

# Communication and Control (C&C) Program

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# C&C Budget





# Communications and Control (C&C) Program



## A New Initiative with Projects Planned for FY02-03 Start

### Program Goals

Enable smart control of multiple distributed energy resources for:

- Performance optimization in power quality and reliability at all levels
  - » DER components
  - » Packaged systems for facilities (residential, manufacturing, commercial, and federal)
  - » Utility integration
- Economic optimization
  - » Demand-side management (site/enterprise management systems)
  - » Economic dispatch in response to electricity price



# C&C Program FY02 Directions



- **Develop *C&C Technology Roadmap* by April 2002 – A Program Milestone**
- **Implement Roadmap through Open Solicitation(s) of Technologies**
- **Coordinate C&C Technology Development across OPT**



# Technology Roadmap Process



## Government-Industry Partnership to define:

Costs/values of DER

Opportunities

Barriers

Technology needs  
(functional requirements)

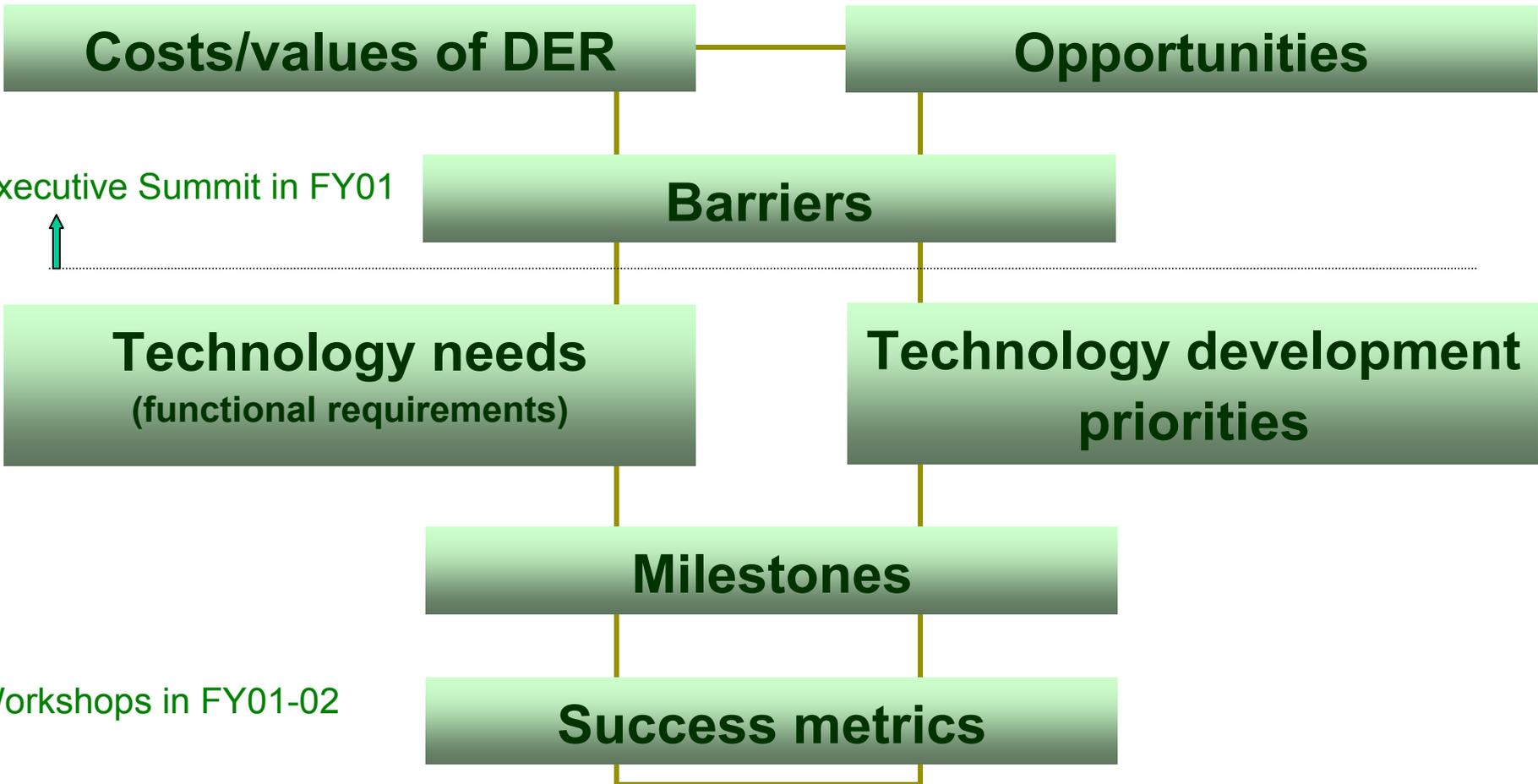
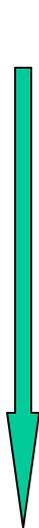
Technology development  
priorities

Milestones

Success metrics

Executive Summit in FY01

Workshops in FY01-02



# Industry-Driven Roadmap Process



**Electric and Gas  
Utilities,  
Power Marketers,  
Independent System  
Operators**

**Energy Service  
Companies**

**Trade  
Associations**

**Industrial and  
Commercial Users**

## **PARTICIPANTS**

**Federal & State  
Commissions**

**Technology  
Developers  
and Suppliers**

**Consumer-Rights  
Groups**

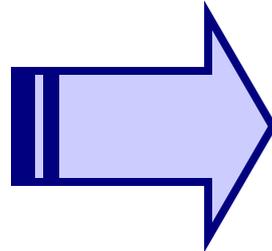
# End State Enabled by the C&C Program



## Effective Integration of Distributed Energy Systems into Customer Operations and Utility Systems

### Current

- Radial grid –  
one-way flow
- Electromechanical  
devices
- Utility control
- Rigid architecture



### End State

- “Plug&play”  
protocols
- Digital devices
- Customer control
- Flexible  
architecture