



**EUROPEAN COMMISSION**

**PRESS RELEASE**

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## **Climate action: Commission uses polluters' revenues to fund clean energy projects across Europe**

The European Commission today awarded **€1 billion funding to 19 projects** to fight climate change under the second call of the so-called NER 300 funding programme. The funding for the projects comes from revenues resulting from the sale of emission allowances in the EU Emissions Trading System. This makes the polluters the driving force behind developing new low-carbon initiatives.

The funding will be used to demonstrate technologies that will subsequently help to scale-up production from renewable energy sources across the EU as well as those that can remove and store carbon emissions. The projects awarded co-financing today cover a range of technologies – bioenergy, concentrated solar power, geothermal power, photovoltaics, wind power, ocean energy, smart grids and, for the first time, carbon capture and storage (CCS).

Connie Hedegaard, EU Commissioner for Climate Action, said: *"With these first-of-a-kind projects, we will help protect the climate and make Europe less energy dependent. The €1 billion we are awarding today will leverage some additional €900 million of private investment. So that is almost €2 billion of investment in climate-friendly technologies here in Europe. This is a contribution to reducing Europe's energy bill of more than €1 billion per day that we pay for our imported fossil fuels."*

### **Boosting green growth and jobs**

The selected projects announced today will increase the annual EU renewable energy production by almost 8 terawatt hours (TWh). This energy amount corresponds to the combined annual electricity consumption of Cyprus and Malta. The CCS project will capture 1.8 million tonnes of CO<sub>2</sub> per year, equivalent to taking over a million cars off the roads. Together with the 20 projects from the first call, NER 300 projects will also create several thousand jobs during the construction and operation phase.

### **Pioneering projects**

Today's award supports the first NER 300 trans-boundary project which will build a geothermal plant across the French-German border near Strasbourg to produce electricity and heat. It also funds the development of **a geothermal power plant in Croatia**, the EU's newest Member State.

NER300 funding is also being awarded to the first example of a large-scale CCS project in the EU. The UK-based project will use oxyfuel technology to capture 90% of the CO<sub>2</sub> produced by burning coal at the Drax power plant near Selby in Yorkshire, and will store it safely in an offshore storage site in the North Sea. This technology could be easily applied in existing coal-fired plants. Funding is also provided to the first NER300 photovoltaic project, located in Portugal.

Ocean energy and bioenergy receive considerable support, as under the first call, with nine more projects funded. The NER 300 is currently the main EU support for ocean energy, non-food based bioenergy and advanced biofuels.

The 19 projects will be hosted in 12 EU Member States: **Croatia**, Cyprus, Denmark, Estonia, France, Ireland, Italy, Latvia, Portugal, Spain, Sweden and the United Kingdom.

## NER 300

The NER 300 programme is so-called because it is funded from the sale of 300 million emission allowances from the new entrants' reserve (NER) set up for the third phase of the EU emissions trading system (EU ETS).

In its recent Communication: 'A policy framework for climate and energy in the period from 2020 to 2030', the Commission outlines the possibility of exploring an expanded NER 300 system in the post-2020 climate and energy framework. This could be a means of directing further revenues from the EU Emissions Trading System towards the demonstration of innovative low-carbon technologies in the industry and power generation sectors.

A public consultation which explores these issues is currently open for contributions at [http://ec.europa.eu/clima/consultations/articles/0023\\_en.htm](http://ec.europa.eu/clima/consultations/articles/0023_en.htm)

For more information, visit:

[http://ec.europa.eu/clima/policies/lowcarbon/ner300/index\\_en.htm](http://ec.europa.eu/clima/policies/lowcarbon/ner300/index_en.htm)

See also the memo Questions & Answers: [MEMO/14/465](#)

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## ANNEX

## PROJECTS AWARDED FUNDING

Member State	Project	Category	Maximum NER 300 funding (MillionEUR)
Croatia	Geothermae	Geothermal power	14.7
Cyprus	EOS GREEN ENERGY	Concentrated solar power	60.2
Cyprus	Green+	Smart grids	11.1
Denmark	MET	Bioenergy	39.3
Estonia	Fast pyrolysis	Bioenergy	6.9
Estonia	TORR	Bioenergy	25
France	GEOSTRAS	Geothermal power	16.8
France	NEMO	Ocean energy	72.1
Ireland	WestWave	Ocean energy	23.3
Italy	Mazara Solar	Concentrated solar power	40
Italy	Puglia Active Network	Smart grids	85
Latvia	CHP Biomass pyrolysis	Bioenergy	3.9
Portugal	Santa Luzia Solar Farm	Photovoltaics	8
Portugal	SWELL	Ocean energy	9.1
Spain	BALEA	Wind power	33.4
Spain	FloCan5	Wind power	34
Spain	W2B	Bioenergy	29.2
Sweden	Bio2G	Bioenergy	203.7
United Kingdom	White Rose	CCS	300

## **SHORT DESCRIPTION OF PROJECTS**

### **Croatia – Geothermae – Geothermal power**

The project concerns the production of electricity and heat from a geothermal aquifer and its associated natural gas. The project, in Draskovec, close to the city of Prelog in Croatia, will generate 3.1 MWe from geothermal hot brine using an Organic Rankine Cycle (ORC).

### **Cyprus – EOS GREEN ENERGY – Concentrated solar power**

Concentrated solar power plants use mirrors to concentrate a large area of sunlight onto a small area to produce electrical power. The planned 50 MWe concentrated solar power plant aims to produce 172 GWh/year. It is located north of Limassol in Cyprus. The technology is based on a multi-concentrated solar tower using superheated steam cycle and incorporates a graphite thermal storage. Some 300 solar thermal receivers surrounded by sun-tracking mirrors will be deployed.

### **Cyprus – Green+ – Smart grids**

The project aims to convert a region with a traditional grid to a micro-grid concept targeting the challenges that distributed generation imposes onto network operation, such as voltage, frequency, power quality parameters and balancing renewable generation. The project will be implemented in a rural mountain area in Cyprus with 25,000 customers.

### **Denmark – MET – Bioenergy**

The project targets commercial-scale production of second generation ethanol from plant dry matter in Holstebro, Denmark. The plant will produce 64.4 Ml of ethanol, 77,000 t of lignin pellets, 1.51 MNm<sup>3</sup> of methane and 75,000 t of liquid waste annually which will be transformed into biogas and injected into the national gas grid after its upgrade into methane. The process will use 250,000 t/year of locally sourced straw.

### **Estonia – Fast pyrolysis – Bioenergy**

Pyrolysis is a thermochemical decomposition of organic material at elevated temperatures in the absence of oxygen to produce gas and liquid products. The project concerns fast pyrolysis technology for conversion of woody biomass to pyrolysis oil, the liquid product of this technology. Annual feedstock needs are 130,000 t of woodchips. The plant in Pärnu, Estonia, will also receive energy inputs from a combined heat and power (CHP) plant and deliver by-products as inputs to the CHP plant. Annual output of pyrolysis oil is expected to be 50,000 t which will be exported to Sweden and Finland to replace heavy fuel oil in power plants.

### **Estonia – TORR – Bioenergy**

Torrefaction of biomass is a mild form of pyrolysis (see fast pyrolysis project above) at low temperatures typically ranging between 200 and 320°C. The project concerns a torrefaction plant in Rakke, Estonia, for the production of 100 kt/year of bio-coal from 260 kt/year of local woody biomass. The project includes a biomass gasification CHP unit that will provide heat and power to the plant. The technology has been developed in order to use cheaper feedstock (low quality biomass) to produce an intermediate product with a high calorific value.

### **France – GEOSTRAS – Geothermal power**

The French-German cross border project aims to produce electricity and heat from a high temperature geothermal resource near Strasbourg. It involves creating a circulation loop several kilometres long at a depth of between 4 km and 5 km that will function as a semi-open underground heat exchanger. The proposed geothermal plant is expected to produce 6.7 MWe electricity and 34.7 MWth heat.

### **France – NEMO – Ocean energy**

The project is a 16 MWe floating ocean thermal energy conversion system. It is expected to be mounted within a floating barge moored some 5 km off the west coast of Martinique, with export cable landfall by the Bellefontaine oil-fired, thermal power plant. It aims to deliver approximately 395 GWh in the first five years of operation.

### **Ireland – WestWave – Ocean energy**

The project will consist of a grid-connected array of five wave energy converters (WEC) installed within one km of an onshore site at Killard Point in County Clare, Ireland. The electrical power generation capacity of each WEC is 1 MWe giving an overall capacity of 5 MWe. The WEC, together with the hydraulic power take-off and shore based power train is being tested first at the European Marine Energy Centre site at a smaller scale of 0.8 MWe.

### **Italy – Mazara Solar – Concentrated solar power**

The project concerns a Concentrated Solar Power (CSP) plant with a capacity of 50 MWe, which will be built in western Sicily, Italy. It represents one of the first large-scale commercial CSP projects, based on an innovative central tower technology producing superheated steam to drive a steam turbo-generator and using the saturated steam as storage fluid. The expected energy output is 534 GWh in the first five years of operation.

### **Italy – Puglia Active Network – Smart grids**

The aim of the project is to demonstrate active large-scale network management at distribution level and to show the extent to which this enhances the capability of the grid to accommodate large quantities of renewables. This includes active control of power flows, facilitation of demand response, ancillary services to control supply quality, reduction of network losses and vehicle-to-grid service from electric vehicle battery storage.

### **Latvia – CHP Biomass pyrolysis – Bioenergy**

The project concerns fast pyrolysis technology for conversion of woody biomass to pyrolysis oil in Jelgava, Latvia. The project plant will receive energy inputs from a CHP plant and deliver by-products of the pyrolysis as inputs to the CHP plant. Annual output of pyrolysis oil is expected to be 40,000 tonnes. Feedstock needs are 100,000 t of woodchips/year. The bio-oil will be exported to Sweden and Finland to replace heavy fuel oil use in energy installations.

### **Portugal – Santa Luzia Solar Farm – Photovoltaics**

The project concerns a 24 MWp solar farm expected to be built in Alentejo, Portugal. A total of 1340 trackers, each holding 108 solar modules, are expected to cover a surface of around 91 ha. Electricity export is foreseen through a 15 kV power line connecting with a substation at Beja, Portugal. Concentrated photovoltaics technology is based on the use of optical devices that increase the light received on the solar cell surface.

### **Portugal – SWELL – Ocean energy**

The project concerns a large-scale, grid-connected wave farm with a capacity of 5.6 MW that will be built on the coast a few miles north of the Peniche Peninsula, central Portugal. It will consist of sixteen 350 kW modules. Oscillating Wave Surge Converters will be placed on the seabed and only the top part of the flap will be surface piercing.

### **Spain – BALEA – Wind power**

The project comprises two 5 MW and two 8 MW wind turbines placed on floating foundations. The wind turbines will be placed on either a tension leg platform or a semi-submersible structure. The total capacity of the wind power project is 26 MW. The project is expected to be located in the Bay of Biscay off the coast of Armintza in Spain.

### **Spain – FloCan5 – Wind power**

The project is a floating offshore wind farm consisting of five 5 MW wind turbines with a total capacity of 25 MW with floating moored foundations, internal grid and grid connection to an onshore substation. The foundation is a semi-submersible concrete construction. The project is expected to be located at 1.5–3.7 km from the south-eastern coast off the island of Gran Canaria, in water depths of between 30 and 300 m.

### **Spain – W2B – Bioenergy**

This Waste-to-Biofuels (W2B) project concerns a municipal solid waste (MSW) to bio-ethanol plant with a capacity of 28 Ml/y. It is envisaged that the plant will be built in Seville, Spain. A total of 500 kt/year of MSW will be processed to recover the organic matter and cellulosic fibres. These will be converted into second generation bio-ethanol via enzymatic hydrolysis and fermentation.

### **Sweden – Bio2G – Bioenergy**

The project aims to demonstrate the large-scale production of synthetic natural gas (SNG) from woody biomass. The capacity of the plant is 200 MWth of SNG. Pressurised SNG will be fed into an existing natural gas pipeline. The process will use some 1 Mt/year of woody biomass, mainly composed of forest residue. Two project locations are under consideration within the environmental permitting process: Landskrona or Malmö, Sweden.

### **United Kingdom – White Rose – Carbon Capture and Storage (CCS)**

The project concerns the building and operation of a full CCS chain, which includes a coal power plant capturing CO<sub>2</sub>, onshore and offshore pipelines transporting CO<sub>2</sub> and an offshore storage safely encasing CO<sub>2</sub>. The new oxyfuel coal power plant and CO<sub>2</sub> processing and compression units will be built at the Drax power plant site near Selby, in the United Kingdom. The technology will capture 90% of the CO<sub>2</sub> emissions from the coal power plant –on average 1.8 million tonnes of CO<sub>2</sub> per year. The captured CO<sub>2</sub> will be transported by a short pipeline to a larger pipeline system and injected into storage offshore in the southern North Sea.