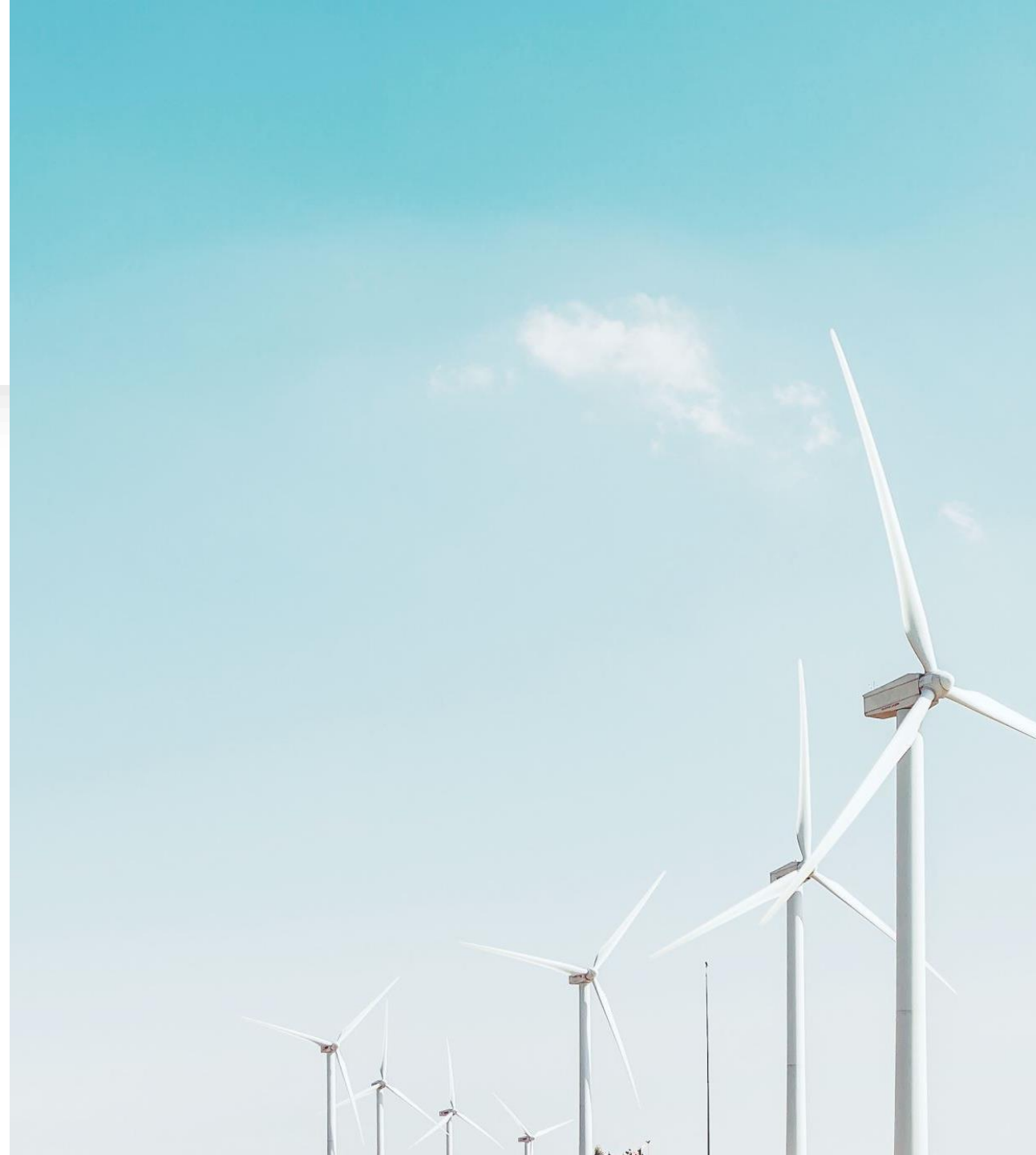


OPC Foundation Energy Initiative

- Intended to standardize and simplify connectivity of energy-related systems, services, and devices for:
 - **Energy-Production**
 - **Energy-Transformation**
 - **Energy-Distribution**
 - **Energy-Storage**
 - **Energy-Consumption**



OPC Foundation Goals for ET (Energy-Tech)

OPC UA wants to simplify and accelerate...



Grid development,
construction and
Expansion



Energy
Transportation
Logistics (i.e as H2)



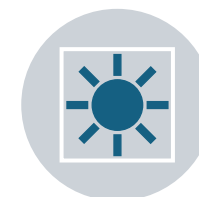
Energy
Transformation
Management



Energy Distribution
Logistics and
Management



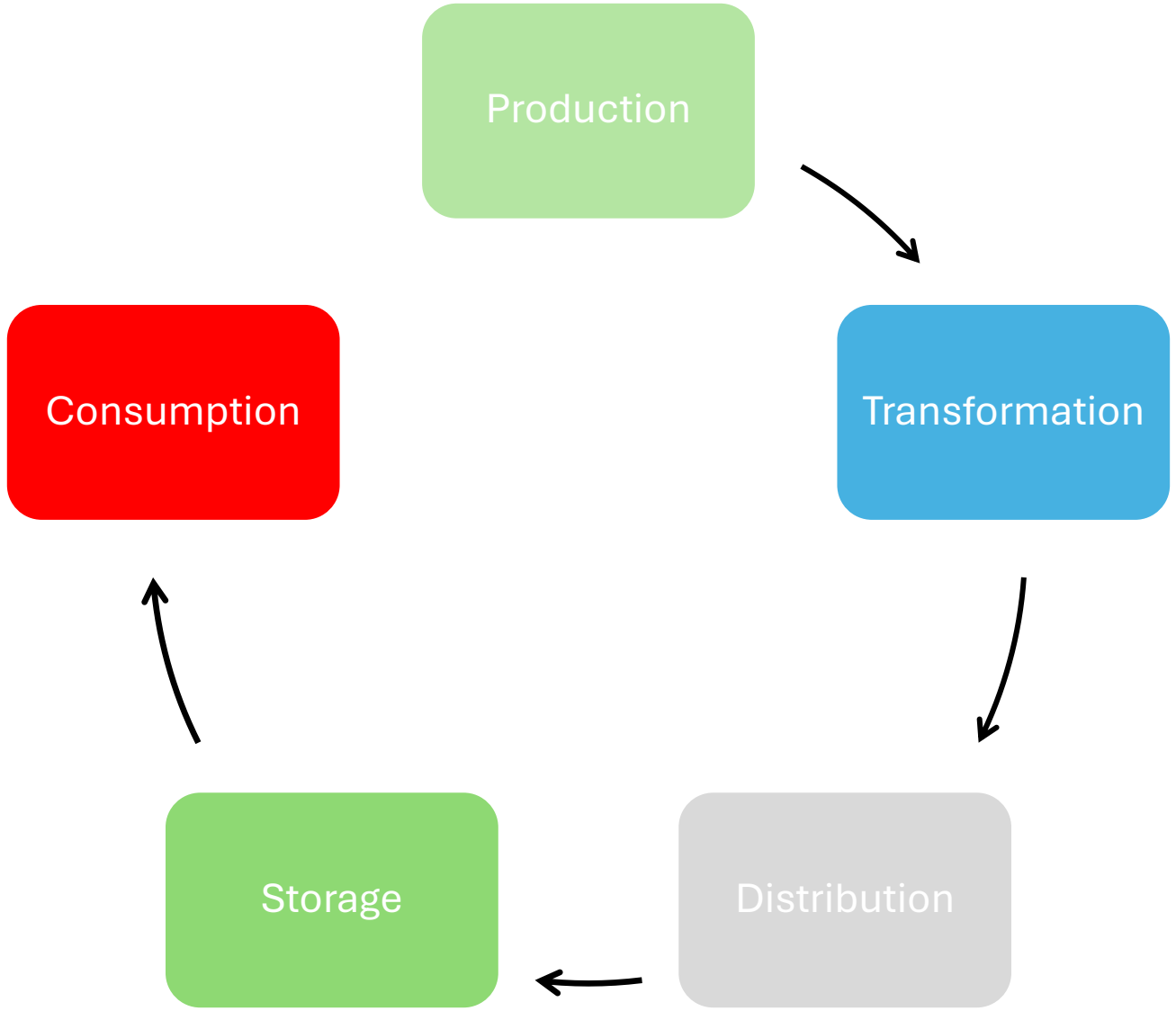
Energy Grid
Monitoring and
Control



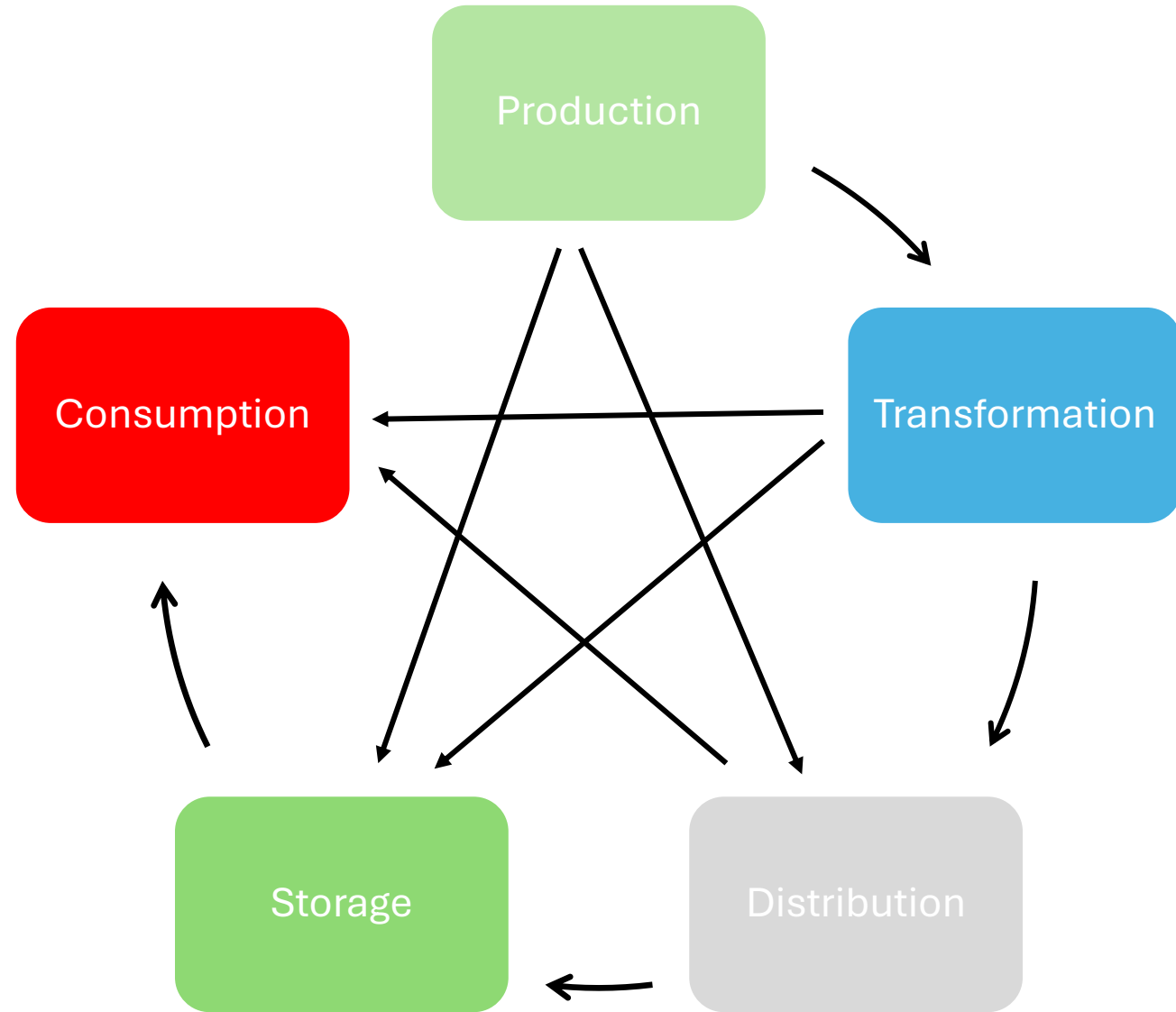
Energy Demand
Management

...by standardizing the communication between Energy Components

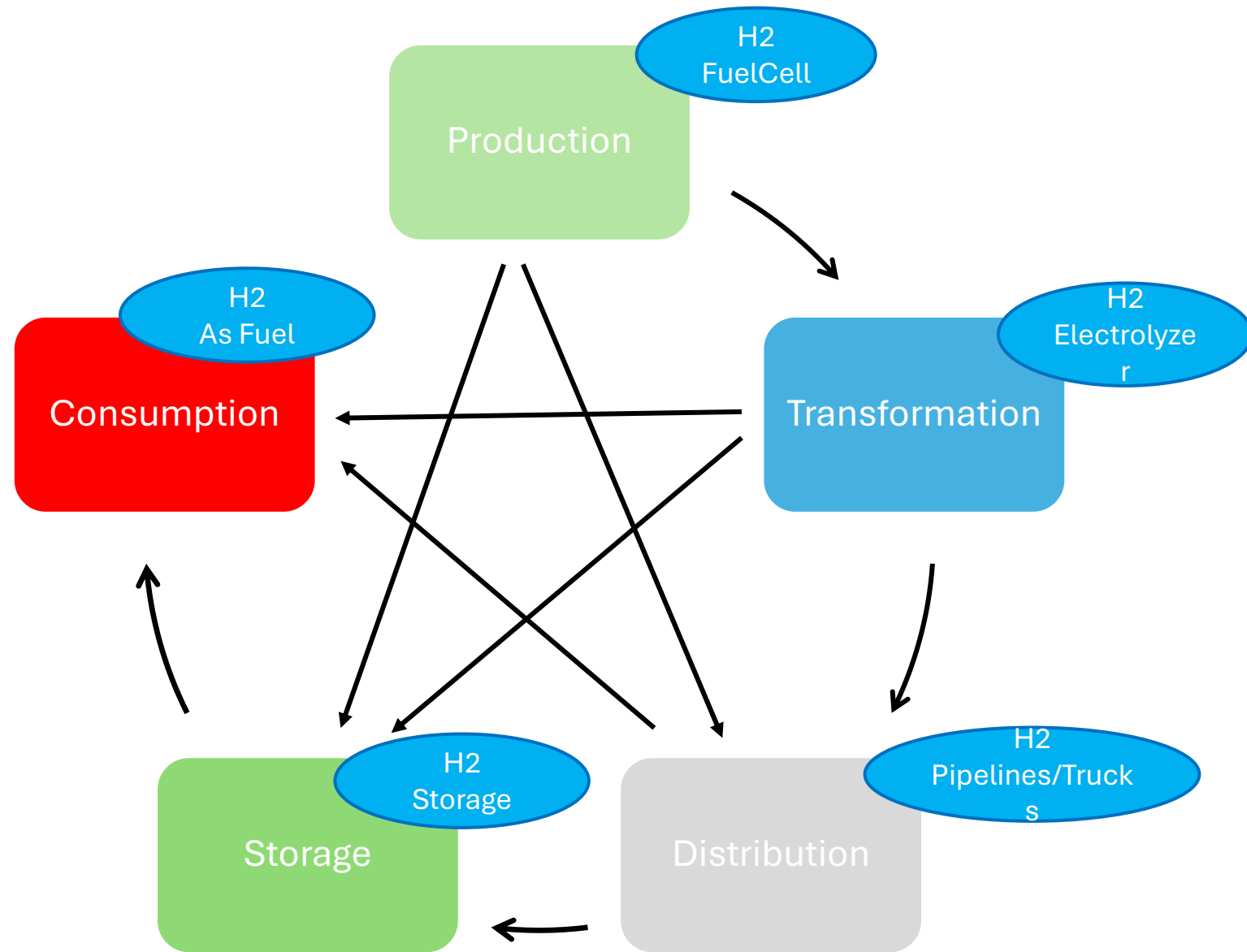
Standard Energy Value Chain Cycle

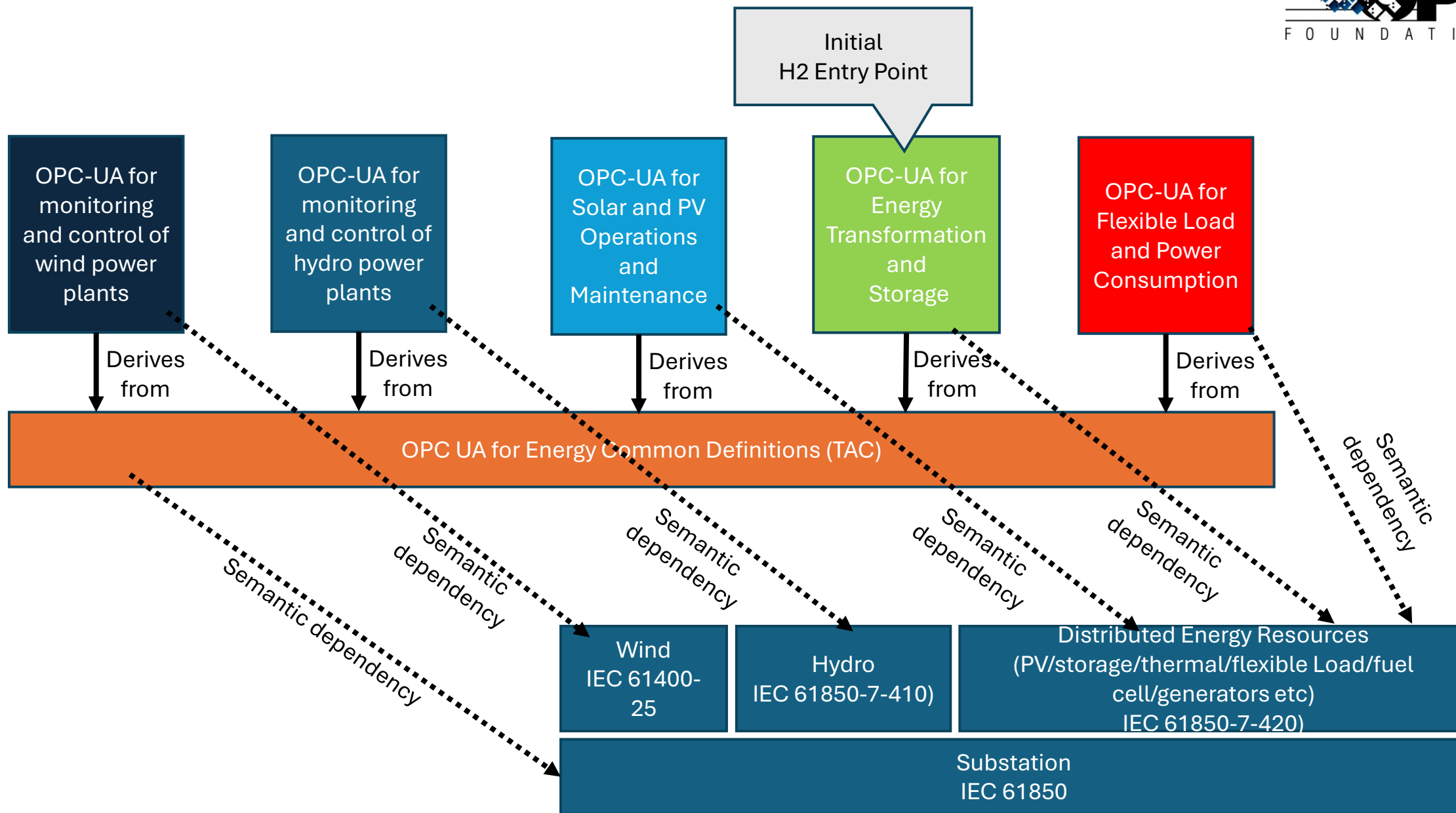


There are many communication paths in ET



Hydrogen as Energy Source touches all areas





OPC Foundation – Energy Working Groups Update

- Working groups in progress
 - Power Consumption (chaired by VDMA)
 - Carbon Capture, Storage and Reporting (chaired by Microsoft)
 - SPOM – Solar PV Operations and Maintenance (chaired by C-Labs)
 - WindPP – Wind Power Production (chaired by Prediktor)
 - Battery-Passport (see announcement)
 - Hydrogen Electrolyzer (HyEL)
 - Energy Steering and Harmonization Committee has been started
- Working groups in discussion
 - Hydrogen Refueling
 - Hydrogen Fuel-Cells



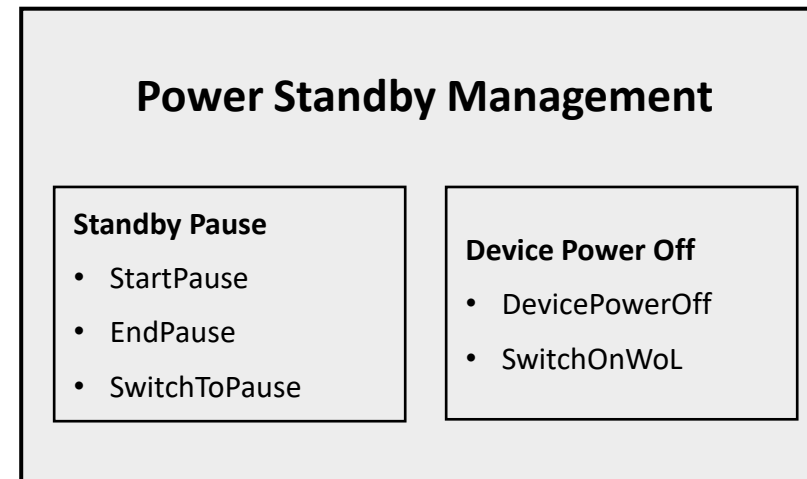
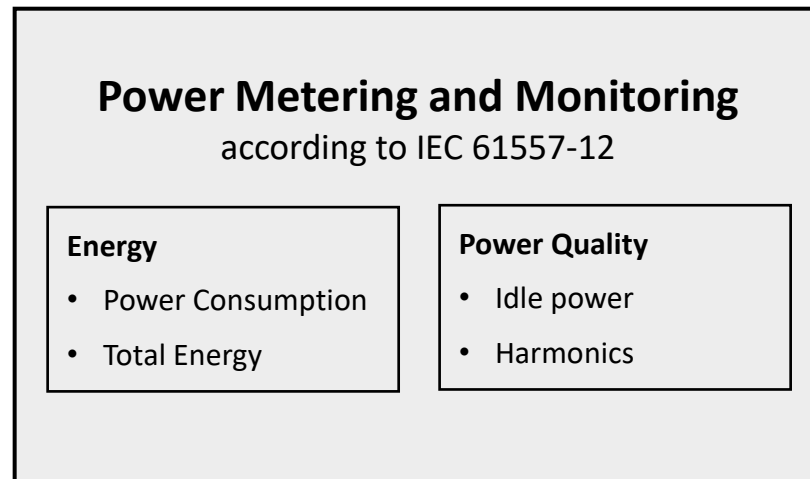
Energy WGs status

- WindPP
 - Expect 1st draft for internal WG review imminent
 - Expect pre-release during fall
 - Subject to dependency with project IEC TS 61400-25-41 ED1, in IEC TC 88
 - Two companion specs
 - New version of IEC 61850 with common definitions and mapping rules
 - WindPP using mapping rules from above on IEC 61400-25 and wind power plant use cases
- SPOM
 - Uses most of the WindPP base work
 - Start to work on WindPP WG draft on IEC 61850 mapping rules on IEC 61850-7-420
 - Discussion on common CS for distributed energy resources, or split up in PV/storage/load versions

OPC 34100 – Energy Consumption Management

Published as Release Candidate

 **OPC UA** Part 34100



Use Cases

- Energy Metering
- Optimization / Evaluate Energy Cuts
- Predictive Maintenance



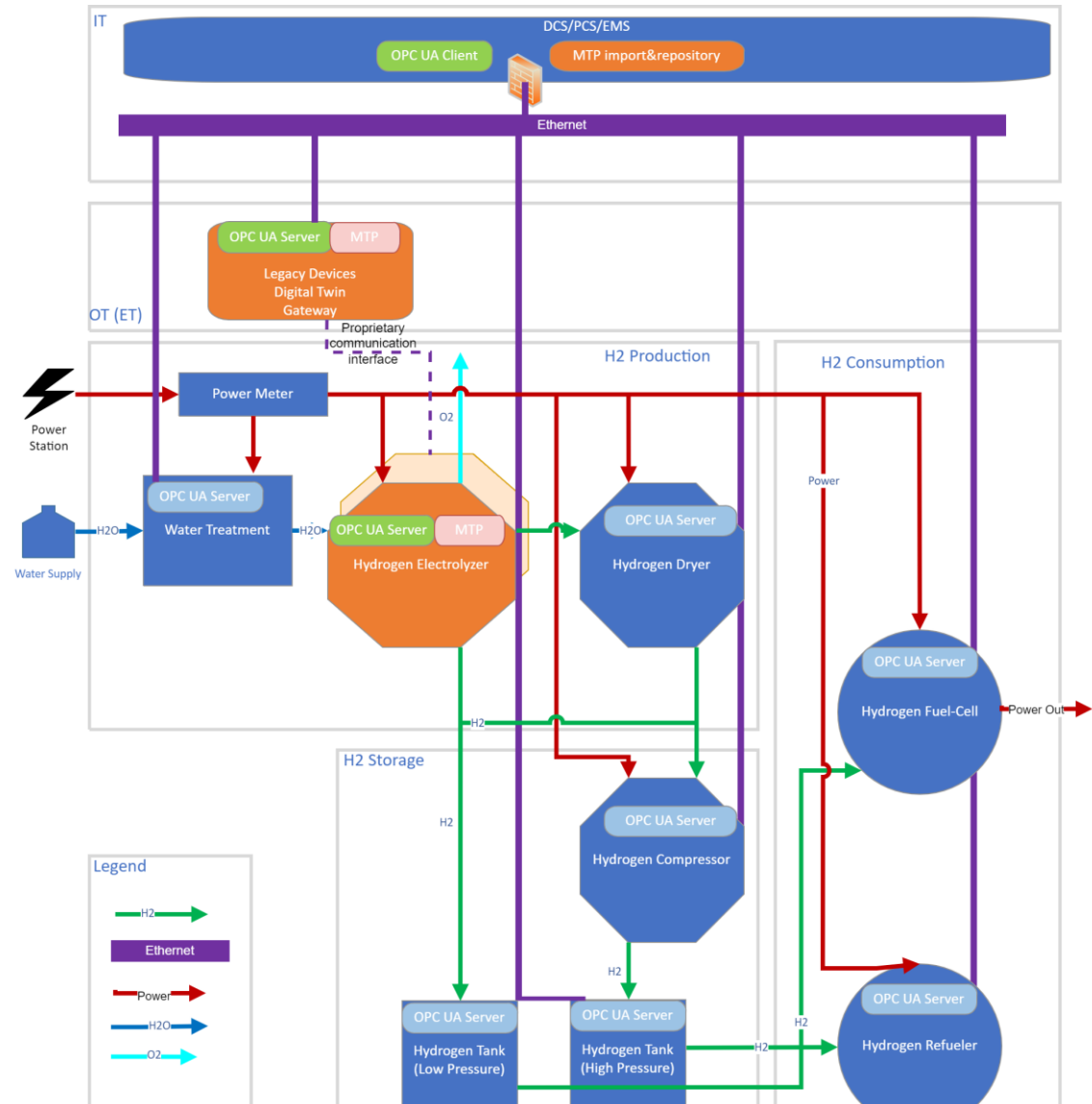
Use Cases

- Save Energy in intended Pauses
- Save Energy in unplanned Pauses



Hydrogen Working Groups started...

- Electrolyzer Joint Working Group with VDMA
 - Initial meetings took place
 - Focus on OPC integration with MTP
 - Over 30 participating companies
 - Chaired by [Semodia](#) and [Enapter](#)
- Refueling/Dispenser Working Group with VDMA
 - Initial Meeting took place
 - Work on charter is next
- Fuel-Cell Working group in discussion
 - Looking for initial founding members



Q&A