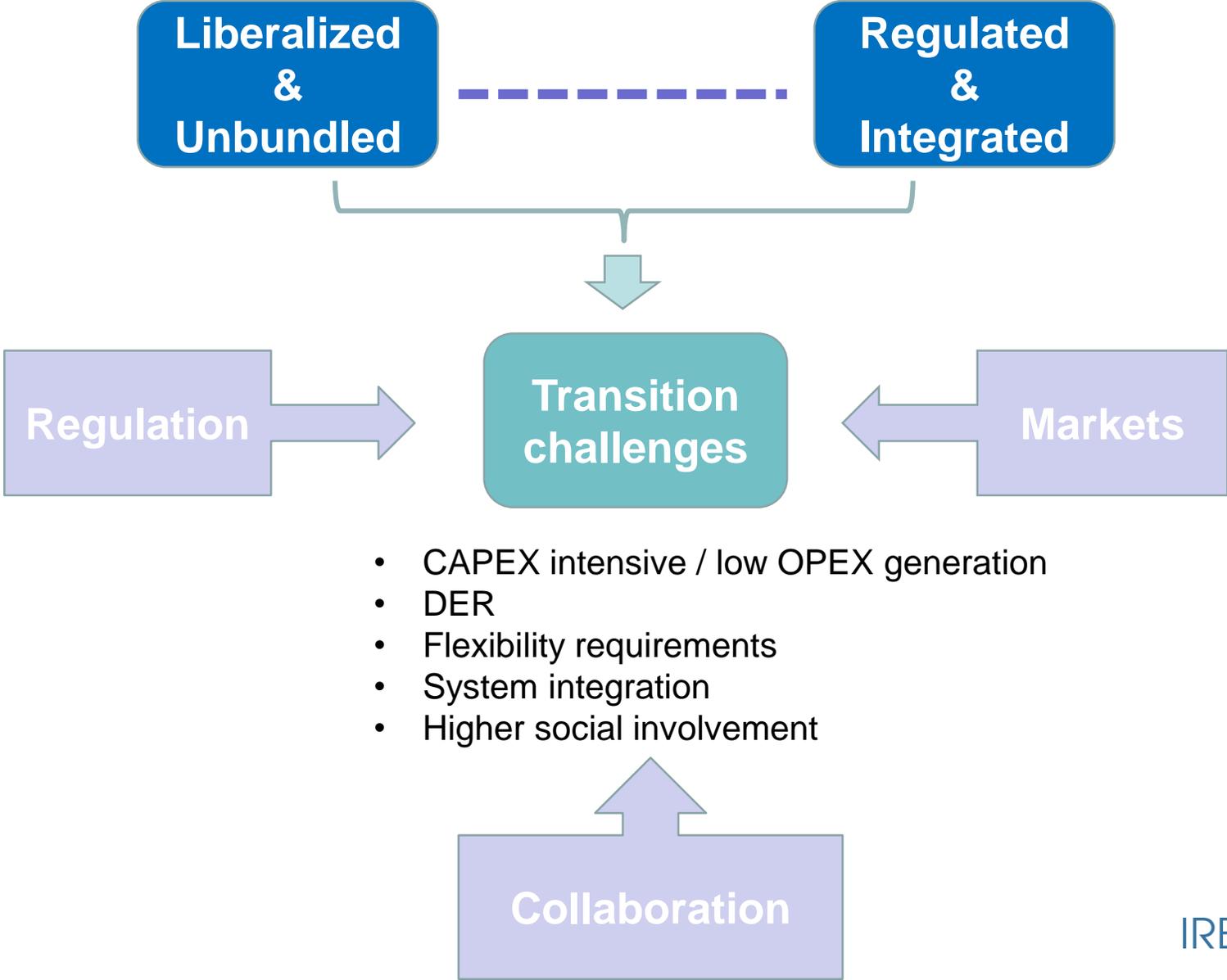


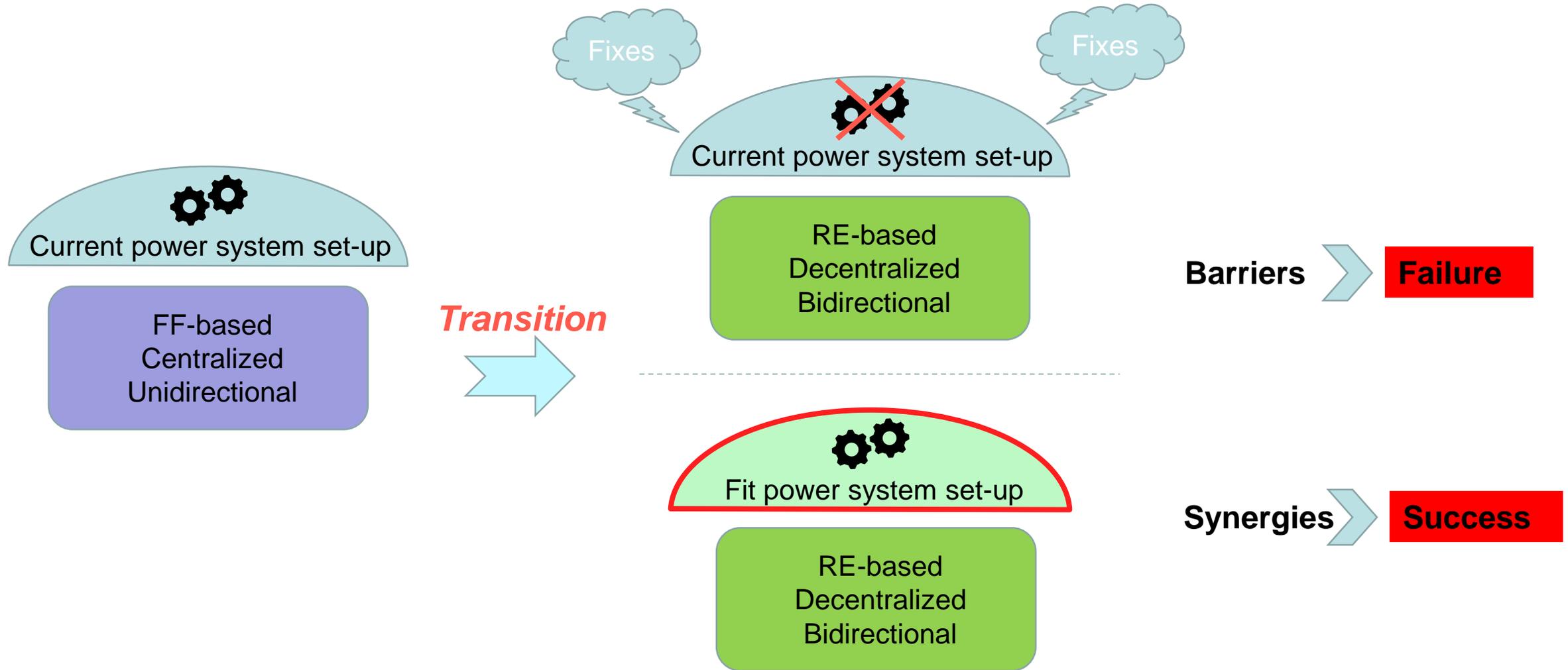
Market design for an integrated and RE-based energy system: Introductory remarks

Xavier Garcia Casals

Liberalized versus regulated power system set-ups

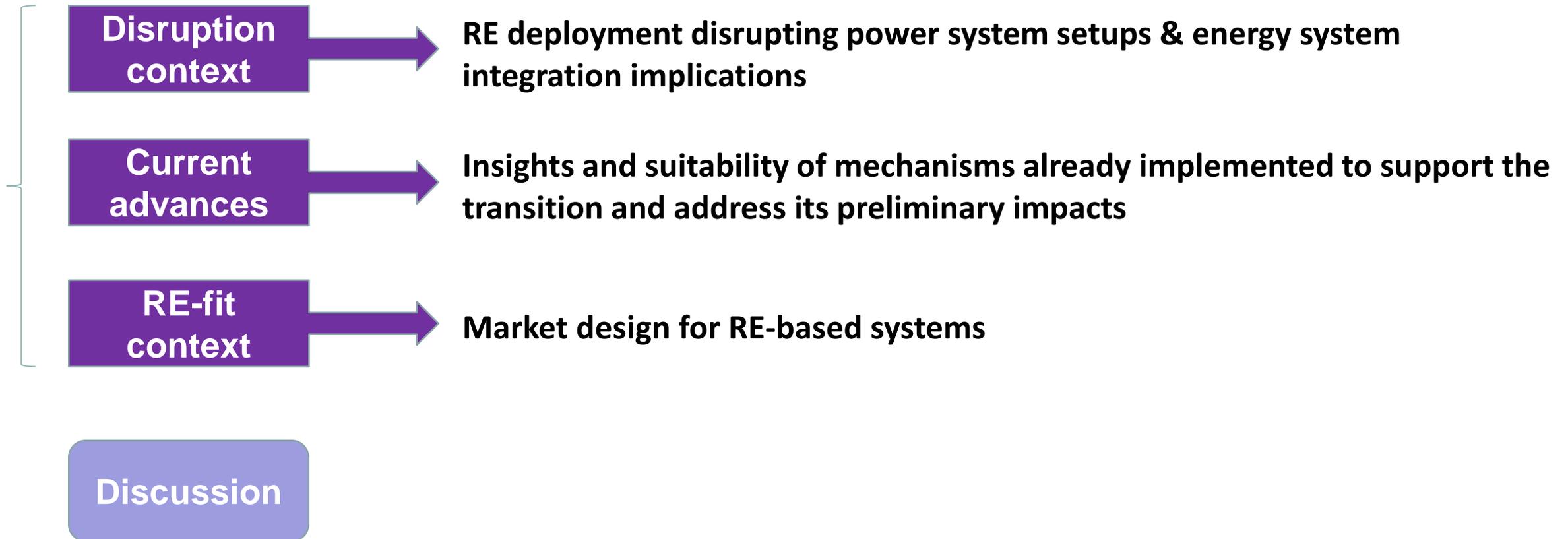


Bottom-line session's subject: Making power system setup fit for the transition's goal



Session's structure

The TRANSITION is changing the power system context

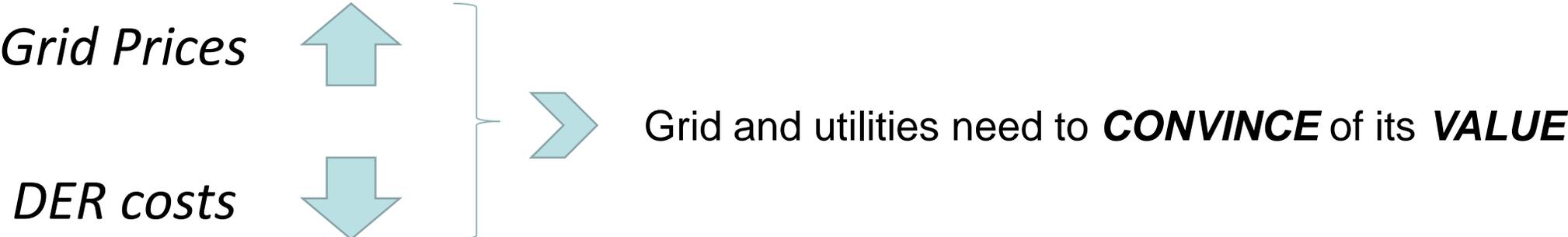


Available session's Context Note: If interested, please contact XCasals@irena.org

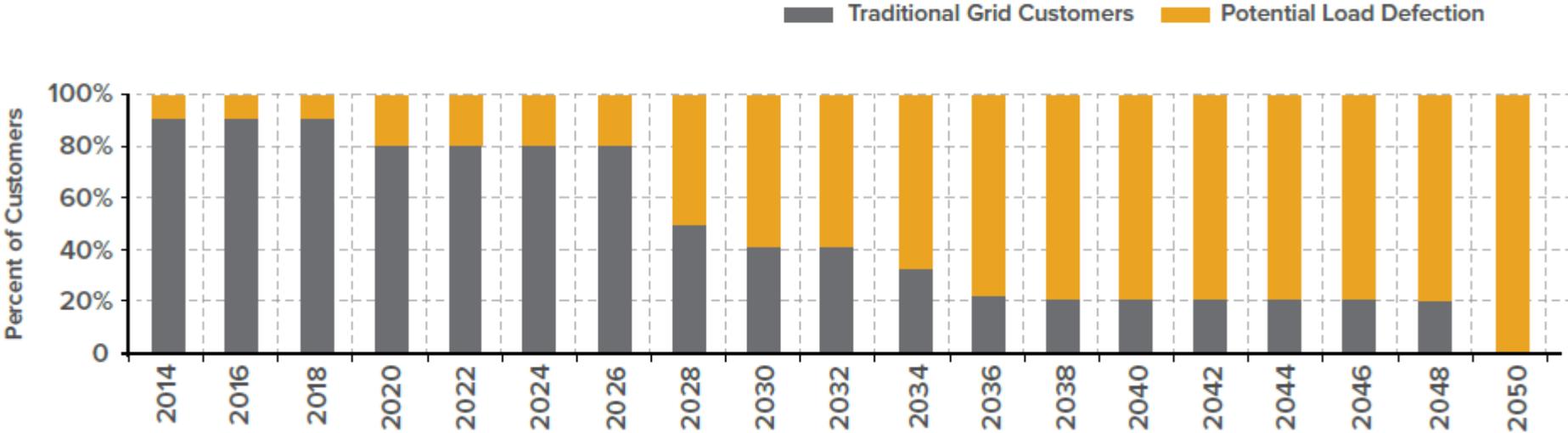
Additional subjects for the discussion

- Grid / Load defection
- Role and accommodation of new stakeholders
- Collaboration beyond competition

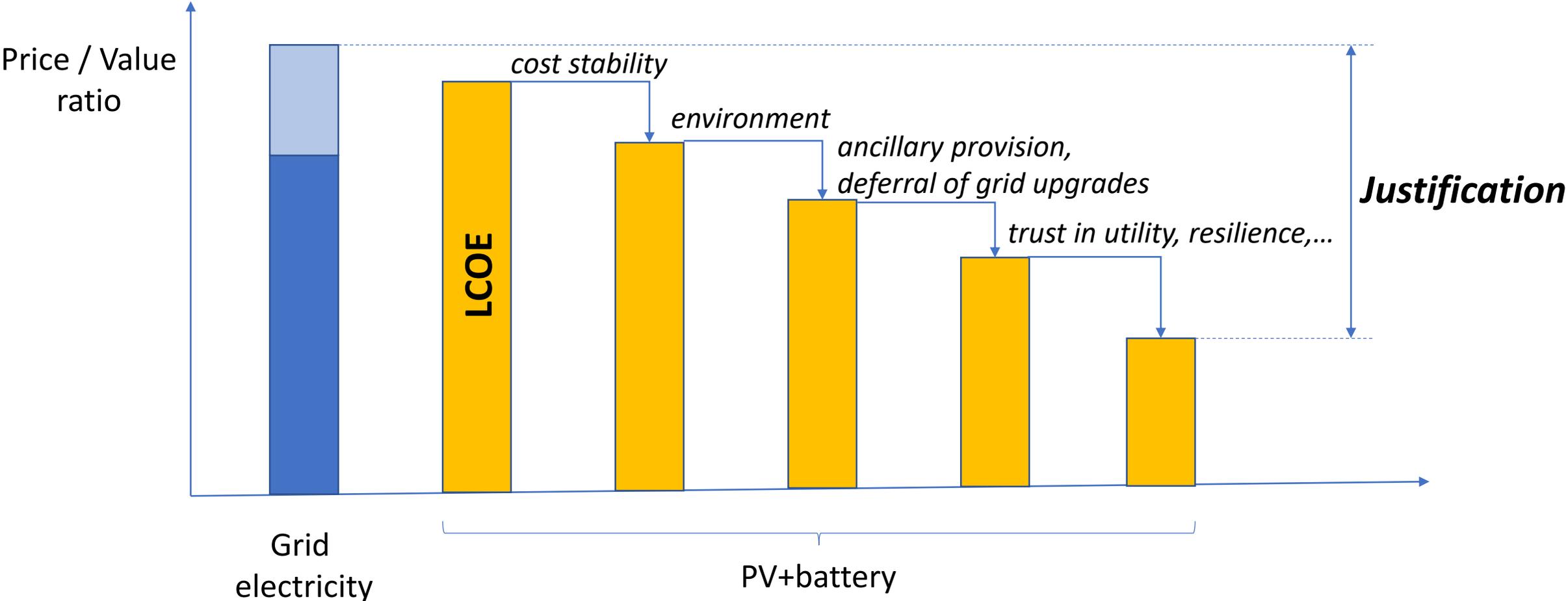
Grid / Load defection: Cost driver opening a new context



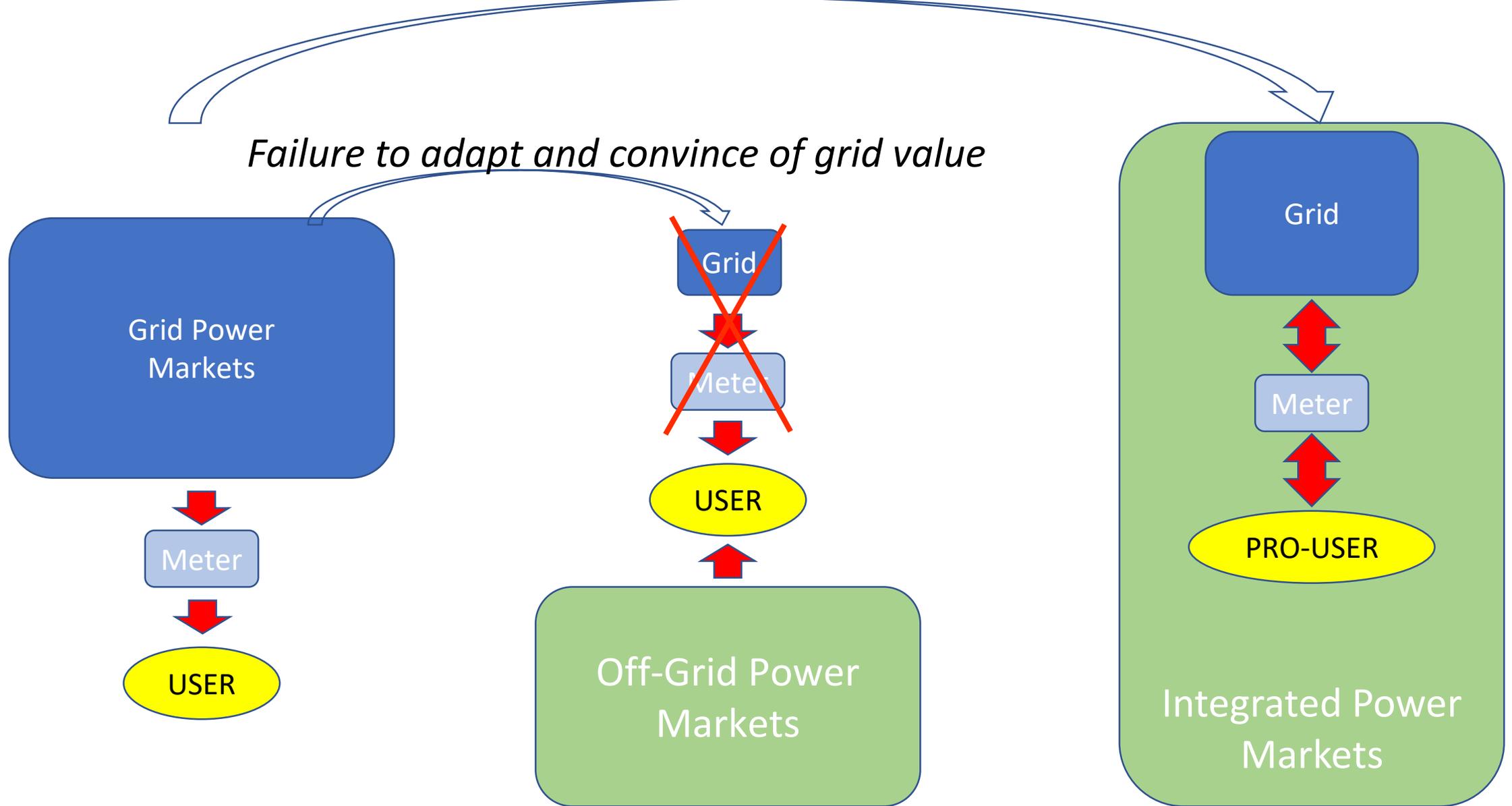
NORTHEAST POTENTIAL LOAD DEFECTION
COMMERCIAL



Grid / Load defection: Drivers go beyond costs



Adapting & potentiating synergies: Integrated Power Market



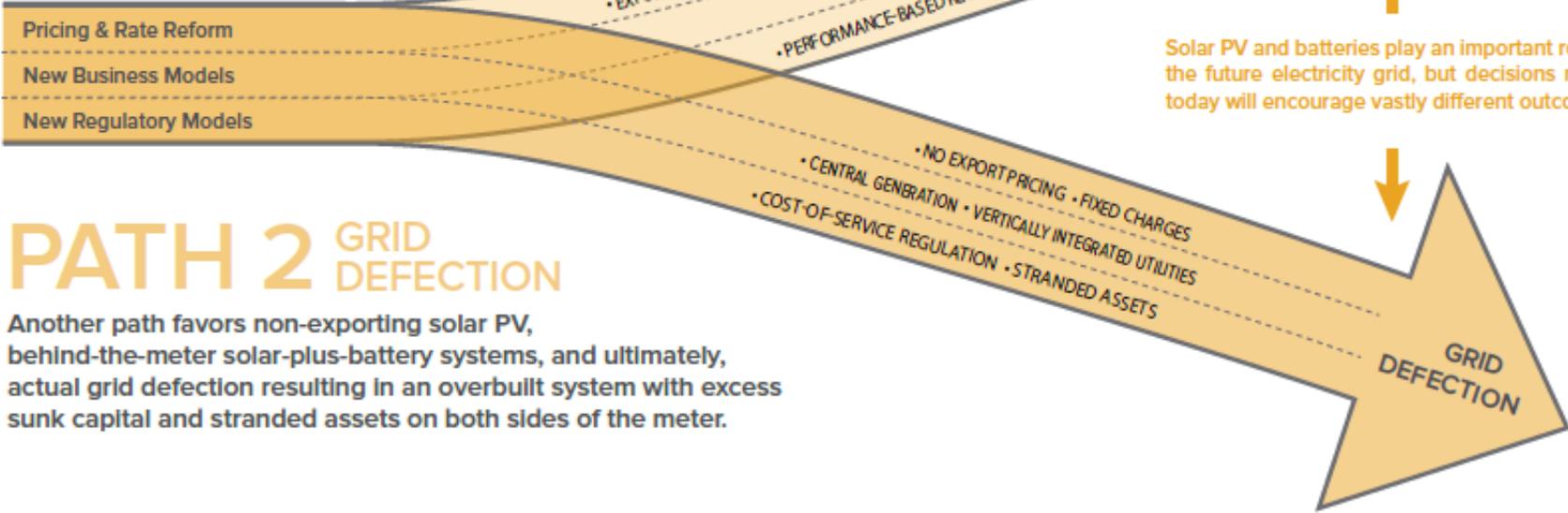
Grid / Load defection: Current choices and attitudes set the path

POSSIBLE TRAJECTORIES FOR ELECTRICITY GRID EVOLUTION



PATH 1 INTEGRATED GRID

One path leads to grid-optimized smart solar, transactive solar-plus-battery systems, and ultimately, an integrated, optimized grid in which customer-sited DERs such as solar PV and batteries contribute value and services alongside traditional grid assets.



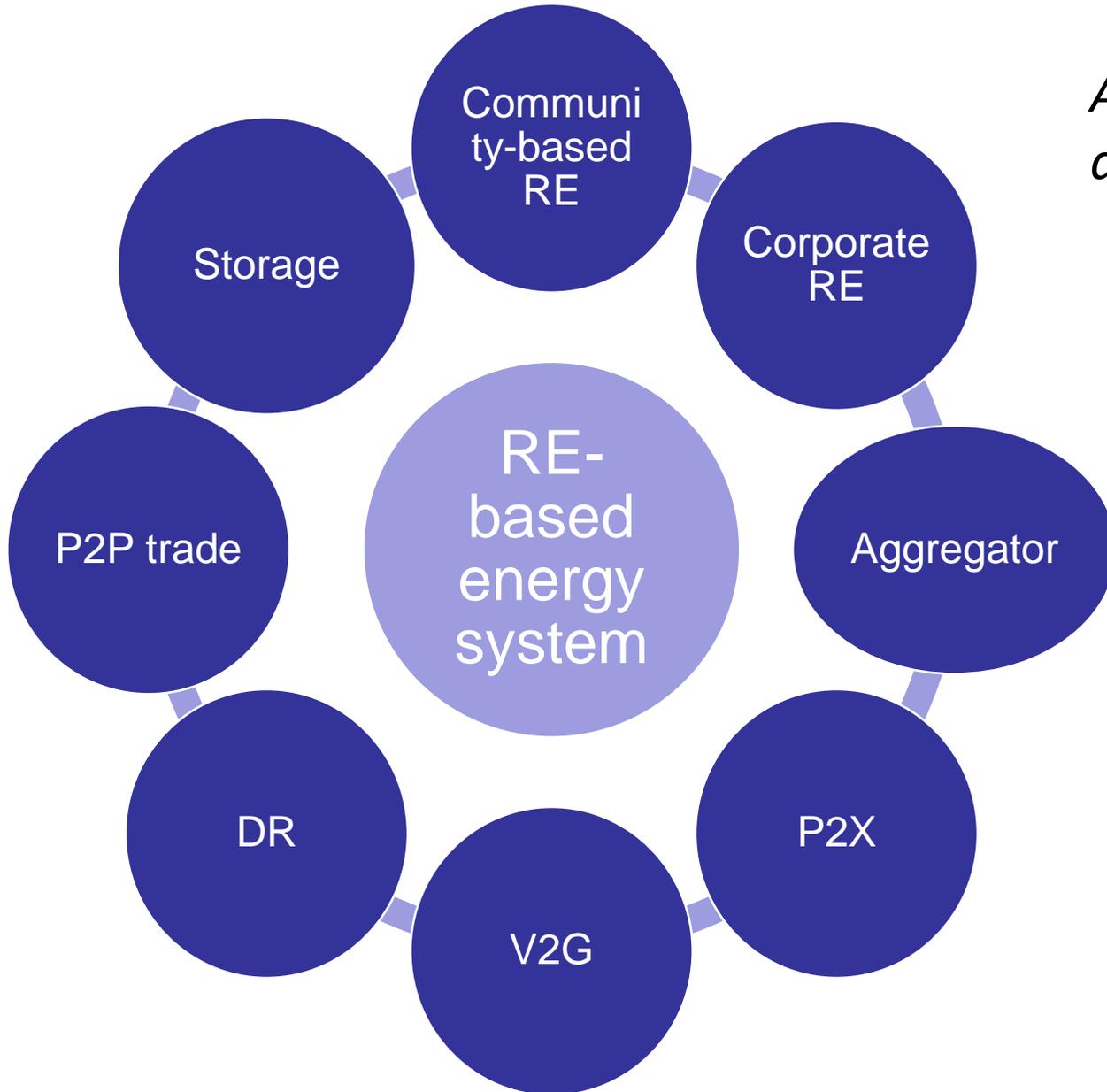
PATH 2 GRID DEFECTION

Another path favors non-exporting solar PV, behind-the-meter solar-plus-battery systems, and ultimately, actual grid defection resulting in an overbuilt system with excess sunk capital and stranded assets on both sides of the meter.

Grid / Load defection: Potential social value of T&D grids

- Avoid increasing energy and wealth inequality
 - Grid price spiral imposed on those that cannot afford defecting
- Facilitate sharing-economy collaborative approaches
 - System services from DER
 - Minimize transition costs and underutilized assets (on both sides of the meter)
- Facilitate citizen's involvement
 - Community-based generation
 - Enabling P2P trading
- Overall energy system integration
 - Faster and deeper RE deployment in Transport & Heating sectors
 - Higher flexibility
- Value for different stakeholders
 - Pro-user price contention
 - upgrade deferrals, congestion relief, ancillary services

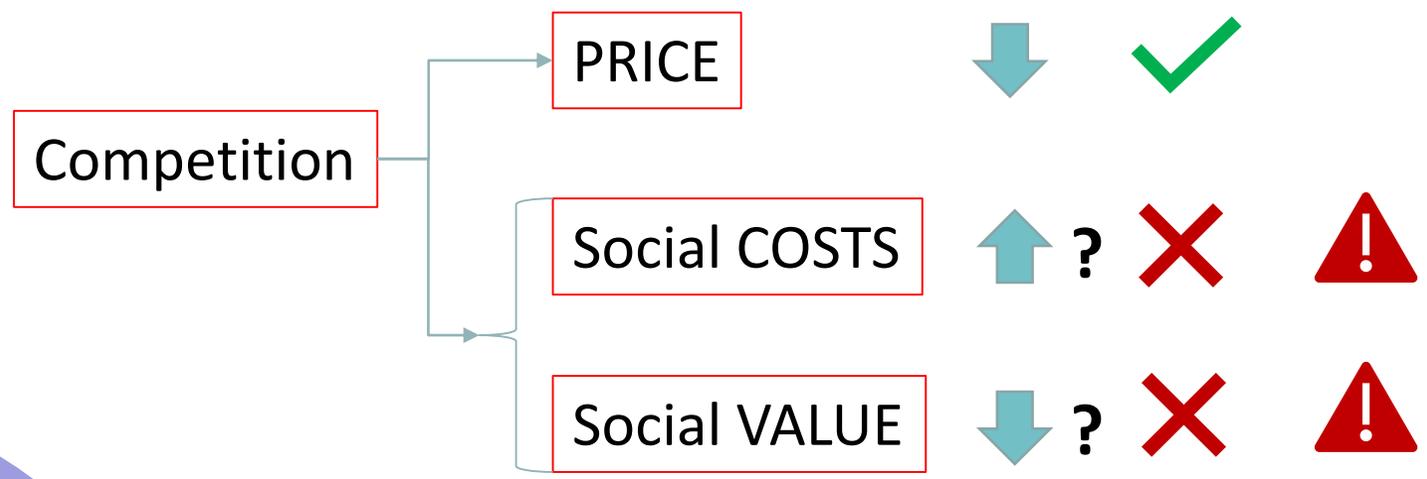
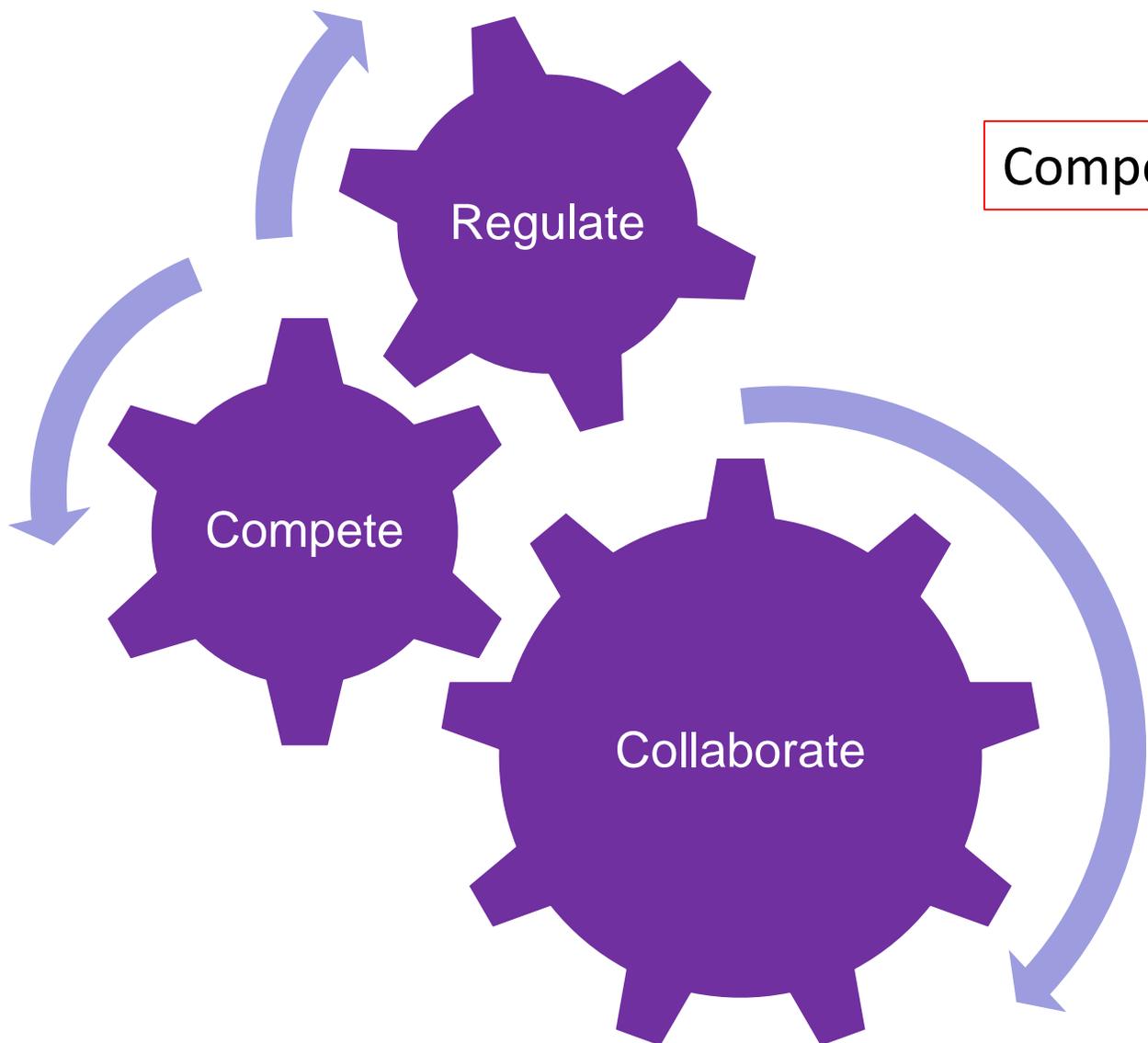
New stakeholders: Role and accommodation



A successful transition requires the participative and synergic interaction of many stakeholders

- Current status & barriers
- Setting the appropriate context
 - Regulation
 - Markets
 - Participation

Collaboration beyond competition



Room for overcoming competitive drawbacks through proper balance with collaboration and regulation:

- Increase participation
- Reduce inequality
- Align competitive drivers with social goals

IRENA INNOVATION WEEK ²⁰¹⁸

Thank you!

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