



EnergyFirst IRP

The Next Generation

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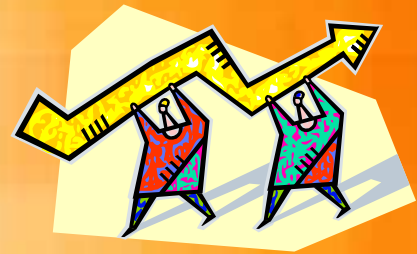
First, the conclusion

- NARUC should lead the development of the next generation of IRP



Traditional IRP drivers

- Reliability
- Cost
- Environment
- Participation



Today's forces include

- Regional markets and grid
- Smart grid
- Climate policy

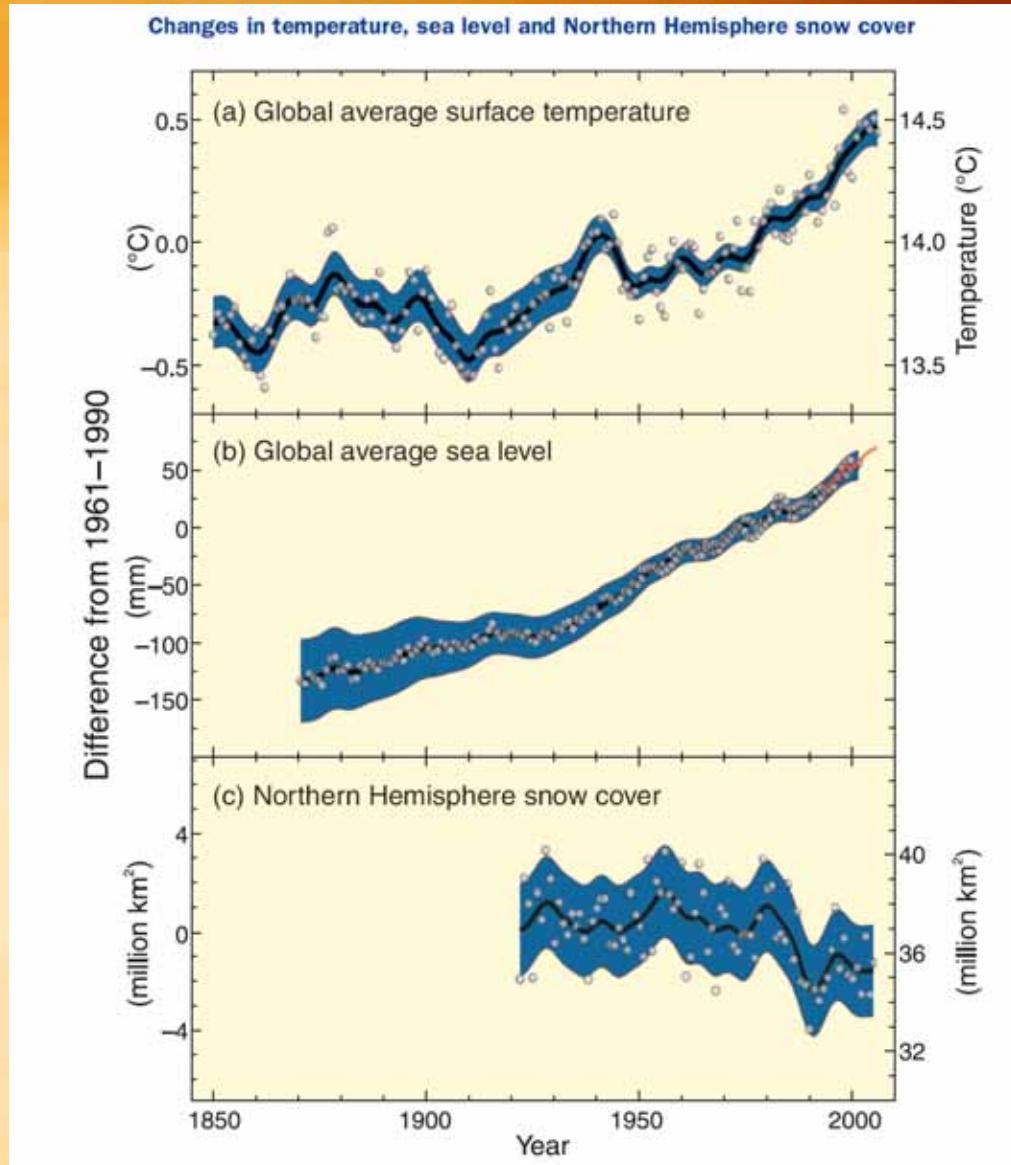


Carbon/climate is a big deal

- The biggest challenge faced by mankind
 - At least since the Pleistocene



IPCC 07



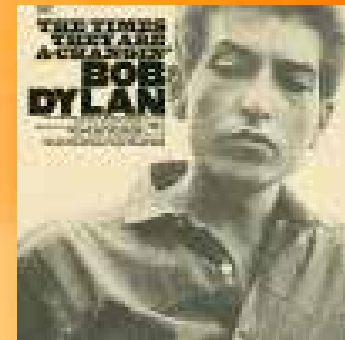
Not so fast!

- The scientific jury is still out, or
- It may not be man-caused, or
- The scientific case may be over
 - But the political case remains

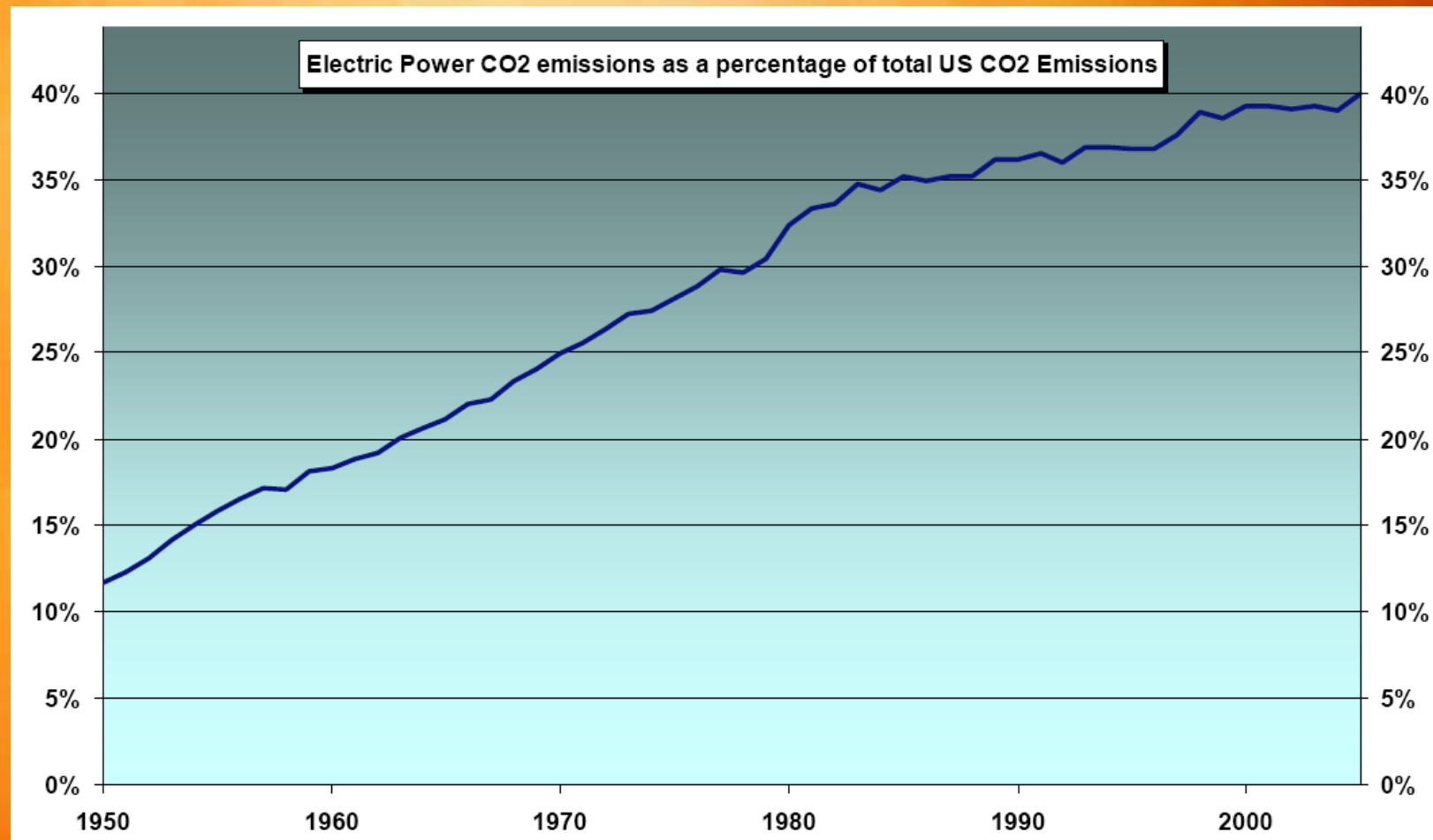


Nevertheless, big policy changes

- Have happened
- Will happen
- People are taking it seriously
 - Internationally
 - Nationally
 - Locally



Electric power CO2 as % of total US

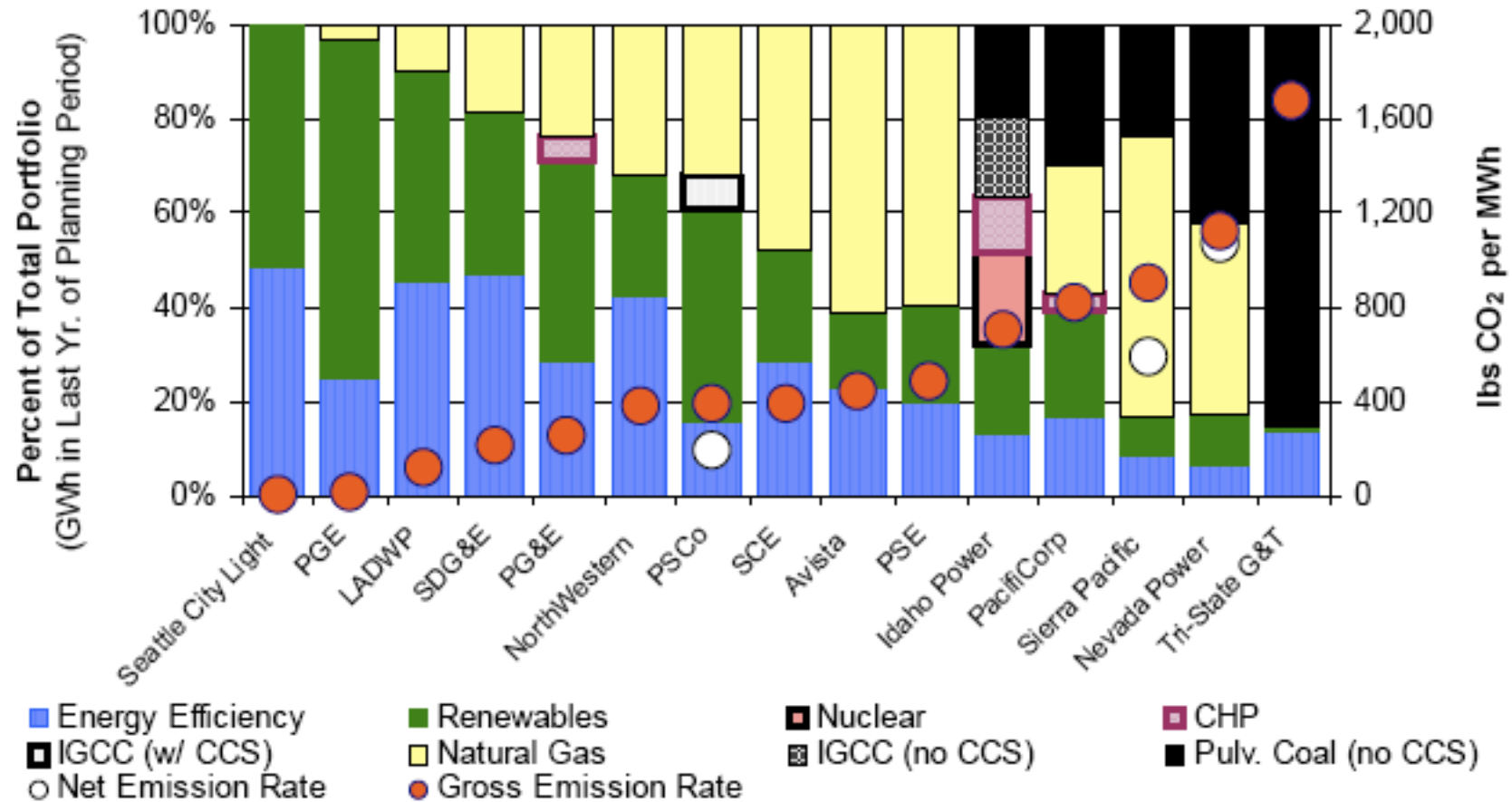


The size of the challenge

- Existing RPS—25 states
 - Minnesota—25%
 - California—20-33%
 - Illinois—25%
 - New York—25%
 - New Hampshire—25%
- High case
 - 85,000 MW wind in West



Different LSEs



Climate policy

- RPS
 - Federal on the way?
- No coal
 - 18 states ban new coal
 - CCS R&D
- Carbon tax
- Carbon cap and trade
- Carbon portfolio standard



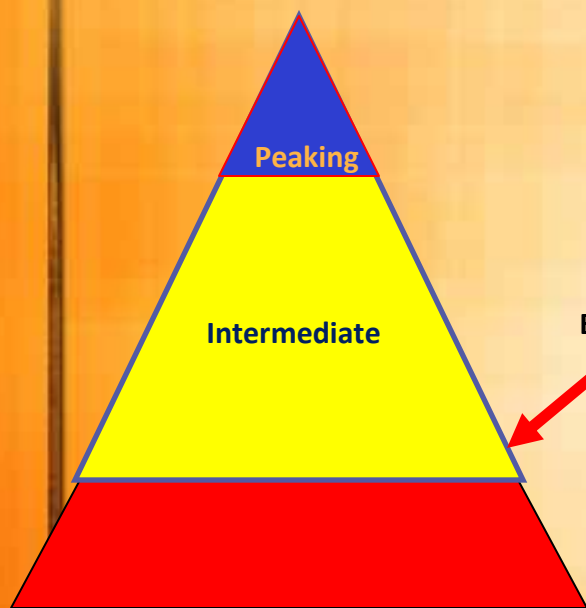
EnergyFirst resource portfolio

- Low carbon resources first
- Add dispatchable generators for reliability
- Important operational issues
 - Balancing
 - Integration

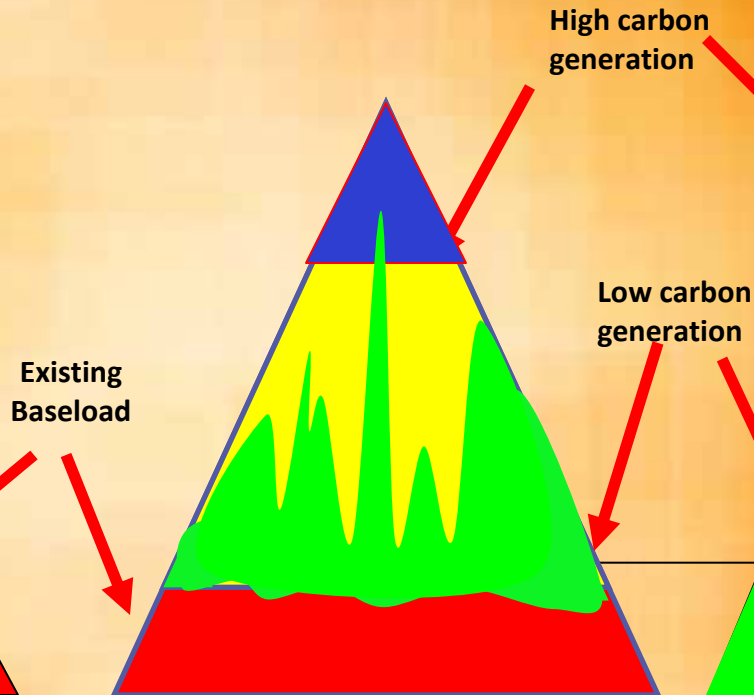


LSE Portfolio transition

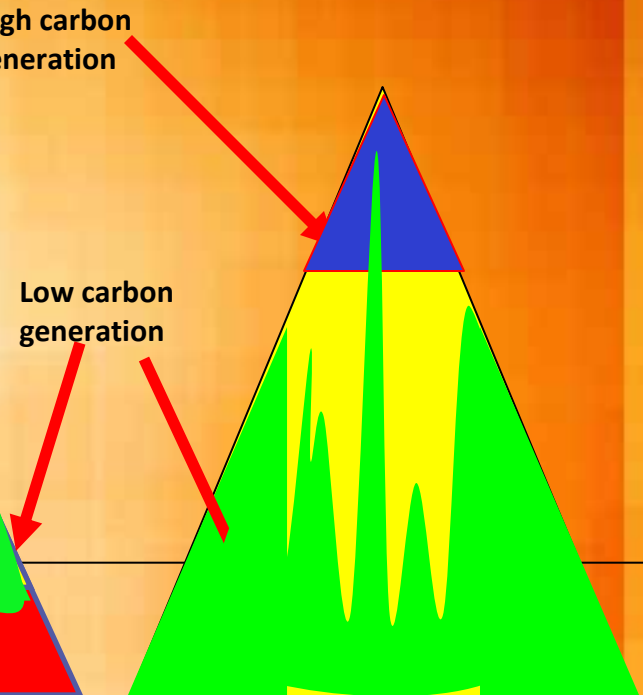
Traditional Pyramid



Transition Pyramid



Low Carbon Pyramid



IRP will evolve



- **Window of opportunity/necessity**
 - States can lead
 - Public policies are on the way
- One size won't fit all
- Lead but don't push
- State legislation may be needed
- Outreach important

When you come to a fork in the road



Take it.

Yogi Berra



A scenic landscape photograph of a lake and snow-capped mountains, framed by pine trees. The image shows a large body of water in the middle ground, with a range of mountains covered in snow in the background. In the foreground, several tall pine trees are visible, some framing the view. The sky is clear and blue.

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