

Local Energy Marketplace

A demand side management solution for smart grids

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Context



Sustainable Development Program

- UN SDP's 7th goal advocates for a substantial growth of the share* of RES by 2030
- EU targets a share of 32% by 2030

* 18% in 2018

Global electricity use by sector
quadrillion British thermal units

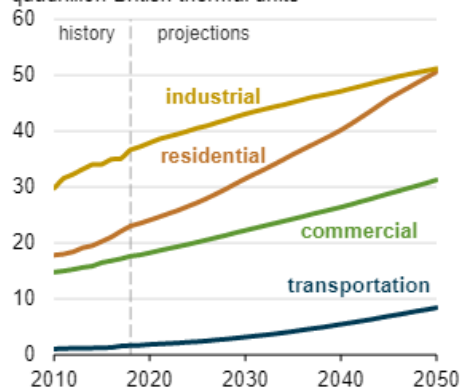


Image source: U.S. Energy Information Administration, International Energy Outlook 2019 Reference case

Electricity Consumption Projections

- Population growth
- Market share of EVs (23% in EU by 2030)
- ...

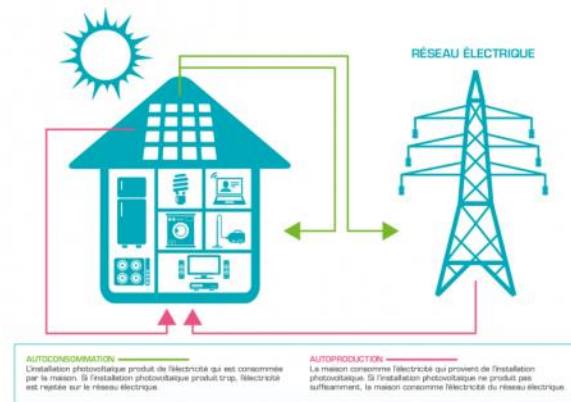


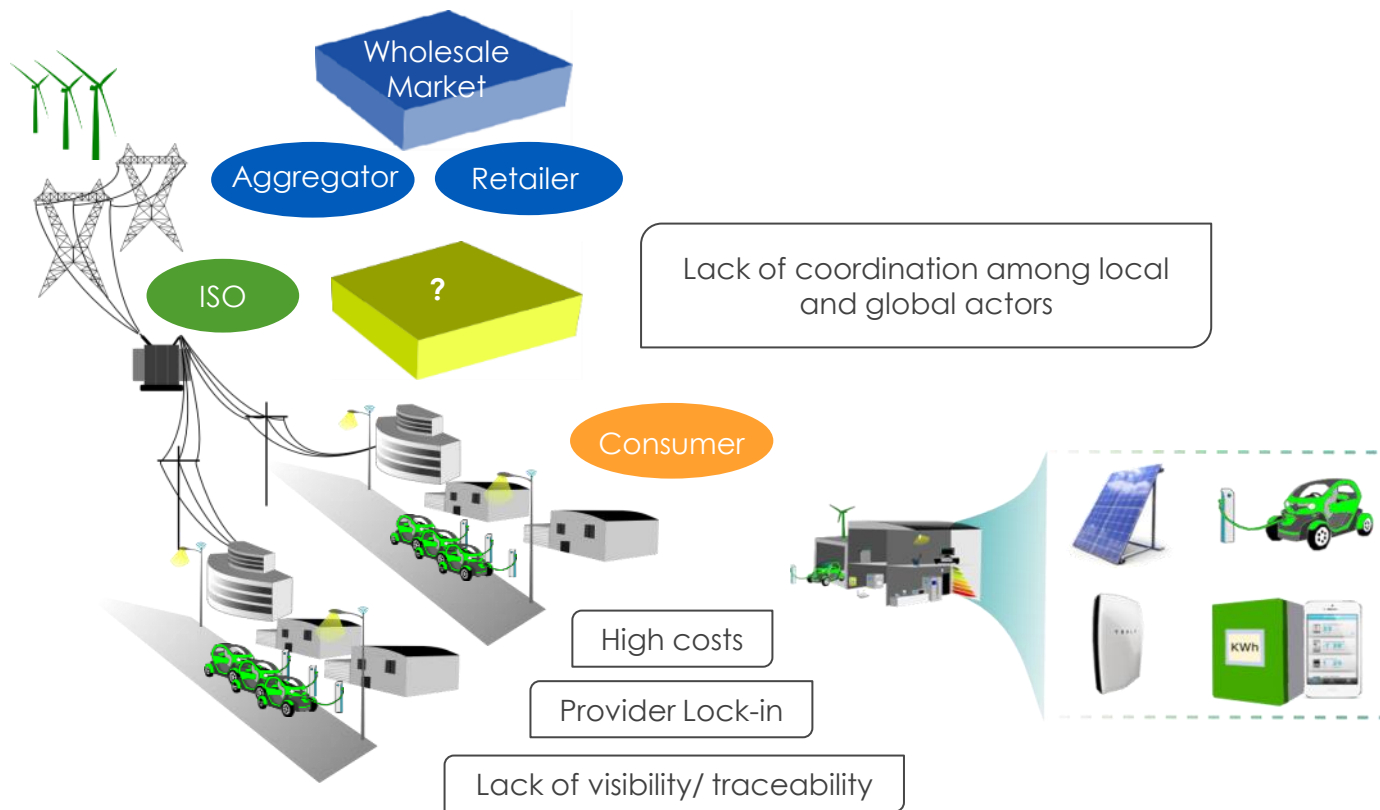
Image source: French Ministry for the Ecological Transition

Self-Consumption Scenarios

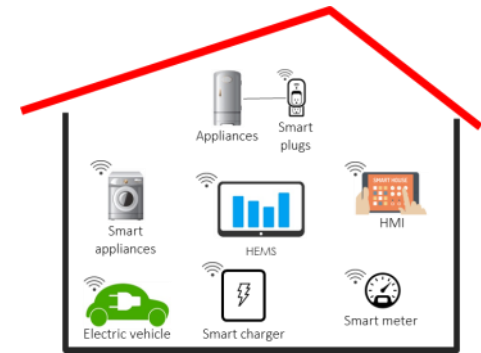
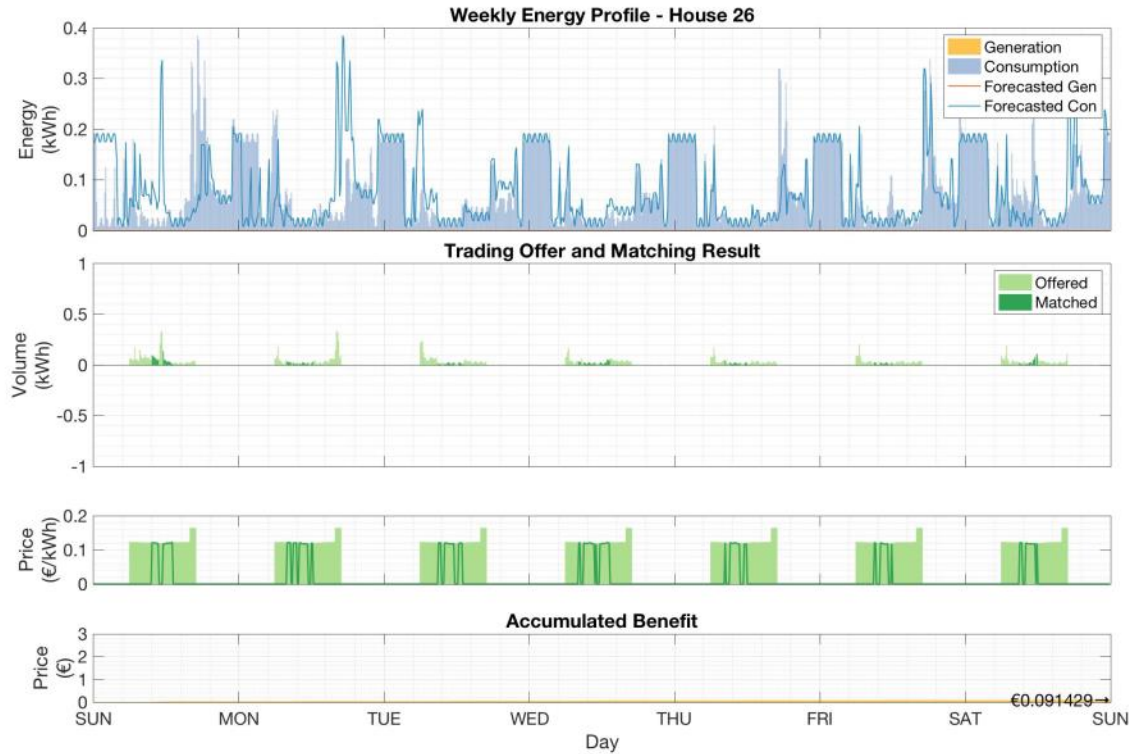
- Since 2016 in France*
- Surplus production ?

* Loi relative à la transition énergétique et la croissance verte, ordonnance n°2016-1019 du 27 juillet 2016

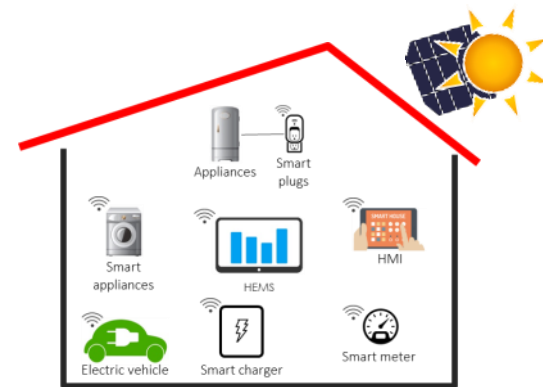
Local Energy Trading



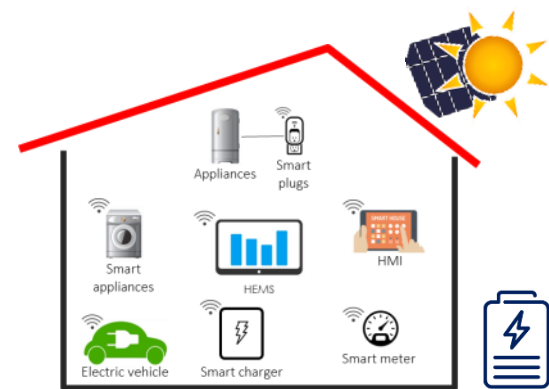
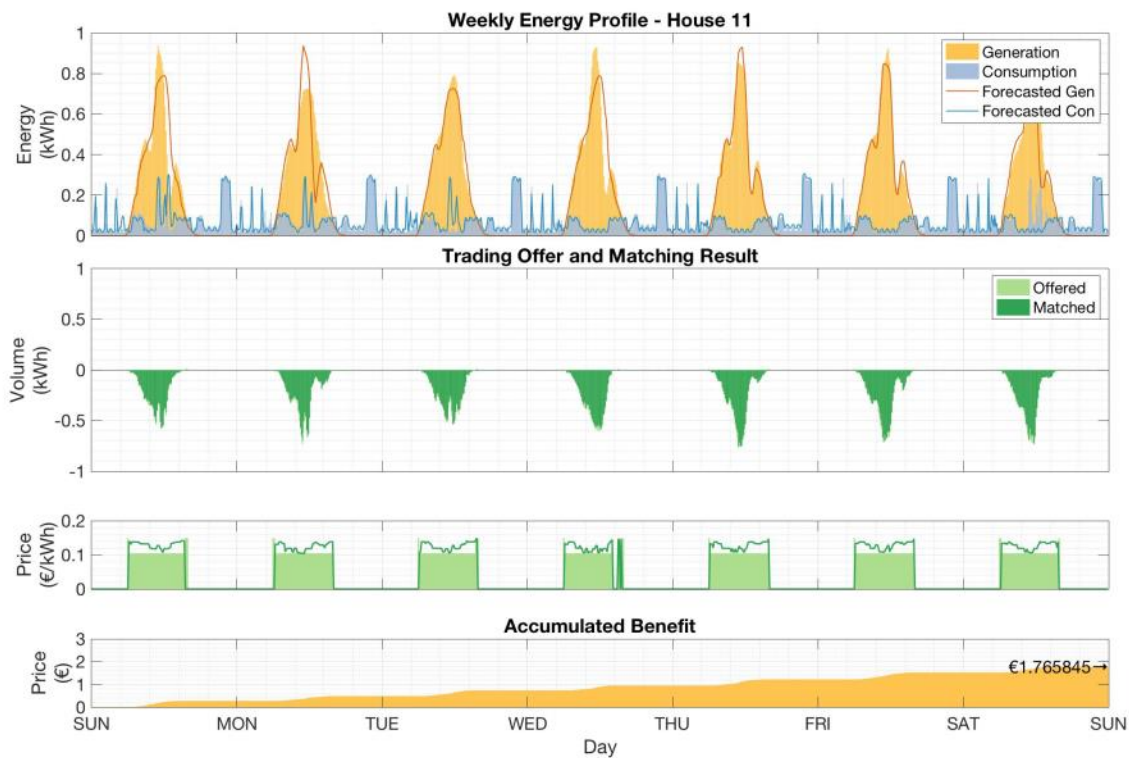
Some Results



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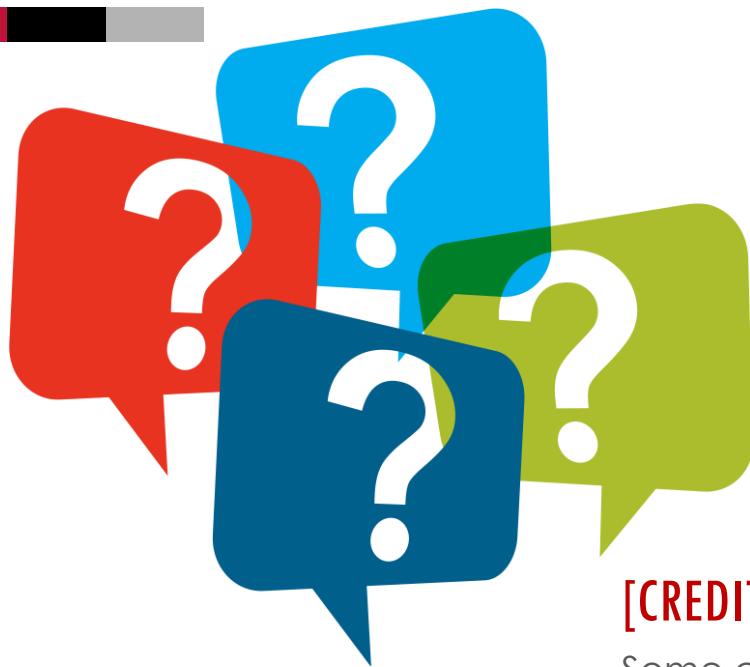
Some Results





Ongoing Work and Open Issues

- Benchmarking the underlying technology
Scalability, throughput, latency, computing resources, energy consumption
- Demand, production, and price forecasting
Considering uncertainties
- Assessing residential consumers readiness for participation
Motivations, enablers, barriers



[CREDITS]

Some contents of this presentation have been provided by:

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