Press release

New EU project promotes Clean Energy Transition with smart energy services and innovative business models

The new LIFE project "Innovative Energy (Efficiency) Service Models for Sector Integration via Blockchain" (INEEXS) will meet the European Green Deal principles by adopting and validating in real world conditions integrated energy services across sectors and carriers, and the tokenization of energy saving data in a public blockchain. The aim is to enable automated, accurate, fast and smart solutions, facilitate trust and integrate sectors. In fact, for the clean energy transition to happen, the EU should ensure a secure and affordable EU energy supply; develop a fully integrated, interconnected and digitalised EU energy market; and prioritise energy efficiency and renewable sources.

While significant progress has been made in implementing clean energy policies, the energy system is still largely based on fossil fuels. Throughout all regions and sectors, economic, political, regulatory, technological and behavioural barriers prevent the uptake of energy efficiency solutions and obstruct the economic, social and environmental benefits of the clean energy transition.

To address existing barriers, it is essential to develop **new business models and markets** for sustainable energy services, **improve existing business processes** and value chains, and create the right conditions to replicate successful examples, building the capacity of market actors. The new LIFE project INEEXS is providing all these elements.

In the next three years, the consortium will put forth **new energy service business models** to incentivise the adoption of sustainable technologies, accelerate the energy transition, and support market actors to replicate these models. In addition, it will connect smart energy services across sectors based on energy efficiency, distributed energy resources, demand response/flexibility, electric mobility while including non-energy benefits such as comfort, health and safety.

This approach will be deployed and validated in four different EU Member States: Germany, Spain, Greece and one more country to be selected during the deployment process. As a first step, INEEXS will analyse the energy services offered by the **five business cases**, and characterise their unique business model, legal requirements, cost structure, revenue streams and contribution to both energy and non-energy benefits. Then, the existing business models will be redesigned to ensure their sustainable continuation, the connection with new stakeholders and the creation of new revenue streams. Finally, the concepts will be validated in **real-world conditions**.

"Elaborating innovative and fitting business models by active market participants is pivotal if we are to address the existential challenge of transforming the energy system". Explains **Filippos Anagnostopoulos**, Senior Associate at IEECP and Project Coordinator. *"The INEEXS project offers a unique opportunity to energy retailers, energy communities, technology developers, energy agencies and real estate companies to validate, replicate, adopt and roll concrete technical solutions with potentially transformative impact."*

By the end of 2025, more than **15.000 customers** will be benefitting from new and smart services and almost **4 million euro** will be saved in energy costs by the end-users thanks to the improvements of the existing and viable business models validated by the four cases. These numbers are expected to further increase with the replication of these models throughout Europe.

By adopting new **digital technologies, methods and tools** to enable automated, accurate, fast and **smart solutions**, facilitate trust and integrate sectors, INEEXS meets the three key principles of the European Green Deal and contributes to the European Union climate and energy targets to make the Clean Energy Transition a reality.

More information can be found on the project webpage: https://ieecp.org/projects/ineexs/

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NOTES TO THE EDITOR

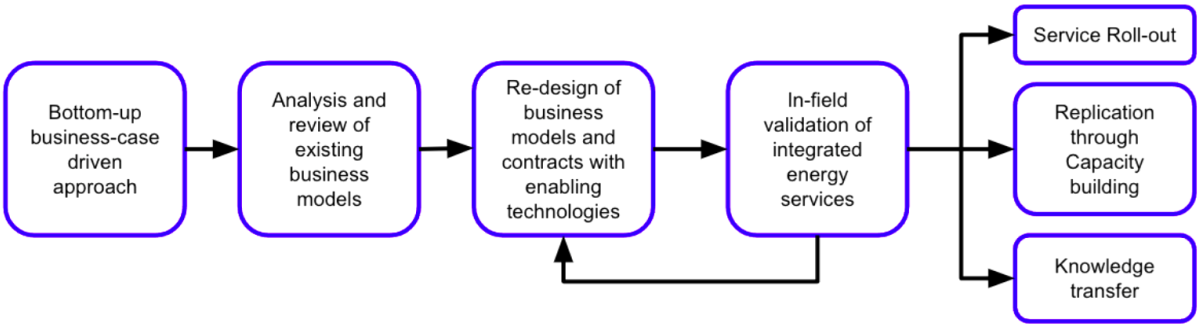
The services, models and contracts that INEEXS plans to deploy and validate in different EU states are the following:

- **Energy Performance Contracting (EPCs) with Pay4Performance guarantees (Berlin, Germany):** EPCs with metered energy savings and Pay4Performance (P4P) guarantees through public tenders with berlinovo targeting ESCOs for the renovation of publicly owned buildings. Contracts are governed using Pay-for-Performance, enabled by smart meters and advanced measurement, reporting and verification (MRV), towards incentivising engaged stakeholders to increase the quality of employed measures, increase the attained savings and reduce the initial investment payback duration.
- **Improved self-consumption of distributed energy resources (DERs) in Energy Cooperatives (Crevillent, Spain):** Energy Community members are provided with behaviour impact prompts (nudges) to enable load shifting, by delivering integrated information about distributed renewables (RES) generation, self-production ratio, aggregate energy demand, grid price levels and others. Real-time smart meter data are collected from all end consumers, while means of user engagement include a smartphone application and public information panels. The end users receive targeted advice for modifying the time of use of a range of residential appliances.
- **Energy efficiency and flexibility services for legacy natural gas boilers (5 main Greek cities** (Athens, Thessaloniki, Larisa, Trikala, Volos): Optimal tuning of legacy natural gas boilers for space and water heating will be enabled based on smart heating controllers, towards (a) improving energy efficiency (up to 35%), (b) providing real-time flexibility services to the natural gas supplier, (c) delivering remote maintenance

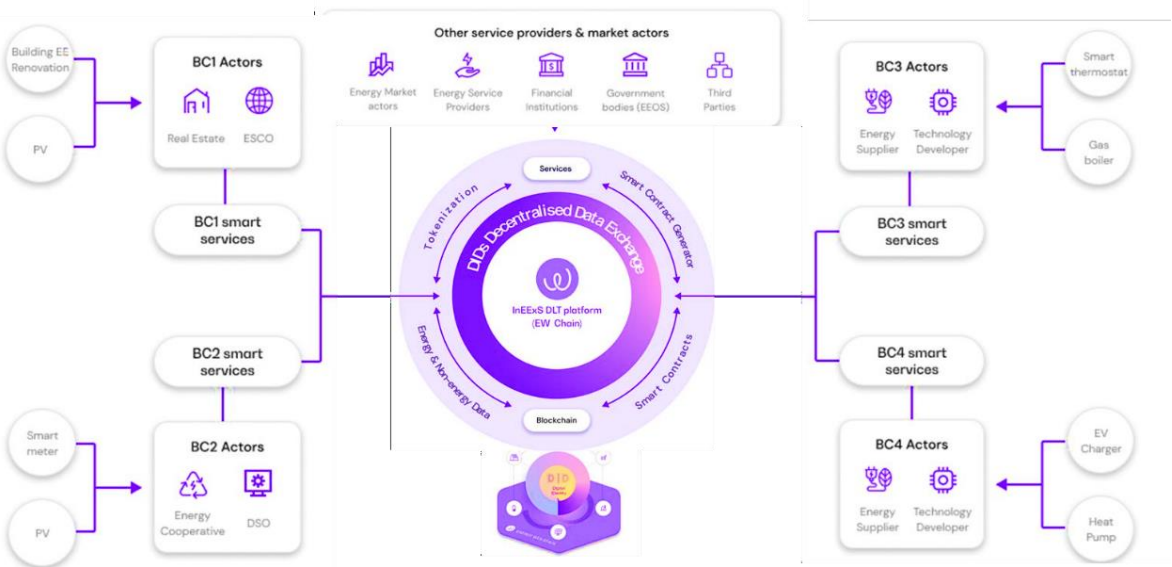
support. The achieved benefits in terms of energy savings-cost, climate comfort and user satisfaction will be constantly monitored to provide aggregate demand monitoring and management services to the supplier.

- **Smart energy management for EV chargers and electricity-based HVAC appliances (location tbc):** B2B2C energy management solution offered to energy retailers, allowing them to digitize their offering to customers, by employing smart charging of EVs and smart control of heat-pumps for residential space heating over vendor exposed cloud APIs and automated energy management algorithms. Considered energy services include: (a) demand response for grid balancing, (b) demand shaping, based on CO_2, tariff, self-production ratio signals and others.
- **Decentralized Energy Efficiency Power Plant (DEEPP) (conceptual)**: To explore how to use Distributed Ledger Technologies (DLT) to aggregate distributed energy efficiency measures via P4P methodologies towards a virtual power plant capable of taking part in energy markets.

INEEXS Business Cases (BCs) are improving on existing, viable business models by enhancing their integration with other services and sectors and build on pre-existing communities of participants, while aiming at extending these services to a large share of their market segment.



The INEEXS concept



The InEExS Blockchain platform and services

InEExS
ENERGY SERVICES ON THE BLOCKCHAIN

About the project

INEEXS stands for *Innovative Energy (Efficiency) Service Models for Sector Integration via Blockchain*

Start – end date: November 2022 - June 2025

Partners: IEECP - Institute For European Energy And Climate Policy (the Netherlands), HERON - Iron Thermoilektriki Anonymi Etaireia (Greece), NTUA - National Technical University of Athens (Greece), ESCAN (Spain), ENERCOOP- Cooperativa Electrica Benefica San Francisco De Asis Sociedad Cooperativa Valenciana (Spain), GEA Generacion De Energias Alternativas (Spain), DOMX (Greece), VL - Verdia Legal (Spain), BEA - Berliner Energieagentur (Germany), OFFIS (Germany), Inlecom Group (Belgium), HIVEN (Finland), Energy Web Foundation (Switzerland)

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The INEEXS Team