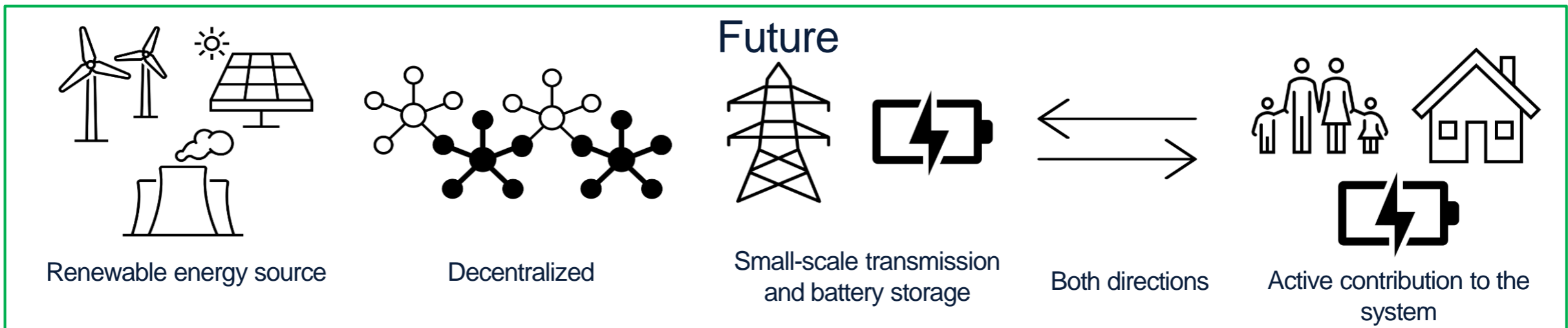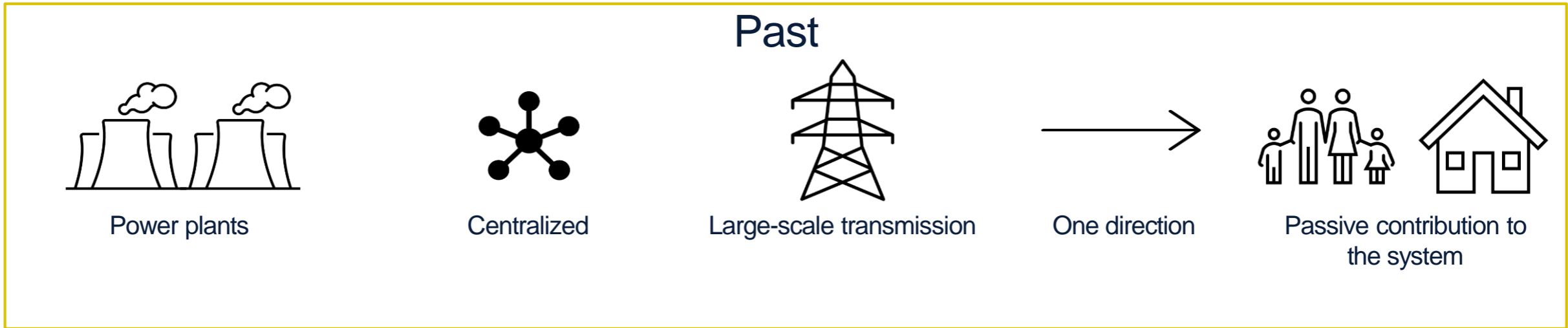# Digitalization in Energy Transition and Water Management
Applications from the Energy Sector

Digitalization will not only transform the energy sector but will also accelerate the transition to net zero targets

Smart Grid will enable the integration of renewable energy sources to the grid

Past

| Power plants | Centralized | Large-scale transmission | One direction | Passive contribution to the system |

Future

| Renewable energy source | Decentralized | Small-scale transmission and battery storage | Both directions | Active contribution to the system |

Digitalization in Water Management will help mitigate risks and increase operational efficiency

Smart water metering	• Demand management and operational efficiency • Monitoring of water usage
SCADA system[1]	• Quantity monitoring • Quality monitoring
Urban flood alert	• Stormwater management • Real-time identification of areas of potential flood risk

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Predictive maintenance will revolutionize how maintenance activities are performed

Machine learning algorithms will enable energy companies to take a data drive approach in making decisions. In the long term, machine learning will be able to self-monitor the plant and take preventive measures.

Artificial Intelligence will enhance the ability for identification of potential anomalies, and inefficiencies that are compromising the functionality of the plant.
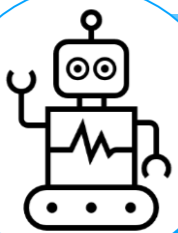
Robots & Drones will be responsible for plant inspections which will reduce risk of injury, reduce time, and increase the accuracy.

Digital technologies enable energy companies to monitor its Energy and Emission factors in real-time

Flare and Process Plant utilization Dashboard

Environmental Dashboard