



Distributed Energy
Regulatory Education and Outreach

Anne-Marie Borbely-Bartis
(Battelle at)

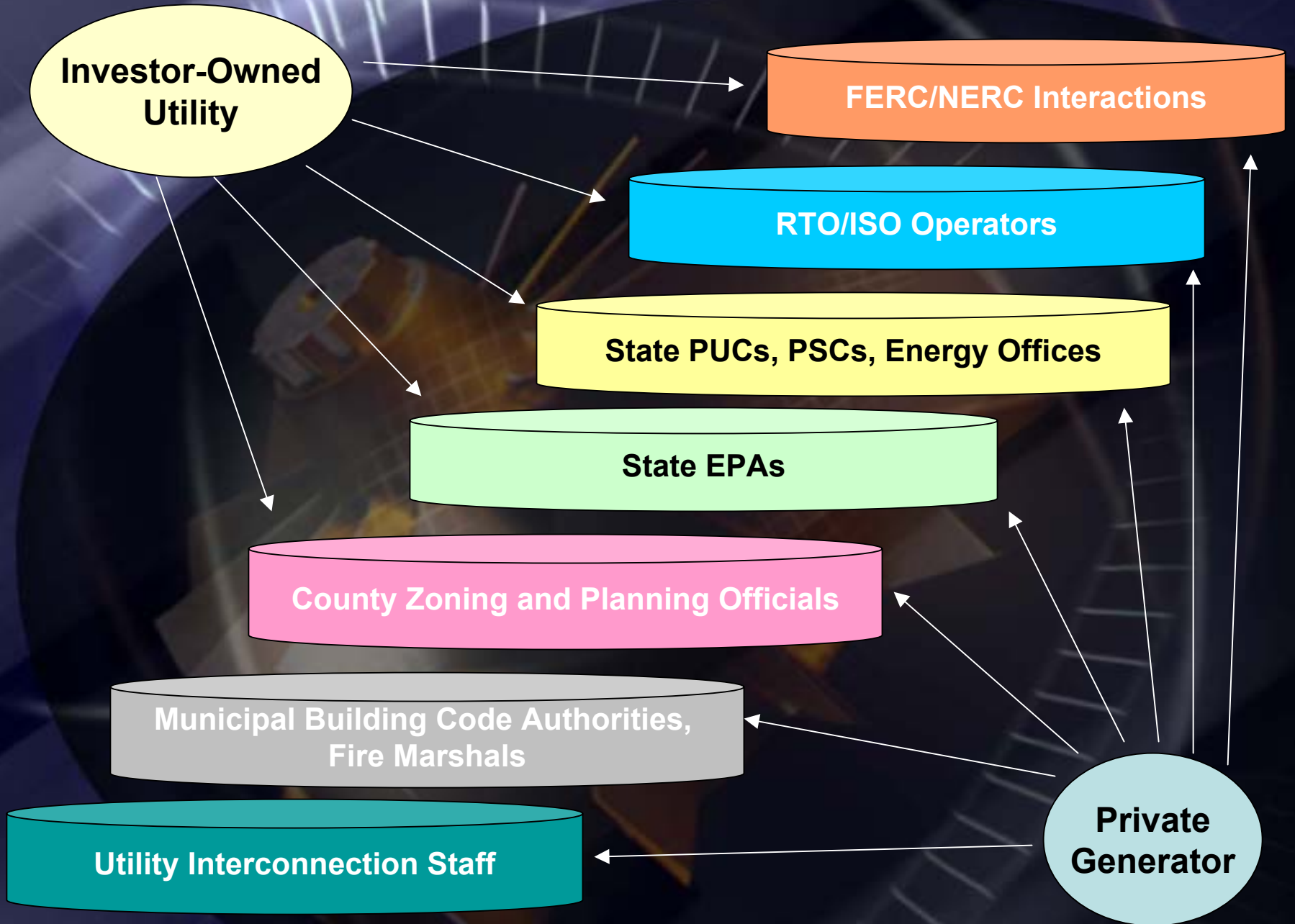
U.S. Department of Energy

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(202) 586-5196
anne-marie.borbely-bartis@ee.doe.gov

Office of Distributed Energy & Electric Reliability

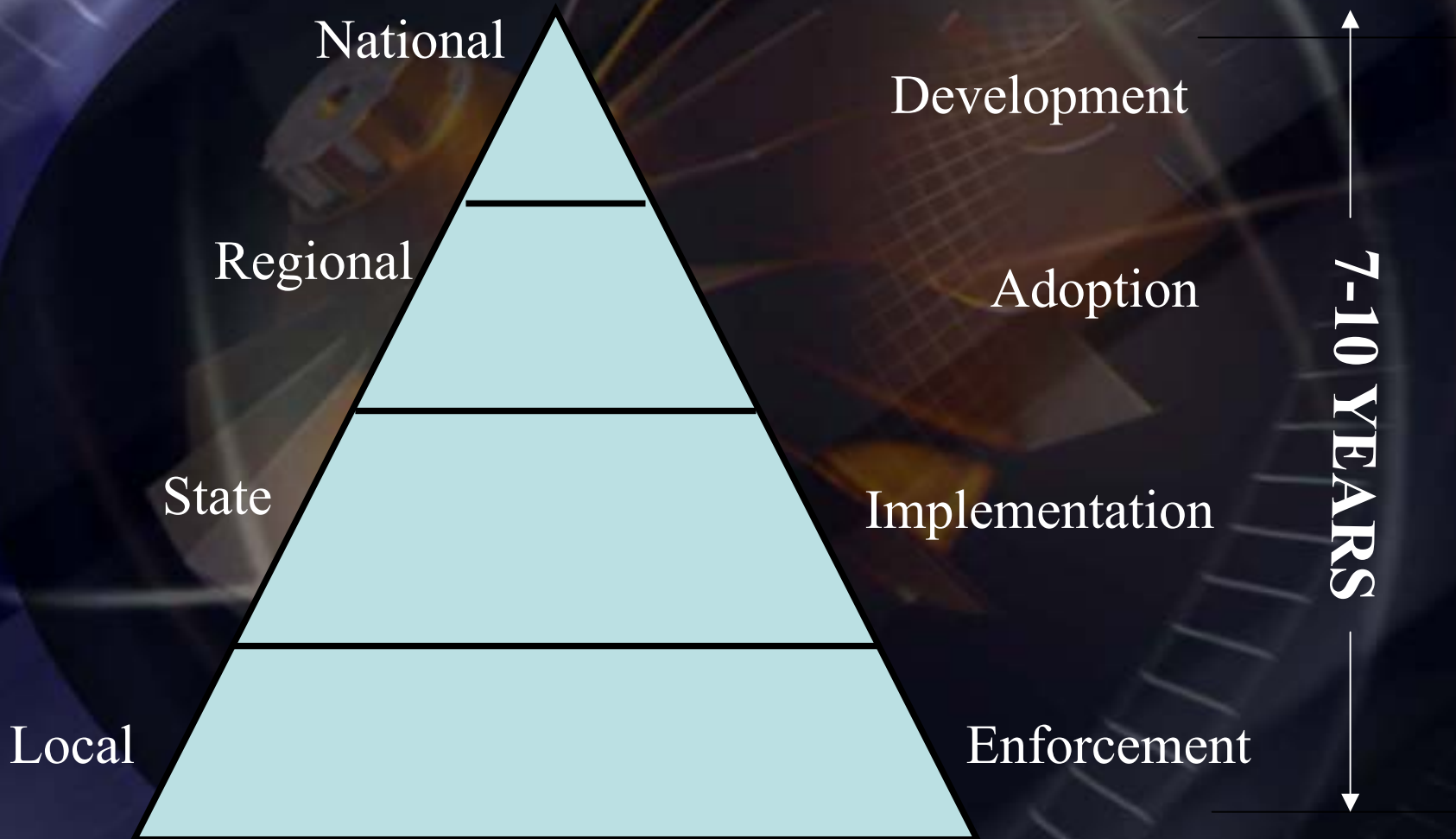
- Microturbines, reciprocating engine generator sets, fuel cells, thermally-activated technologies
- Materials, energy storage, power electronics
- Equipment, bldg. and electrical interconnect stds.
- Communications and control
- Combined heat and power (CHP), “power parks



DE Codes & Standards U.S. DOE Program Support

- Fuel Cells/Hydrogen, Neil Rossmeissel, Tel: 202-586-8668 neil.rossmeissel@ee.doe.gov
- Microturbines, Debbie Haught, Tel: 202-586-2211
– debbie.haught@ee.doe.gov
- BCHP, Ronald Fiskum, Tel: 202-586-9154,
ronald.fiskum@ee.doe.gov
- Electrical Interconnection, Richard DeBlasio (NREL), 303-275-4333, deblasid@tcplink.nrel.gov
- State & Local Education/Outreach, Anne-Marie Borbely-Bartis (Battelle), Tel: 202-586-5196, anne-marie.borbely-bartis@ee.doe.gov

U.S. Standards and Codes Overview



Actual fuel cell permitting experience

“Am I on
camera?.... Is this
one of those
hidden camera
shows?”



Electricity

Can this blow
up?



What's hydrogen?



September 11, 2001

- **12 million sq. ft. office space**
- **200 MW (peak) electrical demand**
- **2 distribution substations**

energy infrastructure “reconfigured” weeks/months



September 11, 2001

- **\$10 billion telecom equipment**
- **50% NY City cellular traffic**
- **Majority of mid-Atlantic web content**

IT network self-configured in 30 seconds

**Demand Elasticity
To Price**

**Market
Restructuring**

**Traditionally
Regulated
Business**

**In securable
Delivery
System**

**Intelligence/Capacity
On Customer Side
of Meter**

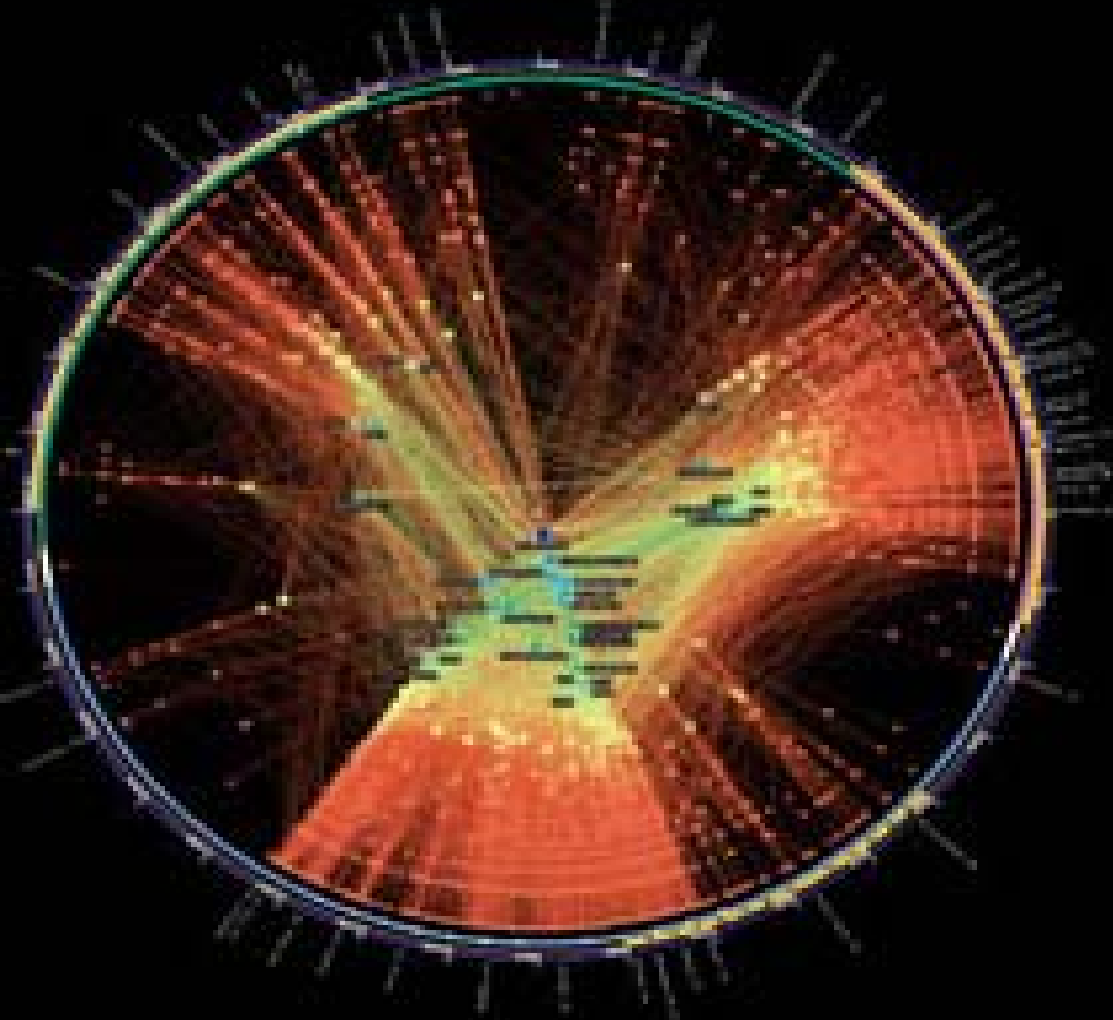
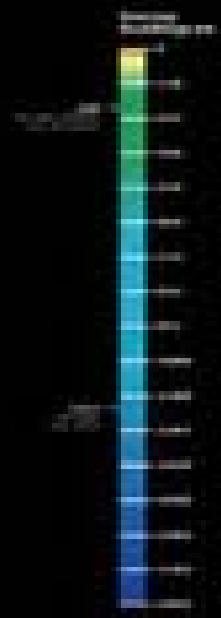
**Automated "Packet-
Switched"
Routing (telecom) in
T&D**

**Event Recovery/
"Self-configuring
Networks"**

**Market/Value
Choice**

**Domestic
Security**

1. **Introduction**
 2. **Methodology**
 3. **Results**
 4. **Discussion**
 5. **Conclusion**



Abstract
 This study investigates the impact of climate change on global biodiversity. The research is based on a comprehensive analysis of data from various ecosystems. The findings indicate a significant decline in species diversity across most regions. The primary drivers of this decline are identified as habitat loss and increased frequency of extreme weather events. The study also highlights the urgent need for international cooperation and the implementation of conservation strategies to mitigate these effects.