.

For more information: [http://www.eib.org/products/index.htm](http://www.eib.org/products/index.htm)


*InnovFin - EU Finance for Innovators*

"InnovFin – EU Finance for Innovators" is a facility providing financial assistance for Research and Innovation to companies of all sizes. It was set up jointly by the EIB and the European Commission under Horizon 2020.

Set up under the European Innovation Fund, InnovFin is divided in several facilities (Technology transfers, Business angels, Venture capital, Fund-to-fund, Equity). Its objective is to contribute to bridging the gap in R&I investment that makes the EU lag behind in terms of innovation at the global level.

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¹ European Investment Bank, *Energy Lending Criteria*, 2013
**Financing scheme:** InnovFin is based on complementary financing tools. It provides technical assistance, loans or risk guarantees. The facility provides adapted instruments for actors according to their size and needs (SMEs, Small mid-cap companies, large companies…)

Among the different facilities, there is notably the InnovFin Energy Demo Projects, which provides loans or loan guarantees between EUR 7.5m and EUR 75m to “first-of-a-kind commercial-scale demonstration projects” in the fields of renewable energy. The programme offers financing of pre-commercial stage development of new technologies for which other sources of funding are not available.

**An innovative instrument**

InnovFin builds on the success of the former Risk-Sharing Finance Facility developed under the seventh EU framework programme for research and technological development (FP7).

During the 2007-2013 programming period, the Risk-Sharing Finance Facility financed 114 RD&I projects to the tune of EUR 11.3 billion and signed 29 guarantee contracts with a total guarantee amount of over EUR 1.4 billion.

Under the new 2014-2020 programming period, the European Union and the EIB have more than doubled their combined support for innovative firms in Europe. In addition to more financing being made available, InnovFin also offers a greater product range.

Dedicated procedures to apply to the facility are available on the EIB’s website: [http://www.eib.org/products/blending/innovfin/how-to-apply/index.htm](http://www.eib.org/products/blending/innovfin/how-to-apply/index.htm)


**ELENA - Technical assistance facility (European Local ENergy Assistance)**

Many EU towns and regions lack the necessary technical expertise and organisational capacity to implement large energy efficiency and renewable energy projects. The ELENA-EIB (“European Local ENergy Assistance”) provides local authorities with support in designing and setting up the financing scheme of these projects.

ELENA can only provide support to local public authorities (from regions to local energy agencies, including cities or consortium of several cities).

Between the inception of the facility and 2016, over EUR 82 million have been awarded as technical assistance grants, for a total of planned investment amounting to EUR 5 billion.

**What is funded?**

ELENA covers up to 90% of the technical support cost needed to prepare, implement and finance the investment programme. This could include feasibility and market studies, programme structuring, energy audits and tendering procedure preparation. With solid business and technical
plans in place, it is also expected to help attracting funding from private banks and other sources, including the EIB.

Sectors covered by ELENA are the following:

- Public and private buildings, including social housing and street and traffic lighting, to support increased energy efficiency – e.g. refurbishment of buildings aimed at significantly decreasing energy consumption (both heat and electricity), thermal insulation, efficient air conditioning and ventilation or efficient lighting;

- Integration of renewable energy sources (RES) into the built environment – e.g. solar photovoltaic (PV), solar thermal collectors and biomass; Investments into renovating, extending or building new district heating/cooling networks, based on high efficient combined heat and power (CHP) or renewable energy sources, as well as decentralised CHP systems (building or neighbourhood level).

- Urban transport to support increased energy efficiency and integration of renewable energy sources.

- Local infrastructure including smart grids and information & communication technology infrastructure, for energy efficiency, energy efficient urban equipment, inter-modal transport facilities and refuelling infrastructure for alternative fuel vehicles.

**Contacting the EIB for technical support:**

ELENA assistance may facilitate access to EIB finance or finance from another bank. You can contact the EIB at elena@eib.org. For a first contact, there is a need to provide a brief description of the planned investment (e.g. type of investment, approach to implementation), the expected investment cost and time schedule for the programme, plus the amount, scope and main needs to be addressed by the requested technical assistance.


**b. Investment Plan for Europe**

The Investment Plan for Europe is a major political initiative by the European Commission aimed at boosting investment in the European Union. The Commission made a diagnosis that the EU lags behind its global competitors on investment, and there are significant amounts of capital available, but high risk aversion prevents project financing. The Investment Plan for Europe was therefore set up at the end of 2014 to reduce the cost of access to financing for riskier investment projects and increase the quality of projects planning in the European Union. This is carried out by the European Fund for Strategic Investment and the European Investment Advisory Hub.

**European Fund for Strategic Investment (EFSI)**

The European Fund for Strategic Investments (EFSI) is part of the Investment Plan for Europe. It aims at reviving investment in strategic projects around Europe in order to boost the “real economy”,
with renewable energy and energy efficiency considered as top priorities. Unlike traditional loans by the EIB, the EFSI aims to take uncertainty out of viable projects, not provide financing directly.

Since its launch, the EFSI has approved EUR 30.6 billion for financing projects, which corresponds to a total of EUR 163.9 billion of investment “unlocked” by the Fund. This amounts to 52% of the objective of unlocking EUR 315 billion of additional investment by 2018 laid out at EFSI’s inception in late 2014.

Of the investments approved thus far, 22% have been awarded to energy related projects and 4% to “environment and resource efficiency”. Meanwhile, 31% of investments go to supporting smaller companies.

While EFSI aims at spurring investment in riskier projects, the Fund does not provide loans, nor does it directly bankroll projects. On the basis of EUR 16 billion made available from other EU budget lines and EUR 5 billion from the EIB’s budget, EFSI provides “risk guarantee” to projects. This means that a project supported under EFSI will theoretically be able to receive cheaper loans, as the Fund will take first losses if the project underperforms financially.

Thematically, EFSI will notably support strategic infrastructure including digital, transport and energy and the expansion of renewable energy and resource efficiency.

**EFSI investment guidelines:**

The Fund is managed by a Steering Board, an Investment Committee and a Managing Director. The strategic orientation of the Fund is set by the Steering Board, which includes the choice of the risk profile of projects eligible. The Investment Committee is responsible for approving the support of the EU guarantee for EIB projects supporting important investments in infrastructure and innovation throughout the EU.

The EIB is responsible for operating the Fund, and thus eligible projects should be compliant with its own investment policies and lending criteria.

**What type of projects are supported under the EFSI?**

Projects should be (1) **economically viable** with the support of the initiative, (2) **sufficiently mature** to be appraised on a global or local basis, (3) **of European added value** and consistent with EU policy priorities (such as, for example, the 2030 climate and energy package), but (4) **not be limited to cross-border projects**. A cluster of projects and programmes for energy efficiency and small scale installations can be financed as well.

EFSI is supposed to finance projects with higher risk-profile (e.g. too risky for EIB loans). In practice, it aims at lowering the cost of capital for projects that could not be implemented without it due to their innovative dimension, long term payback or high capital intensity…

**Applying for EIB funding**

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2 Expansion of renewable energy and energy efficiency is explicitly mentioned as a priority.
Project promoters should follow the usual EIB loan application procedures. The favourite option is to contact your relevant national authorities and/or EIB national representative. EGECEC staff is regularly in contact with the EIB and is available to serve as guide through the process.

More information:
- [http://www.eib.org/efsi/what-is-efsi/index.htm](http://www.eib.org/efsi/what-is-efsi/index.htm)

**European Investment Advisory Hub (EIAH)**

The European Investment Advisory Hub (EIAH) is a platform providing technical assistance. It aims at improving the quality (in financial terms) of the projects looking for financing across the European Union, and builds on the EIB’s expertise on technical assistance to do so.

The EIAH can assist different types of actors, be they for public or private beneficiaries. It is built on three complementary components:

- A single point of entry, giving access to a wide range of advisory and technical assistance programmes and initiatives, provided by high-level experts;
- A cooperation platform to leverage, exchange and disseminate expertise among EIAH partner institutions and beyond;
- An instrument to assess and address new needs by reinforcing or extending existing advisory services or creating new ones as demand arises.

The EIAH provides technical assistance through relay institutions, for instance other technical assistance facilities such as ELENA.

More information:
- [http://www.eib.org/eiah/about/index](http://www.eib.org/eiah/about/index)
- [http://www.eib.org/eiah/support/faq.htm](http://www.eib.org/eiah/support/faq.htm)

**D. Multi-institutional Financial engineering:**

**JASPERS - Joint Assistance in Supporting Projects in European Regions**

JASPERS is a partnership between the European Commission (Directorate General for Regional Policy), the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and Kreditanstalt für Wiederaufbau (KfW). It is a technical assistance facility available for 16 EU Member States and 3 EU accession countries, focusing on large projects (above EUR 50 million for environmental projects and EUR 70 million for other types). Eligible countries are Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, the Former Yugoslav Republic of Macedonia,  

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Montenegro and Serbia. JASPERS notably contributes to optimizing the utilization of Cohesion Policy funds in newer Member States.

**What assistance does JASPERS provide?**

It provides eligible States with support to prepare high quality major projects co-financed by EU funds. Assistance can be provided at the different stages of the project cycle - from the initial identification of a project through to the decision to provide EU grant assistance.

JASPERS advice can cover:

- project preparation (e.g. cost-benefit analysis, financial analysis, environmental issues, procurement planning)
- review of documentation (e.g. feasibility studies, grant applications etc.)
- advice on compliance with EU law (environmental, competition etc.)

In the case of geothermal, JASPERS can notably cover deep-seated geothermal energy large projects supported by the EU funds (i.e. with a budget superior to €25 million). The programme is particularly useful at the early stage of the project.


**JEREMIE - Joint European Resources for Micro to Medium Enterprises**

JEREMIE (Joint European Resources for Micro to medium Enterprises) is a European Commission, EIB and EIF initiative to promote increased access to finance for the development of micro, small and medium-sized enterprises in the EU’s regions.

**What assistance does JEREMIE provide?**

EU countries can use part of their European structural fund allocations to invest in revolving instruments such as venture capital, loan or guarantee funds.

These funds can support:

- The creation of new business or expansion of existing ones;
- Access to investment capital by enterprises (particularly SMEs) to modernise and diversify their activities, develop new products, secure and expand market access;
- Business oriented research and development, technology transfer, innovation and entrepreneurship;
- Technological modernisation of productive structures to help reach low carbon economy targets;
- Productive investments which create and safeguard sustainable jobs.

**Who is eligible and how does it work?**

Micro, small or medium-sized enterprises are eligible (through a financial intermediary).

Contributions from the European Regional Development Fund (ERDF) are allocated to loan, guarantee or venture capital funds to invest in enterprises. These investments can take the form of
equity, loans and/or guarantees. Returns from investments are reinvested in enterprises. In this way, a pool of funds can be re-used several times, recycling public funds, leveraging capital and increasing the sustainability and the impact of public resources allocated to SMEs.

Alternatively, managing authorities can decide to channel resources from the programme using Holding Funds (HFs) which are set up to invest in several investment funds. This is not compulsory, but does offer the advantage of enabling managing authorities to delegate some of the tasks required to implement JEREMIE to expert professionals.

More information:
- [http://www.eif.org/what_we_do/resources/jeremie/index.htm](http://www.eif.org/what_we_do/resources/jeremie/index.htm)

**Private Finance for Energy Efficiency (PF4EE)**

The PF4EE facility is aimed at increasing the amount of financing available for energy efficiency investments. This programme is destined to financial intermediaries to allow them to lend more easily to actors undertaking energy efficiency projects.

The instrument is based on three axes:

- Risk sharing facility: the EIB and the European Commission provide “portfolio based credit risk protection” that exposes the financial institution to only 20% of the “expected losses” of the energy efficiency projects;
- EIB loans;
- Technical assistance for financial institutions setting up a PF4EE platform.

This type of finance could notably be used to finance ground sourced heat pumps projects in SMEs, private housings or public authorities.


**E. Environmental Policy**

**LIFE+**

The LIFE programme is the EU’s funding instrument for the environment and climate action. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value. LIFE supports environmental and nature conservation projects throughout the EU, as well as in some candidate, acceding and neighbouring countries. The European Commission (DG Environment and DG Climate Action) manages the LIFE programme.

LIFE projects covering the following (inter alia) interesting issues:

1. Energy, climate;
2. Environmental management;

LIFE projects on energy and climate include energy production and distribution, renewable energy technologies, energy-efficiency in areas such as industry, services, buildings, transportation, lighting and equipment, as well as the reduction of greenhouse gases.

**Budget**

Up to EUR 250 million per project can be awarded for co-financing under LIFE+. For the period 2014-2020, the overall budget of the LIFE programme amounts to EUR 3.4 billion.

**Timeline**

Call for proposals for LIFE grants are organized annually during the 2014-2017 period. The 2017 calls for project are to be issued in September 2017.


**G. Other European Funds**

**Call for tenders and other calls for proposals – European Commission**

The DGs (i.e. Direction General) of the European Commission (Energy, Climate Action, Research, Environment) establish every year a work program presenting their main priorities. According the objectives set out, the European Commission invites tenders for service contract to support their work with external technical assistance.

There are several calls for tenders every year that imply a regular monitoring of European Commission’s websites.

More information:
- [https://etendering.ted.europa.eu/](https://etendering.ted.europa.eu/)

**Executive Agency for Small and Medium Enterprises: COSME Programme for Europe’s SMEs**

COSME aims to make it easier for small and medium-sized enterprises (SMEs) to access finance in all phases of their lifecycle – creation, expansion, or business transfer. Thanks to EU support, businesses have easier access to guarantees, loans and equity capital. EU financial instruments' are channeled through local financial institutions in EU countries. The COSME programme is managed by the DG Growth of the European Commission.
COSME is the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises with a planned budget of EUR 2.3 billion for the 2014 – 2020 period.

COSME focuses the following objectives:

- Facilitate access to finance for the start-up and growth of SMEs and encourage investment in innovation activities;
- Create a favorable environment to SME cooperation, particularly in the field of cross-border cooperation;
- Promote all forms of innovation in enterprises;
- Support eco-innovation;
- Promote an entrepreneurship and innovation culture;
- Promote enterprise and innovation-related economic and administrative reform.

**When?**

Each year DG Growth publishes a notice presenting the objectives of its annual work programme and the grant programme linked to it. Having access or applying to COSME opportunities can be done through the “Access to Finance” portal.

**Budget**

COSME has a budget of over EUR 1.3 billion for the 2014-2020 period.


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**H. Forthcoming EU funding schemes**

The year 2017, with EU legislative reforms such as the Clean Energy for All European package under way, is likely to see the introduction of several funding schemes. Among the proposed new facility, here are some of the most prominent. The reformed EU Emission Trading Scheme (ETS or EU ETS) could be a significant source of funding for renewable energy projects, notably in the industry.

**Modernisation fund**

The Modernisation Fund is addressed at 10 lower income European Member States. It aims at using ETS allowances monetisation to fund the modernisation – meaning increasing the energy efficiency and reducing the carbon intensity – of said Member States generation capacity. Indeed, newer Member States tend to rely on older plants for electricity generation, and to be more dependent on coal at the core of their energy mix. More generally this fund is to be used for the “modernisation of the energy system”, which also includes district heating and the building sector.

The Fund will allocate revenues from some 310 million allowances (2% of the total in the ETS, amounting to 310 mega tones of CO₂eq). The countries eligible to the Fund are: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. It is to be steered through a governance structure set up by the EC, the EIB and the Member States.
It should enter into force in 2021.


**Innovation fund**

As of early 2017, the Innovation Fund remains a European Commission proposal, still mostly undefined. It is expected to replace the NER 300 facility in using European Trading Scheme revenues to fund innovative energy projects. The change to the “Innovation Fund” should result in a different allocation of funding – for instance by mean of financial instruments instead of grants. A first change compared to NER300 may happen regarding the conditionality of the award: the Commission expects to award Innovation Fund financing on the basis of the completion of the project’s different development phase. The NER300 unlocks funding once the project has proven it is performing to 75% of expectations.

Compared to the NER300 grant based financing, the EC is likely to include financial instruments in the Innovation Fund, in line with its approach in other funds and facilities. This could take the form of first loss guarantees, cheaper loans to riskier projects and so on. There is however a question whether an exposure to financial risk is a good thing for innovation in the energy sector. The IF could contribute up to 75% of a given projects.

The Innovation Fund is fed by the monetisation of 400 million carbon allowances in the ETS, a significant increase compared to its predecessor. This means that the amount of financing available depends on the carbon price in the ETS. Over a 5-year period, these revenues will be allocated to projects through calls – either 2 or 4 depending on the Commission’s decision.

Funding in the NER300 was generally awarded based on lowest “cost per unit” (of CO₂ emission reduction). This method favours lower LCOE projects, which generally means less innovative ones.

It should enter into force in 2020, but calls may be issued earlier.

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**Box 2: Example of NER300 project: South Hungarian Enhanced Geothermal System Demonstration Project**

The South Hungarian Enhanced Geothermal System Demonstration Project (SHEGSDP) aims at developing a pioneering geothermal power plant relying on EGS. It is developed by a partnership between EU-Fire Geotermia, a Hungarian company specialised in geothermal heat usage, and Mannvit, an Icelandic consultancy in engineering. The latter is in charge of modelling, design and geoscience analytics, while the former takes care of project management, strategy, financial structuring and operations.

The project is, as of late 2016, undergoing the project exploration phase, which includes the preparation of the drilling for the first EGC wells. Before reaching this state, SHEGSDP had to secure significant amounts of funding from the NER300 facility, benefitting from EUR 39.3 million in support. The support from the facility notably allows the project to benefit from experience sharing, and the expertise of the EU in promoting R&I in energy projects.

However, in the case of this project, it is worth underlying the divergence between the conditions set by the NER300 facility for benefiting from financing and the material constraints of geothermal energy production. For instance, the facility requires a total refund of the financing awarded in case of project failure. This does not align with the risky nature of innovation activities. Moreover, the financing from NER300 is delivered on MWe online, while for geothermal projects the bulk of the investment typically happens way before any electricity can be produced.
Yet, this project serves as a flagship of geothermal energy production in central Europe, contributing to the development of a technology that can deliver significant amounts of (thus far untapped) renewable energy.

This experience also illustrates the need for the innovation fund to be better suited to the specific needs of renewable energy innovative projects.
Part II. International Funding Schemes available in Europe

A. EBRD - European Bank for Reconstruction and Development

The EBRD is the largest single investor in Central and Eastern Europe and the Commonwealth of Independent States (CIS).

The EBRD makes equity and loan financing guarantees, leasing facilities and trade finance available to SMEs through a range of intermediaries throughout the countries where we work. These intermediaries include banks in which the EBRD has an equity stake or with which it has signed a loan, and investment or venture capital funds in which the EBRD has made an investment. The EBRD may also provide direct financing and support for SMEs through several loan and equity facilities.

Budget

EBRD investments in private sector projects can range from EUR 5 million – EUR 250 million. The average amount is EUR 25 million, with a minimum of EUR 5 - 15 million (with smaller amounts in specific cases). The EBRD funds up to 35% of the total project cost for a greenfield project or for the long-term capitalization of an established company. In the first case, EBRD intervenes at the early stage of the project. These funds are only allocated to commercial companies or to intermediaries acting on their behalf.

Eligible countries

The EBRD works in the following countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia/Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Georgia, Greece, Hungary, Jordan, Kazakhstan, Kyrgyzstan, Kosovo, Latvia, Lithuania, Montenegro, Moldova, Mongolia, Morocco, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, Uzbekistan.

More information: www.ebrd.com

Example of an EBRD facility for Geothermal energy: PLUTO

PLUTO combines USD 100 million from the EBRD with USD 25 million from the Climate Investment Funds. The programme aims at increasing geothermal energy production globally.

The first phase of the programme finances geothermal exploration, thanks to the funds provided by the Climate Investment Funds. The second phase is financed through the EBRD, funding the final stages of the drilling and the construction of the power plant if the first phase yields positive results.

PLUTO’s objective is the development of five new geothermal plants for a total capacity of at least 60 MW, generating more than 450 GWh of renewable electricity per year, increasing installed capacity in Turkey by more than 10 per cent.
The EBRD made a USD 200 million loan to Efeler, the largest geothermal plant in Turkey. It is also involved in six geothermal plants in Tuzla, Gumuskoy, Pamuoren, Babadere, Alasehir and Umurlu.

B. World Bank – Global Geothermal Development Plan

In 2013, the World Bank launched the Global Geothermal Development Plan (GGDP) in a bid to bring together donors and multilateral lenders to scale up geothermal power in the developing world. The Plan focuses on exploratory test drilling, with the goal of developing a pipeline of commercially-viable projects that are ready for private investment. The GGDP focuses on tackling the primary obstacle to geothermal expansion: the cost and risk of exploratory drilling.

Budget

As of March 2016, USD 250 million have been raised for the GGDP, to be deployed through a new window within the Clean Technology Fund (CTF).

ESMAP (Energy Sector Management Assistance Programme - a technical assistance trust fund administered by the World Bank) has raised and set aside USD 7.5 million over 2013-16 to: identify and develop a pipeline of investments in geothermal energy resource validation through drilling; promote knowledge dissemination and capacity building; and advocate for additional concessional capital mobilization.

Eligible countries

Eligible countries are those developing countries covered by the activities of the World Bank. The World Bank’s activities include notably: Central and South-Eastern Europe, Western Balkans, Turkey and the Caucasus. For instance, ESMAP is currently supporting identification, preparation, and supervision of geothermal investment operations in Armenia and Turkey.

More information:

C. EEA grants and Norway grants

The EEA Grants and Norway Grants are a mechanism set up thanks to funding from Iceland, Liechtenstein and Norway. It aims at reducing development inequalities between these countries and 16 newer EU Member States:

- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Estonia
- Greece
- Hungary
- Latvia
- Lithuania
- Malta
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain

Funding awarded under the EEA and Norway grants is granted to foster several policy priorities. These range from environmental protection to civil society development, including research and protecting the cultural heritage. The facility however puts a strong emphasis on climate and energy, focusing on renewable energy, green industry innovation or energy efficiency.

Funding from the EEA and Norway Grant can be obtained by responding to a competitive call for tenders.

As of early 2017 there are no call for proposals related to the Renewable energy priority. There is one call for Energy Efficiency in Romania (with a deadline on 28/02/2017).

To benefit from funding from this facility, applicants must be registered in one of the beneficiary countries.

The list of the calls for tenders can be found here: http://eeagrans.org/opencalls/search?country=&programme=pa05&submit=Search

More information: http://eeagrans.org/

D. Available funds from international development Banks

Non-European public banks could also support geothermal projects in Europe. It concerns regional banks or specialized public banks such as the Islamic development bank active in Islamic countries.

a. USAID-Clean Energy Programmes

USAID works with developing countries to accelerate the uptake of clean energy, including renewable energy sources and energy efficiency technologies. USAID’s clean energy programs work with partner countries to establish the foundations for low emission energy systems, with a focus on helping countries build enabling environments that can attract and sustain private investment in clean energy. Many USAID programs also work directly with energy businesses and private investors to ensure clean energy projects can get the financing they need.

Eligible countries
USAID works in many countries in Europe and Eurasia: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kosovo, Macedonia, Moldova, Serbia, Ukraine.

**Specific USAID programmes**

*Enhancing Capacity for Low Emission Development Strategies (EC-LEDS)*

The programme assists partner countries in developing and implementing Low Emission Development Strategies by providing targeted technical assistance and building a shared global knowledge base. It covers the following countries: Albania, Georgia, Macedonia, Moldova, Serbia, Ukraine.

*The Private Financing Advisory Network (PFAN)*

It is a public-private network that helps clean energy projects and entrepreneurs in developing countries obtain private investment. The fund aims to identify promising clean energy projects at an early stage and provides mentoring for development of a business plan, investment pitch, and growth strategy, significantly enhancing the possibility of financial closure. Eligible countries: Armenia, Azerbaijan, Georgia, Moldova, Ukraine.


**b. Japan Bank for International Cooperation**

The Japan Bank for International Cooperation (JBIC) provides loans, equity participation and guarantees to sustainable energy projects in developing countries. The Bank notably acts through its GREEN programme (Global action for Reconciling Economic growth and Environmental preservation) for which geothermal projects are eligible. JBIC is present in Europe and in Turkey.


**c. Nordic Development Bank**

NIB finances projects that improve competitiveness and the environment of the Nordic and Baltic countries. The Bank offers long-term loans and guarantees on competitive market terms to its clients in the private and public sectors. NIB is an international financial institution owned by Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway and Sweden. The Bank has lending operations both in and outside its member countries. NIB acquires the funds for its lending by borrowing on the international capital markets. NIB’s bonds enjoy the highest possible credit rating.

**d. Islamic Development Bank**

The energy sector takes the lion’s share in the Islamic Development Bank (i.e. around USD 8.4 billion). Renewable energy has been receiving growing attention. With a view of scaling up its support for promoting access to sustainable energy, the Bank has been engaged in developing innovative approaches and financing schemes.
Against this background, the Islamic Development Bank is engaged in leveraging more private investments in sustainable energy in Member Countries, such as Turkey, one of the most important donor.


**e. Black Sea Trade and Development Bank**

The Black Sea Trade and Development Bank (BSTDB), an international financial institution with headquarters in Thessaloniki, Greece, was established by Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Turkey, and Ukraine. BSTDB started operations in June 1999 and has authorized capital of €3.45 billion. The Bank supports economic development and regional cooperation in the Black Sea Region through trade and project finance lending, guarantees, and equity participation in private enterprises and public entities in the member countries.