

20% Renewables Vision

The Policy Pathway

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Elements of a 20% renewables strategy

- Efficiency/Distributed generation
- Renewables Procurement
- Transmission
- Markets
- New technology

State regulators play a key role in all of these!

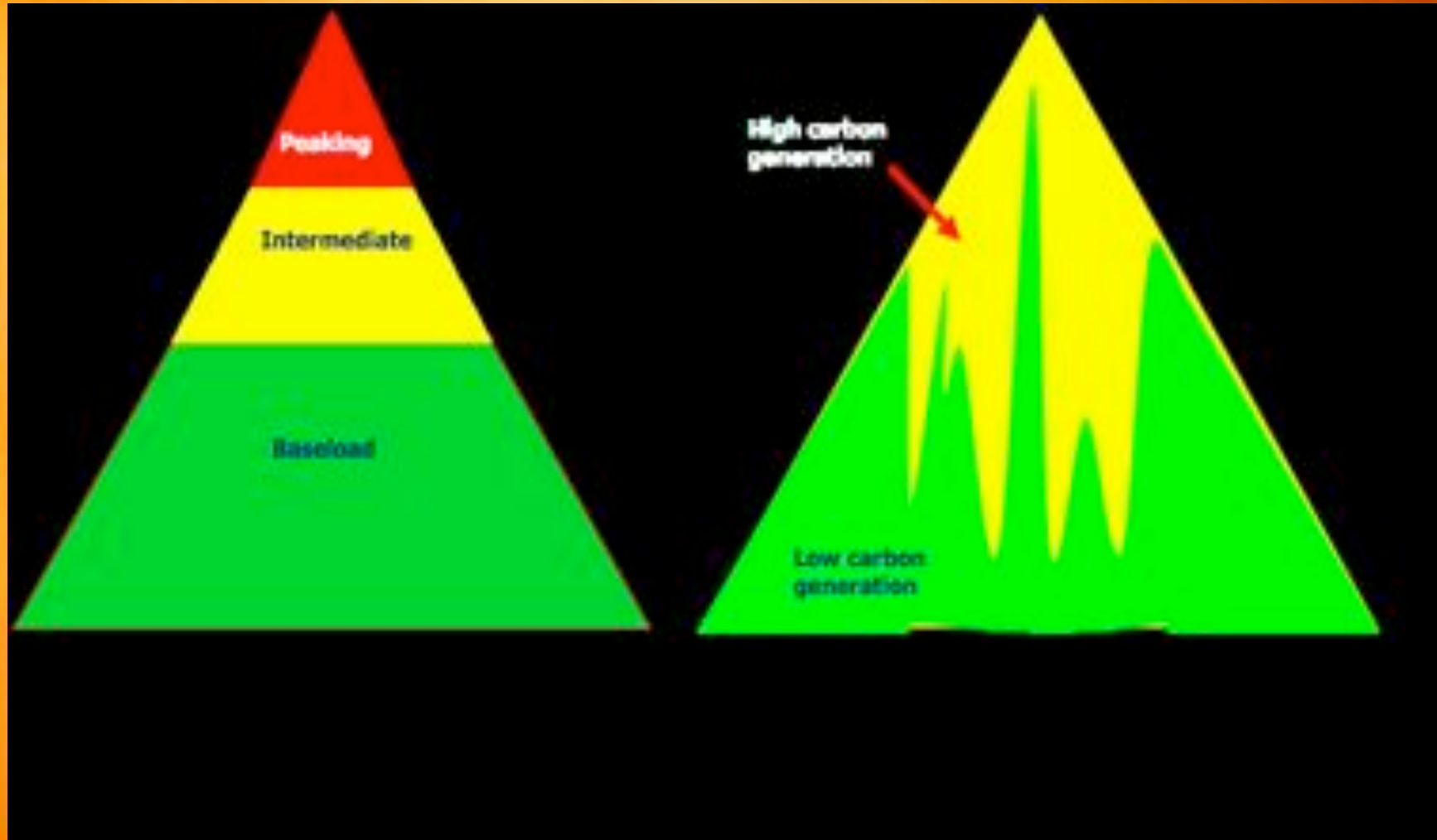
Efficiency/Distributed energy

- Need all we can get--good for
 - Consumers
 - Reliability
 - Planet
- New level of commitment and results
 - Incentives for utilities
 - Need RPS-like targets!
- 20% of a smaller number is more achievable

Renewables Procurement

- State RPS
 - Federal on the way?
- IRP
 - Carbon valuation
 - **Energy first**
 - **Low carbon**
 - Capacity complements energy
 - For reliability
 - Natural gas, hydro
 - Smart grid & controls (behind meter)
- Regional coordination
 - Economies of scale, geography

Portfolio transition



Transmission

- Small part of customers' bills
- Chicken and egg
 - No renewables without transmission
 - No transmission without customers
- Paradox
 - People seldom (if ever) object to existing Tx lines
 - But object to new ones
 - Public needs to connect the dots
 - Renewables ...
 - ... to load

Transmission

- Efficiency of existing system
- REZ
- Planning
- Regional cooperation
- Tariffs
- Q reform
- Oversizing
- Integration
- Operation

Transmission planning

- **Minimum**
 - **Renewables-first study cases**

Regional cooperation

- Geographic diversity, increased capacity factor
- Multiple partners
- Economies of scale
- Cost allocation
- Preapproval

Over-sizing

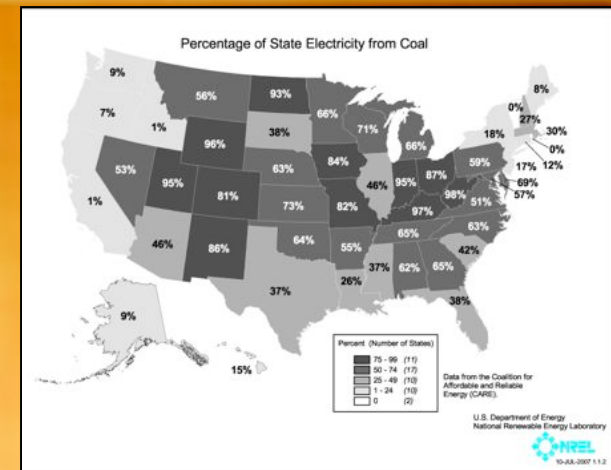
- Corridor efficiency
- Future capacity
- How to pay for incremental capacity?

Markets

- Need to be regional
- Need to be liquid
- RECs
- Ancillary services
- Capacity

Coal

- FUGGEDABOUTIT!
 - Finances
 - Public opposition



NARUC resolution--Nov. 2007

- Greater reliance on low- or no-carbon resources and technologies
- Advanced nuclear and emerging technologies
- Timely recovery of costs
- Preserve system reliability
- Minimize the future cost of avoided GHG emissions
- Research

NARUC (ERE) can ...

- Lead the way to new **vision**
- New mandate for **efficiency**
- **Energy-first resource planning**
- Multi-state, **coordinated procurement**
- **Regional** transmission
 - Cost allocation
 - Preapproval
 - Incentives
 - Oversizing (how to make it happen)
 - Renewables-first planning

Energy-first resource planning

- Low carbon
- Reliable
- Cheaper?
- Next steps?
 - Research
 - Costs
 - How to enhance reliability
 - System simulation
 - White paper
 - Demonstration utility

Conclusion

- **Window of necessity**
- States must
 - Think globally
 - Act regionally
 - Comply with state law
- States must deliver
 - Renewables vision
 - Reasonable rates
 - Reliability



A scenic landscape photograph of a lake and snow-capped mountains, framed by pine trees. The image shows a clear blue sky, a large body of water in the middle ground, and a range of mountains with significant snow cover in the background. In the foreground, several tall, green pine trees are visible, some partially obscuring the view of the lake and mountains. The overall scene is bright and clear, suggesting a sunny day.

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