

# THE COMING AGE OF A SMART GRID AND SMART BUILDINGS

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# What is the “Smart Grid”?

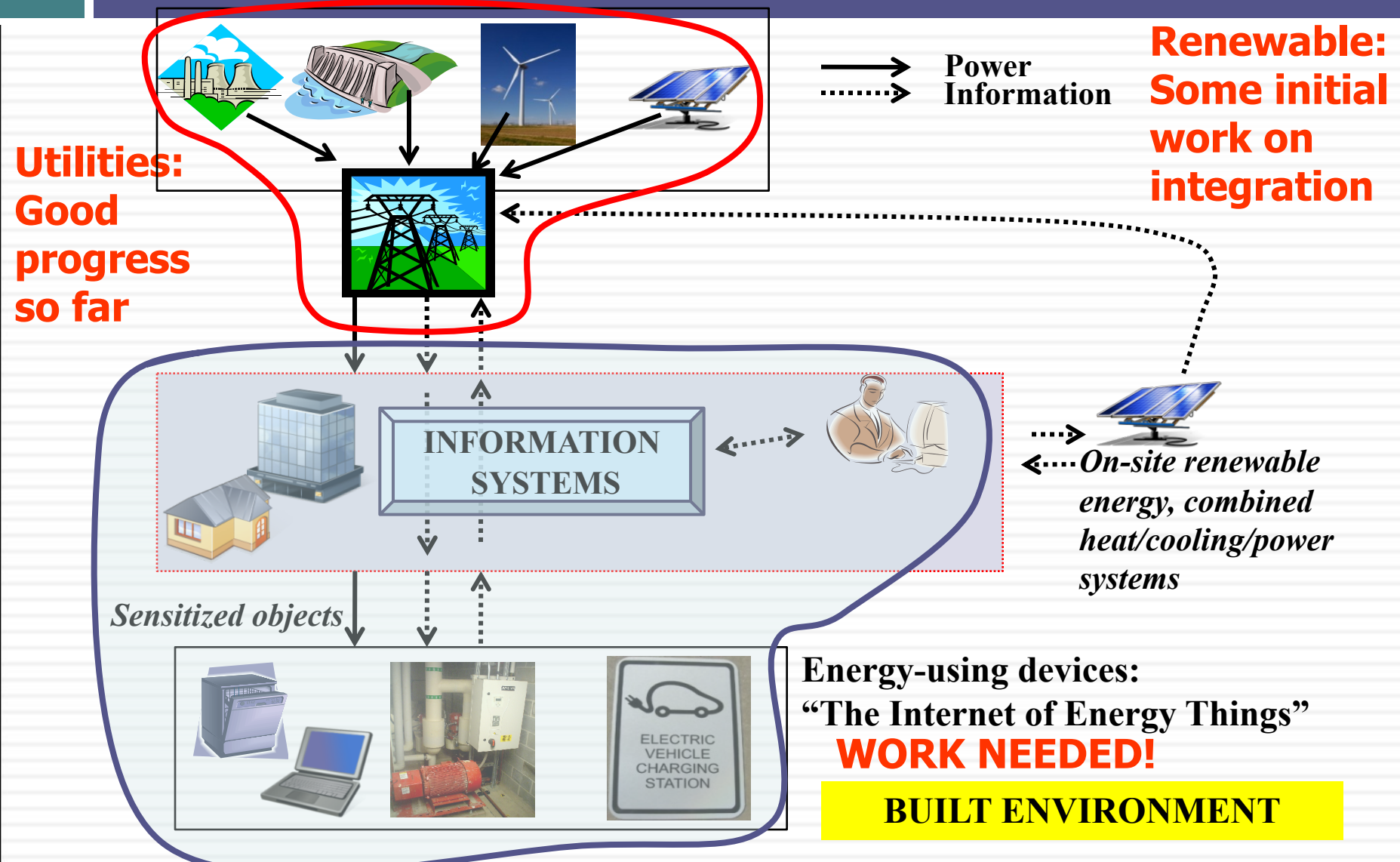
- Modernized electrical grid using information and technology to more efficiently produce, transmit and use electricity
- Each sector of the electricity supply chain has different goals and objectives for the smart grid
- A “smart grid” could also apply to other utility supplies (natural gas, fuel oil, gasoline, water) where smart controls can help alleviate disruptions

# Smart Grid Components

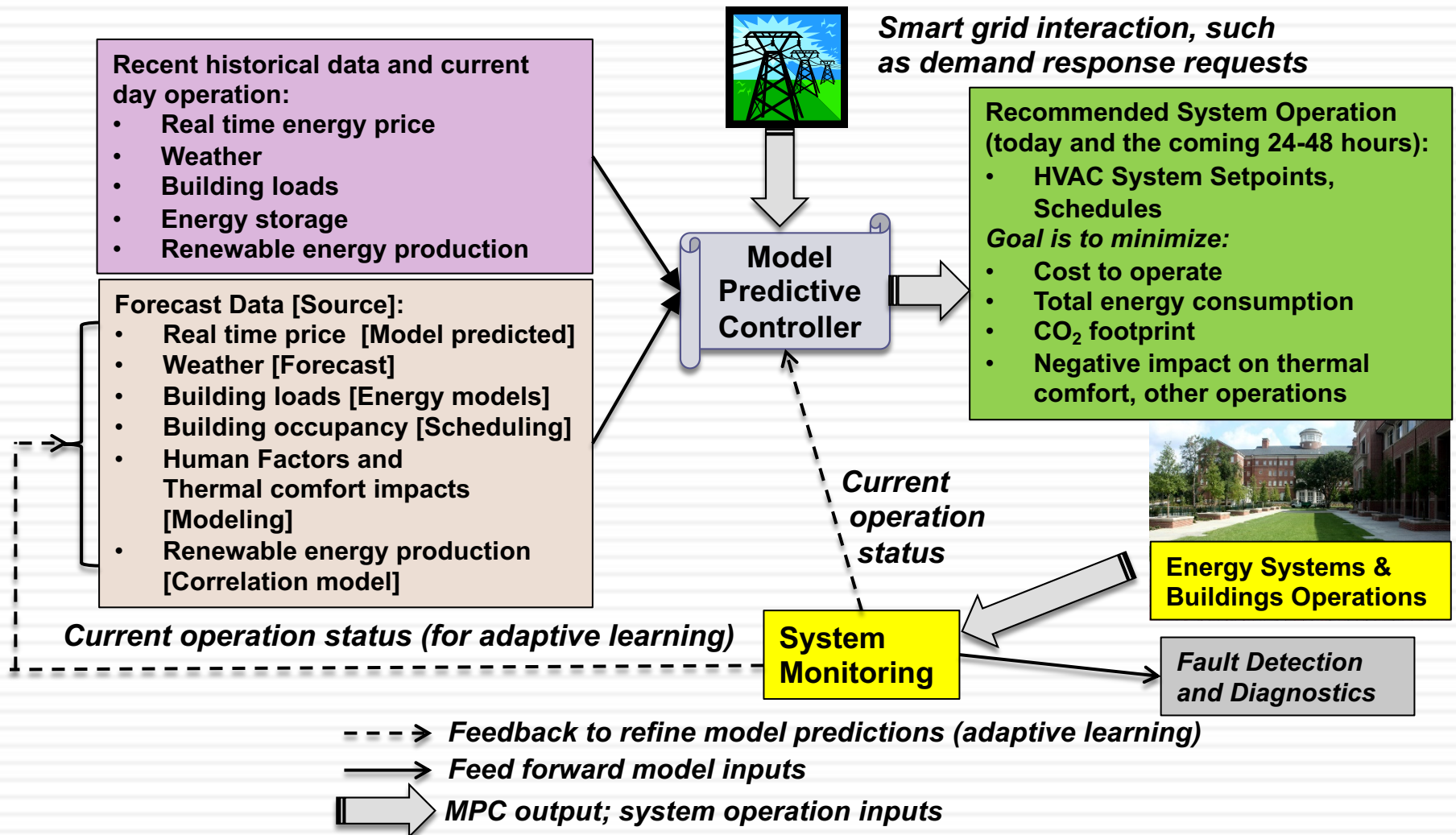
## (Already Here in Some Form)

- Smart meters
- Two-way communication between utility and users (devices/buildings/industrial/transportation)
- Grid management logic and software
- Demand management logic and software
- Information flow, technology
- Load management through energy storage, use scheduling
- “Smart” end-use equipment or appliances

# The Grand Challenge



# Vision for Model Predictive Control



# Human Factor Considerations

- Thus far, development of smart grid, smart buildings has focused on larger industrial or commercial scale technologies
- But it is human beings who will interact with, control and maintain this technology
- Smart grid concepts are also coming to developing countries as well, without the evolutionary aspects as in developed countries

# Thank You!

- Other comments, questions, concerns, advice ...

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