

ENFLATE PROJECT NEWSLETTER

ISSUES ADDRESSED

The European Commission's policy framework (i.e., Clean Energy Package, Fit 55) seeks to decarbonise the energy system, reinforce the electrification of heating/cooling and transport. ENFLATE supports the successful digital transformation of the energy system in Europe with digital solutions and reliable smart grid infrastructure operation supporting interoperability, openness, and data sovereignty principles. ENFLATE also reinforces the energy consumers' incentivisation and asset use maximisation across different energy consumption sectors (i.e., electricity, water, heating, cooling, mobility) and maximises flexibility services in different ecosystems and consumer needs. The key area of research interest in ENFLATE is the identification of a 'state of play' matrix for identifying the steps for unleashing the full flexibility potential of end consumers.



PROJECT GOALS

ENFLATE aims at design and implement 6 Demonstration campaigns in 5 countries using a collaborative platform of digital tools to enable the deployment of consumer-driven business

models for energy services, to valorise their multi-vector flexibility potential, and to replicate them in cross-sectoral non-energy services, such as health and mobility. The proposed tools are based on preceding applied, demonstrated, and validated solutions developed in HORIZON 2020, HORIZON EUROPE projects, and national initiatives.



**Co-funded by
the European Union**



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PROJECT DETAILS

Timeframe: September 2022
August 2026

Budget: € €14,314,162.00

**HORIZON EUROPE—
Innovative Actions:**
€ 7,686,305.00



<https://www.linkedin.com/showcase/enflate/about/>



<https://twitter.com/enflateproject>



https://www.youtube.com/channel/UCvUtZxalqW_LK5NpmQS2AeQ



Early in December 2022, the ENFLATE partners in Switzerland using a digital consumer-centered trading platform on which participants can manage their power consumption flexibility. *"Anyone who knows that they don't need to charge their e-Vehicle at a certain time should be able to sell this flexibility on the ENFLATE platform"* is suggested by Dr Christoph Imboden, lecturer at the Lucerne University of Applied Sciences and Arts, has explained.

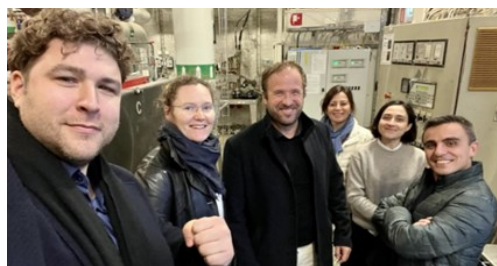
Interestingly, power providers can interrupt charging activity and sell power to a buyer. "We want to know whether this can work and this is why we offer it as a set up on a trial basis in a sample neighbourhood in eastern Switzerland". According to Jürg Solenthaler, Head of the Grid Division SAK, this approach holds great potential: "The fundamental restructuring of the Swiss-wide energy system in the coming decades will have an impact on the individual distribution grids. The grid operators need to be prepared for this, which is why we are also a partner in this European research project. With this particular demonstration, we are looking forward to investigate the effects of flexibility markets on grid utilisation in practice."

ENFLATE RUNNING FULL SPEED

On 14th September 2022, the 30 partners of the Horizon Europe ENFLATE project consortium convened in Athens, Greece for the official launch of the four-year project. The consortium is comprised by partners from Greece, Belgium, Germany, France, Spain, Sweden, Bulgaria, and Switzerland, who are committed to proposing and piloting consumer-centred data exchange platforms on a large scale.



On November 10, 2022, the ENFLATE partners met in Kungälv, Sweden to discuss the preparatory steps for determining the flexibility and for necessary implementations of the equipment planned to be used by the partners during the Demonstration. Kungälv is located on the west coast of Sweden and has 85,000 inhabitants. EKSTA manages 3,000 apartments and premises. Its flexibility relies on solar PV, battery/ storage units, E-vehicles, solar thermal dish-washers, washing machines,



ventilation units, indoor sensors for temperature and humidity, BEMS, energy systems of either traditional water-filled radiators controlled by indoor sensors, or ventilation heating in Passive Houses.

On November 25th 2022, the ENFLATE partners started the preparation of the demonstration in Lachar, Spain. This small town has 3,500 residents and 100% smart metering and special monitoring of all parameters in minutes or seconds granularity. In addition, bidirectional communication supports self-generation plants, the batteries, controlling the water heaters, HVACs and the chargers.





The ENFLATE partners are preparing the Skiathos island (EL) demonstration. The island is located in northwest Aegean sea and has a population of 7.000 and hosts 10.000 visitors in the summer. Skiathos is interconnected to the power distribution network.

PROJECT IMPACT

Replicability/Scalability: ENFLATE proposes the development of an interoperable platform that will link to already existing H2020 and HORIZON EUROPE platforms and Artelys ACSC modelling platform for simulations of power systems and techno-economic analyses.

Socio-economic: ENFLATE contributes to the mitigation of energy poverty by improving flexibility services in home health-care and public transport services. In addition, it lowers the costs of energy supply by reducing voltage abnormalities and congestions in the grid.

Environmental: ENFLATE increases urban-mobility efficiency and reduces RES curtailment.

Market Transformation: ENFLATE enables market actors to develop flexibility services and connect operators in business models that benefit the consumer.

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| 1.NOVA (Greece) - <i>Coordinator</i> | 20.BLOKS ZDRAVNI I SOTSIALNI GRIZHI EOOD (Bulgaria) |
| 2.UBITECH ENERGY (Belgium) | 21.YUGOIZTOCHNOEVROPEYSKA TEHNOLOGICHNA KOMPANIA OOD (Bulgaria) |
| 3.ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS (Greece) | 22.ELECTRODISTRIBUTION GRID WEST AD (Bulgaria) |
| 4.ARTELYS (France) | 23.ELEKTROENERGIEN SISTEMEN OPERATOR EAD (Bulgaria) |
| 5.FUNDACION CARTIF (Spain) | 24.FACHHOCHSCHULE ZENTRALSCHWEIZ - HOCHSCHULE LUZERN (Switzerland) |
| 6.ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON (Greece) | 25.ST. GALLISCH-APPENZELISCHE KRAFTWERKE AG (Switzerland) |
| 7.EUROPAISCHES INSTITUT FUR INNOVATION - TECHNOLOGIE EV (Germany) | 26.CENTRALSCHWEIZERISCHE KRAFTWERKE AG (Switzerland) |
| 8.REGULATORY AUTHORITY FOR ENERGY (RYTHMISTIKI ARHI ENERGIAS) (Greece) | 27.TRANSPORTS PUBLICS GENEVOIS (Switzerland) |
| 9.DIACHEIRISTIS ELLINIKOU DIKTYOU DIANOMIS ELEKTRIKIS ENERGEIAS AE (Greece) | 28.UNIVERSITE DE GENEVE (Switzerland) |
| 10.INDEPENDENT POWER TRANSMISSION OPERATOR SA (Greece) | 29.Hitachi ABB Power Grids Ltd. (Switzerland) |
| 11.UNIVERSITY OF PIRAEUS RESEARCH CENTER (Greece) | |
| 12.DIMOS SKIATHOU (Greece) | |
| 13.EPEX SPOT (France) | |
| 14.MONTAJES ELECTRICOS CUERVA S.L. (Spain) | |
| 15.TURNING TABLES SOCIEDAD LIMITADA (Spain) | |
| 16.AYUNTAMIENTO DE LACHAR (Spain) | |
| 17.EKSTA BOSTADSAKTIEBOLAG (Sweden) | |
| 18.IVL SVENSKA MILJOEINSTITUTET AB (Sweden) | |
| 19.NODAIS AB (Sweden) | |



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www.enflate.eu

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