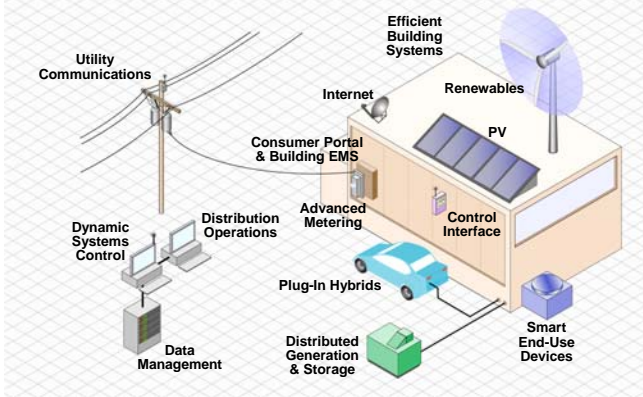


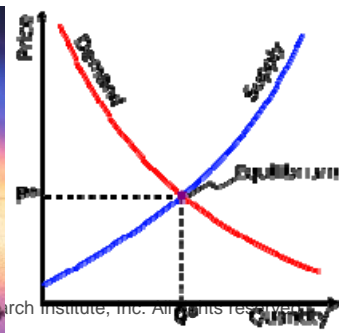


Smart Grid Demonstration Projects focused on Large Scale Distributed Resource Integration



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What is the Smart Grid?

*An advanced, telecommunication / electric grid with **sensors and smart devices linking all aspects of the grid**, from generator to consumer, and **delivering enhanced operational capabilities** that :*

*Provide **CONSUMERS** with **the information and tools necessary to be responsive** to electricity grid conditions (including price and reliability) through the use of electric devices and new services (from smart thermostats to PHEV)*

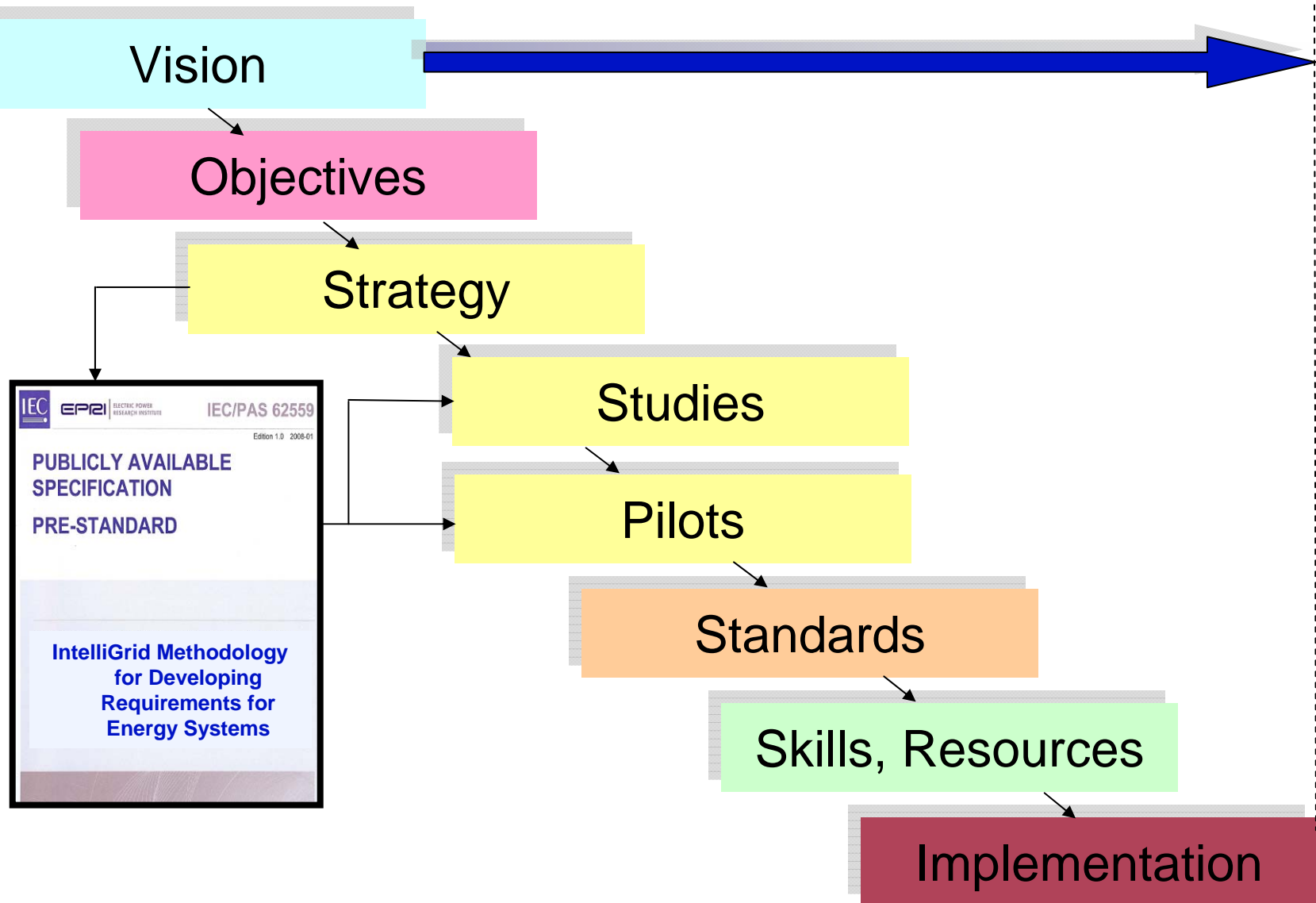
*Ensure **EFFICIENT** use of the electric grid (**optimizing current assets while integrating emerging technologies** such as renewables and storage devices)*

*Enhance **RELIABILITY** (**protecting the grid from cyber and natural attacks, increasing power quality and promoting early detection and self correcting grid “self-healing”**)*

EPRI Smart Grid Research – 3 Categories

- **IntelliGrid Architecture**
 - Foundation for the Smart Grid (Communications, information infrastructure)
 - Industry Standards
- **Applications that Build on the Infrastructure**
 - Smart sensors and substation smart grid architecture
 - Smart distribution systems
 - AMI enabling energy efficiency
 - Renewable integration
 - Asset management and equipment diagnostics
- **Smart Grid Industry Demonstrations**
 - Accelerating standards and technology development through field demonstrations

Utilities are developing smart grid roadmaps



American Recovery and Reinvestment Act of 2009

- Appropriated \$4.5 billion for smart grid programs
- Up to 50% matching funds for eligible entities
- \$100 million/ year for regional demonstration programs
- DOE (w/in 60 days) determine how funds will be allocated
- Commit all funds before September 2010
- Grants paid out within 5 years

Agenda

- Introduction – Mark McGranaghan (EPRI)
 - MMcGranaghan@epri.com
- Overview of the EPRI Smart Grids Demonstration Initiative – Matt Wakefield (EPRI)
 - mwakefield@epri.com
- Modern Grid Strategy (MGS) Developmental Field Test (DFT) Results – Joe Miller (Horizon Energy Group)
 - jmiller@horizonenergygroup.com
- Smart Energy. Now. - Tim Morgan (Duke Energy)
 - tsmorgan@duke-energy.com
- Architecture for Distributed Energy Resource Control including Demand Response and Distribution Automation at FirstEnergy – Joe Waligorski (FirstEnergy)
 - waligorskij@firstenergycorp.com
- AEP GridSmart Program – Tom Weaver (AEP)
 - tfweaver@aep.com

Questions?

