# Empowering Prosumers in Electricity Markets Through Market Design and Learning

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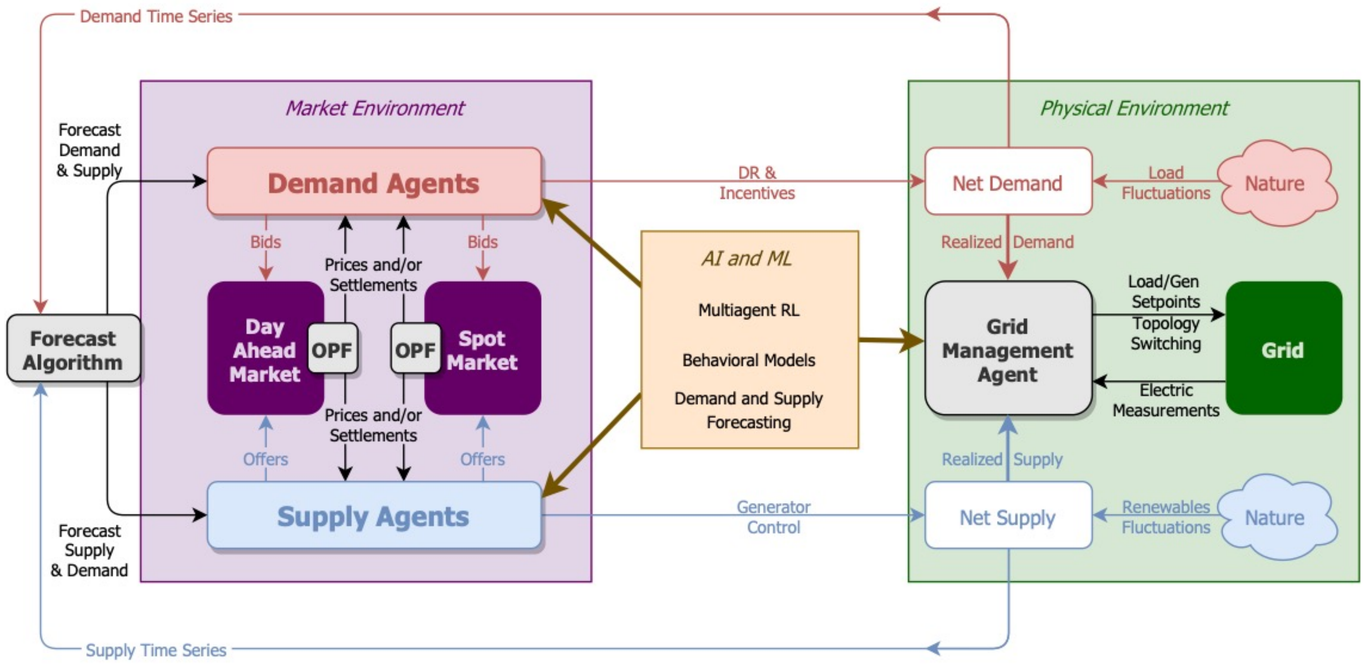
## Challenge:

Distributed energy resources (DERs) provide prosumers the ability to actively participate in the energy economy. How should prosumers and aggregators learn how to participate in the wholesale-retail energy marketplace?




## Solution:

Modeling, analysis and simulation of these different actors in the energy marketplace through multi-agent reinforcement learning (MARL).

## Scientific Impact:

- Advancement of MARL theory and its practice within electricity markets
- Creation of a simulation platform to understand learning algorithms and market design

## Broader Impact:

- MARL theory applies to other engineering domains
- Facilitate DER integration for a sustainable power grid
- Promote gender/racial equity in hiring and educational outreach

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