Integrated Resource Planning: Process and Rules in the West

Resources for New Mexico

New Mexico Public Regulation Commission
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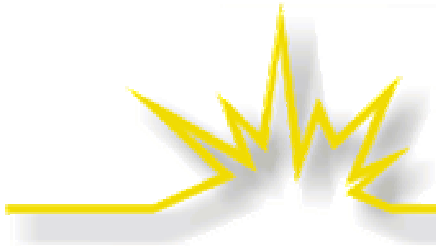
Richard Sedano



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Introduction

Regulatory Assistance Project

RAP is a non-profit organization, formed in 1992, that provides workshops and education assistance to state government officials on electric utility regulation. RAP is funded by the Energy Foundation, US EPA and the US DOE.

Richard Sedano was Commissioner of the Vermont Department of Public Service, 1991-2001, and presently serves on the Montpelier Planning Commission. He is the facilitator for the Mid-Atlantic Distributed Resources Initiative.

New Mexico's Efficient Use of Energy Act

- Requires public electric and gas utilities to periodically file integrated resource plans (IRPs)
- Goal: **"to identify the most cost-effective portfolio of resources to supply the energy needs of customers"**
  - Leaves some ambiguities for the PRC
- Case #05-00189-UT, NM PRC ordered Phase II workshops to develop proposed IRP rules

Vermont Law: 30 V.S.A. § 218c. Least cost integrated planning

(a)(1) A "least cost integrated plan" for a regulated electric or gas utility is a plan for meeting the public's need for energy services, after safety concerns are addressed, at the lowest **present value** <u>**life cycle**</u> cost, including **environmental** and **economic** costs, through a strategy combining investments and expenditures on energy **supply**, **transmission and distribution** capacity, transmission and distribution efficiency, and comprehensive **energy efficiency** programs.

(2) "Comprehensive energy efficiency programs" shall mean a coordinated set of investments or program expenditures made by a regulated electric or gas utility or other entity as approved by the board pursuant to subsection 209(d) of this title to meet the public's need for energy services through efficiency, conservation or load management in all customer classes and areas of opportunity which is designed to acquire the full amount of cost effective savings from such investments or programs.

(b) Each regulated electric or gas company shall prepare and implement a least cost integrated plan for the provision of energy services to its Vermont customers. Proposed plans shall be submitted to the department of public service and the public service board. The board, after notice and opportunity for hearing, may approve a company's least cost integrated plan if it determines that the company's plan complies with the requirements of subdivision (a)(1) of this section.

- How should New Mexico's IRP rules be designed to best serve New Mexico's needs?

Guidance from the Efficient Use of Energy Act

- Supply and demand-side resources shall be evaluated on a "consistent and comparable basis"
- IRPs shall consider "risk and uncertainty of fuel supply, price volatility and costs of anticipated environmental regulation"
- "Preparation of resource plans shall incorporate a public advisory process"
- The PRC "shall take into account a public utility's resource planning requirements in other states"

Who in the West does IRP?

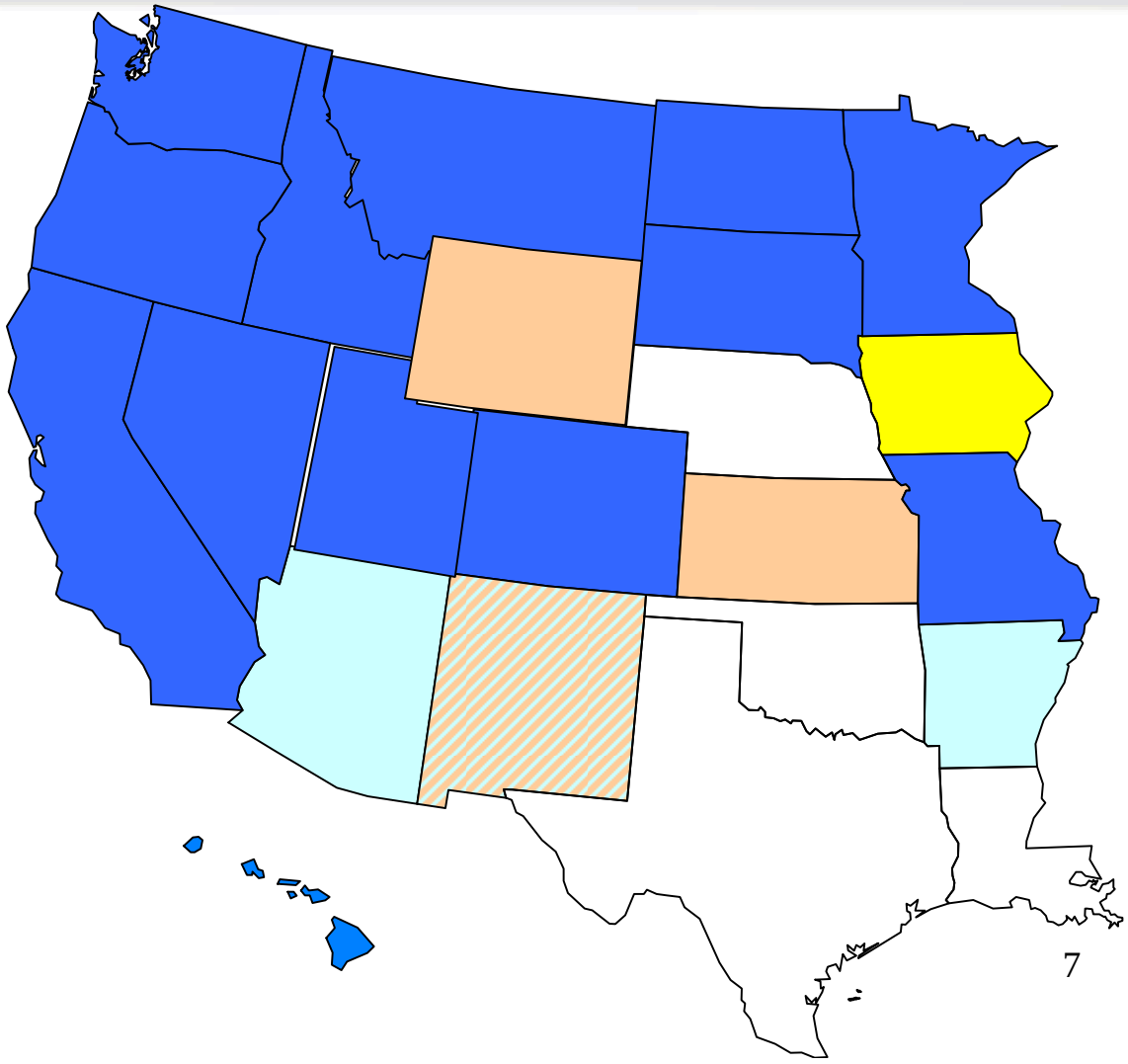
Long-Term Resource (IRP) Planning

Open IRP investigations

DSM planning only

Limited resource planning (individual settlements)

No planning process



A Rose By Any Other Name . . .

Integrated Resource Planning is also known as:

- Least Cost Planning (Colorado, Oregon, Washington)
- Long-Term Procurement Planning (California)
- Portfolio Management (Montana)
- Resource Planning (Wyoming)
- Ten-Year Plans (South Dakota)

IRP in the West – at a glance

- IRP is the dominant form of energy resource planning in the Western US
- Plans are generally filed biennially
- Filings may be staggered
- Planning horizons range from 10 – 40 years; 20 year horizon is most common

IRP Policy Issues

- Organization
- Public Discussion
- Criteria, level of detail
- Time horizon
- Scope of resources
- Resource constraints
- Benefit/Cost method
- Place for environment
- Nature of risks
- Incentives
- Notice or Approval
- Transparency
- Filing cycle period
- Expectations for future investments
- Regional Concerns

Key Points about Integrated Resource Planning

- Consumers and shareholders are better off with an open, efficient process that has an objective, is focused on customers, factors in all options, weighs risks, considers many scenarios, helps utility succeed in implementing or adapting the least cost plan
- This is a big topic, so I wanted to set a tone before going for details

Organize for Success

- IRP is the responsibility of the utility
  - Transparency lets others "own" the process too
- IRP should be organized by a senior person in charge of resource
  - Bring together disparate specialists in the company under one strategic vision. No silos!
- IRP should be consistent with the business plan of the company
  - Success with the plan should be good for customers, employees and shareholders – suggests decoupling

Public Input and Participation

2 major opportunities for public input on IRP

- During plan development
  - Appointed **advisory** groups (Montana, Idaho, North Dakota)
  - Utility-sponsored **workshops** (Utah, Oregon, Washington)
  - **Collaborative** process (Minnesota)
- During Commission acceptance process
  - Public **comment** period (Nevada, Montana, Idaho, Washington, California, Minnesota)
  - Formal or informal **hearings**, generally without litigation (Montana, Idaho, Utah, Washington, Oregon, Minnesota)
  - Litigated hearings (California, Nevada)

Role of the Public

- Ask questions
- Express priorities
- Check work

- Important for utilities to accept inquiries, and keep soliciting
- Make convenient places for public to “look inside” the planning process

Criteria

- A utility should understand expectations
- An IRP is complex and comprehensive
  - Debate should be about priorities and vision, not about process details
- Important whether or not PRC approval is required
  - PRC should reject inadequate filings
- Rule should articulate expectation – helps all

Time Horizon

- A long time
- As far as you can see, and then some more
- Scenarios running out key drivers takes plan past visible horizon
- Minimum: 10 years
- Limit: Pick among 15, 20 (NV), 30 years
  - Life (physical, economic) of resource is good
- Action Plan: 3 - 5 years

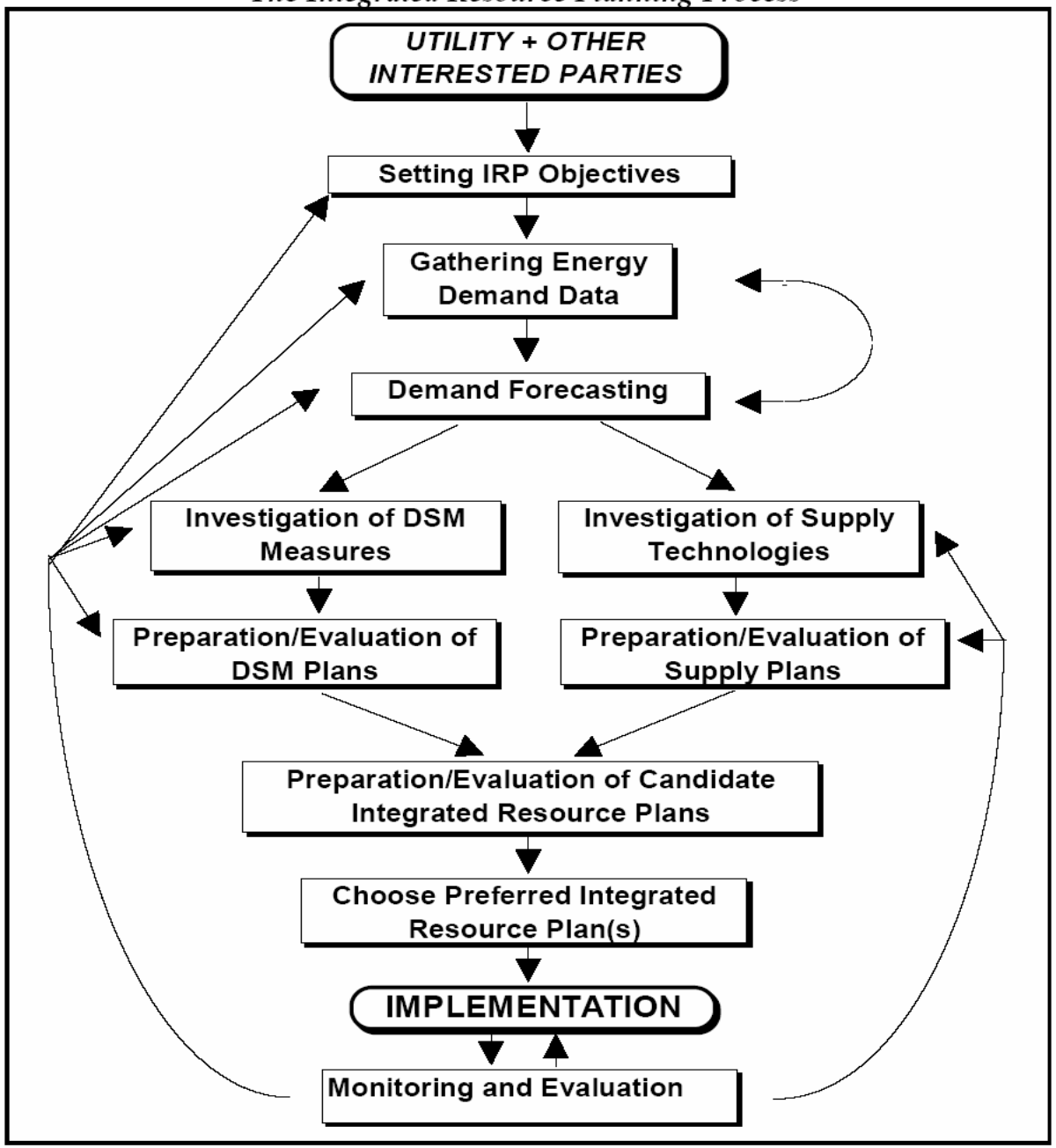
Scope of Resources

- All (they are all substitutes to a significant degree) can be optimized to meet service
  - Transmission, distribution, generation, distributed energy (EE, DR, DG, Storage…)
    - Capacity value for efficiency only realized if load is reconstituted absent EE
  - Rates should also be considered for their effect on consumption, and therefore, resources
- A process to integrate should have specific steps, with some permitted opportunities for flexibility

Start with Load Forecast

- Understand end uses
  - What has an impact?
- Understand load profiles
  - Who and when?
- Understand geography
  - Where?
  - Connect with circuit performance

The Integrated Resource Planning Process



Tellus Institute IRP Best Practices

Benefit Cost

- What is included?
- What kind of test of use?

Some Benefits

- Reliability
- Reduced losses
- Deferred Distribution
- Deferred Transmission
- Deferred Generation
- Mitigation of price spikes
- Mitigation of market power
- Lower overall cost
- Direct customer benefits
- Indirect benefits
- Environmental benefits (where?)
- Corporate benefits (>>>either lower rates or more earnings)

Some Costs

- G/T/D DER Capital
- G/T/D DER Expense
- Marketing, customer care
- Delinquent accounts
- Inconvenience
- Regulatory Process
- Customer costs
- Fixed vs. Variable
- Indirect costs
- Environment costs
- Pay more for risk management
- Or pay more for risk exposure

Benefit Cost Process Issues

- Time period
- Discount rate
- Cost benefit test – comprehensive is better
- Sensitivity – consider many scenarios
- How determinations are reassessed

Some States Have Hard Constraints

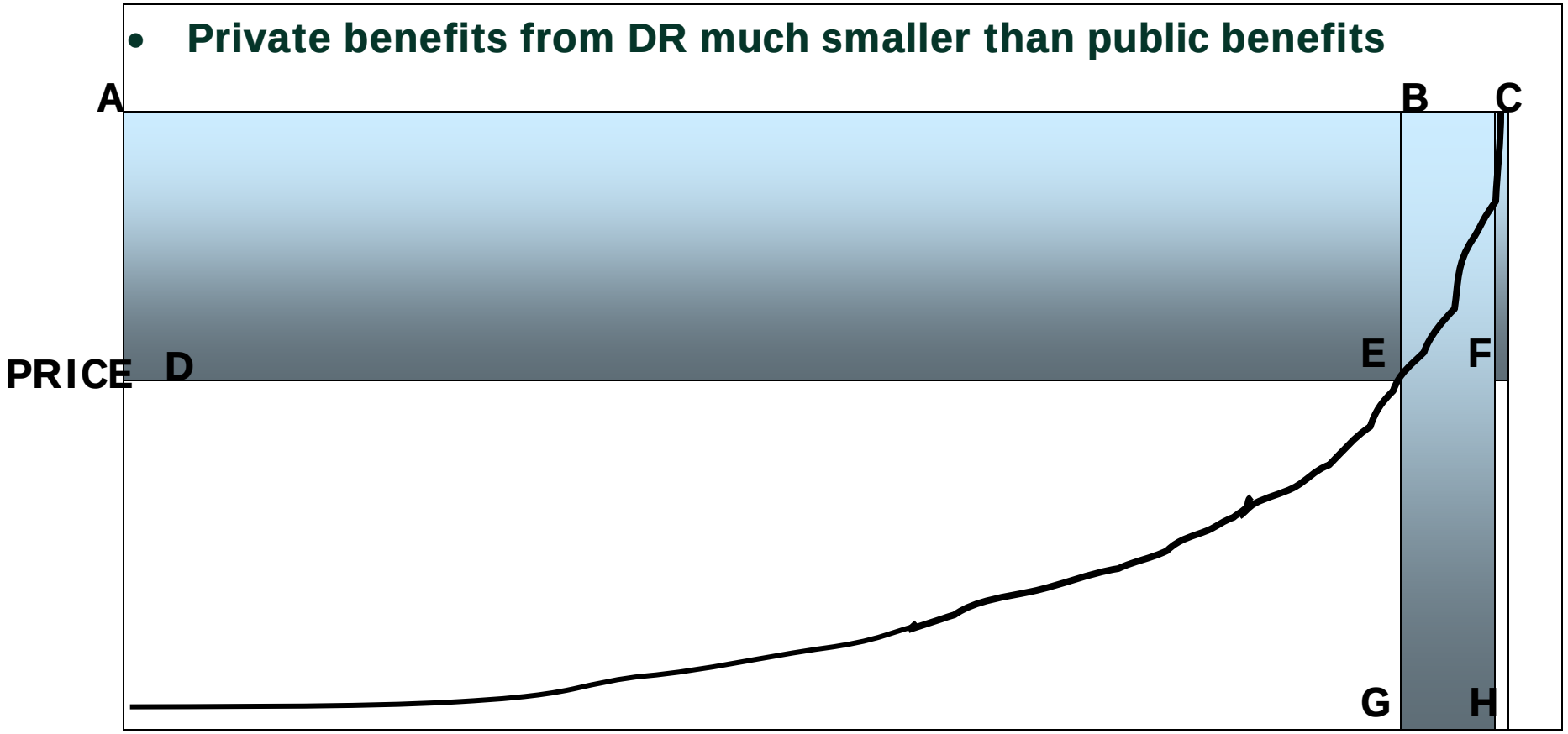
- Minimum EE spending
- Renewable or efficiency Portfolio Standard
- DER Goals
- Each of these can calm debate, stabilize implementation, provide focus
  - For example, “Sales growth brings problems”
- Commissions may feel they need statutory back-up, but if they have latitude, these can be very helpful

Another note about standards or goals

- When public benefit from investment is much greater than private benefit
  - Such as a measure likely to reduce market clearing price for power
- Then it government should consider coaxing or assuring this investment, since individuals will not be motivated economically by the public benefit

WHY ARE GOALS DESIRABLE

- **Private benefits from DR much smaller than public benefits**



Environment

- Regional Haze
- NOx Attainment
- Carbon
- Water

- Environmental Costs
  - Cost of allowances
  - Cost of pollution control: needed and contingent on future limits
  - Damage costs
    - Construction, extraction, processing, transport, waste, land and water

Environment

- Emerging constraints, uncertain magnitude
- Financial implications
  - How much will compliance cost?
  - Will cost be spread over a broad market or will it be concentrated?

Risks

- Rigorous assessment – Best, if possible
- Directional approximation – Good enough in many cases
- Don’t ignore something just because you can’t measure it

Tirello Risks

- Changed public policy
- Rating agency
- Credit
- Counter-party
- Trading
- Environmental
- Power plant operation
- Power plant construction
- Weather
- Accounting
- Capital markets
- Political
- Regulatory
- Planning
- Fuel price
- Fuel availability
- Transmission
- Employee
- Merger / Acquisition
- Wall St. Research

Solutions

- Diversification
  - Size
  - Fuel
  - Technology
  - Duration, ownership
  - Starts and Stops (laddering)
  - “Quiz” the market (i.e. RFP)
- Avoid growth
  - Energy Efficiency
    - Programs
    - Codes and standard
    - Government as example
- Physical vs. financial
- Generation Swaps
- Split risk with others
  - Wholesale sellers
  - Retail buyers (pricing)
- Targeting
  - Characterize resources to respond to system conditions
  - Invest in high marginal cost, high value places
  - Cap circuit demand

Solutions

- Monte Carlo Simulations
  - Northwest Power and Conservation Council
  - Recognize that no one will reliably predict the future
    - Some may be lucky for a while
  - Run a lot of scenarios
  - Get smart about vulnerabilities and strengths
- Monetize externalities (test different values)

Solutions

- Remove bias against some resource or policy options
  - Address the throughput incentive
  - Be explicit about what market forces can do
  - Learn more about high marginal cost opportunities
  - Consider tolerance for alternatives to flat rates
- Add incentives for particularly valuable actions, if needed, or to address risk symmetry. Harmonize public, private interest

IRP and Competition

- The Goal of IRP is to reduce costs
- Competition among resources is a means to get there
- IRP is needed to tell you which ones win
- The more diverse a resource mix you have, the more you need IRP
- Judgment is inevitable – how will commission and utilities manage confidence?

Energy Efficiency Is a Strong Competitor

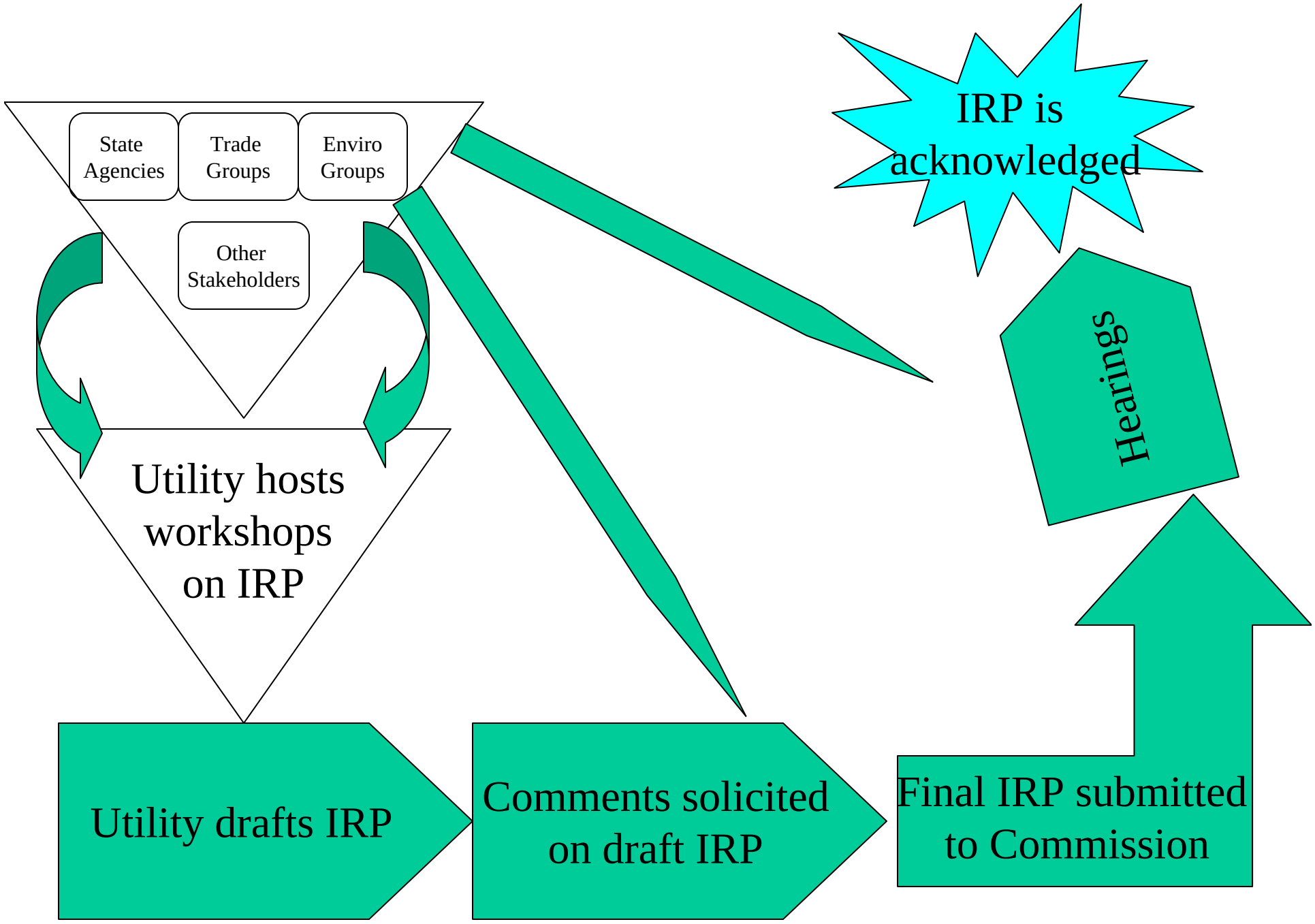
- Cost competitive
- Manageable, modular
- Reliable
- Dampens volatility
- Dampens demand for new large scale facilities
- Customers are in the mix

Renewables Can Reduce Risk

- Modular
- Many are clean
- Stable fuel cost
- Reliable fuel supply, promoting energy security

Commission Actions on Utility Plans

- Two basic approaches: Acknowledge or Approve
- **Acknowledge**
  - Commission acknowledgement confirms that plan has been received and basic IRP requirements have been met
  - Commission may decline to acknowledge a utility's IRP (Utah – Pacificorp)
  - Commission may choose to reject portions of the plan, identify concerns to be addressed by the utility, or comment on the plan
  - Little IRP-related monitoring of utility actions; enforcement is done in rate cases.
  - Idaho, Montana ("review"), Oregon, Utah, Washington, Wyoming


State Agencies
Trade Groups
Enviro Groups
Other Stakeholders
Utility hosts workshops on IRP
Utility drafts IRP
Comments solicited on draft IRP
Final IRP submitted to Commission
Hearings
IRP is acknowledged

Commission Actions on Utility Plans

- Approve
  - Plans are approved in whole or in part. Some portions may be rejected. Utilities may be asked to revise and resubmit portions of the plan.
  - Approval may be of the IRP itself (California, Colorado) or of the short term "action plan" (Nevada)
  - Approval of plans does not guarantee rate recovery for individual investments, although plans may be used as supporting evidence in prudency reviews, rate cases, etc.
  - Utility actions may be monitored via periodic status reports. Ultimate enforcement occurs in rate cases.
  - Nevada, California, Colorado
- Approval of decision-making process (Vermont)
  - 2004 Order clarified that approval of the plan is approval of the decision making process only
  - Utilities are expected to adapt to changing conditions by continuously making operational decisions that result in the least-cost plan.
  - Specific actions and decisions may be subject to a prudence review, which would occur during rate cases.
  - Prudence reviews will investigate whether actions were taken in a manner consistent with the process outlined in the IRP.

Transparency

- Objectives: no surprises, logic of plan is evident

- Still room for disagreement, but not about facts, rather, about weights and priorities
- Transparency for whom?
  - Regular intervenors? This is what most expect and what most do. OK. Result: Public remains ill-equipped to appreciate big decisions
  - Everybody? This is hard. Half-measures don't work. How about a town by town approach to appeal to local opinion leaders. Just because it has not been tried does not mean it won't work. How can the public be more prepared to handle tough dilemmas,

Washington UTC website

Regulated Industries > Energy >

Least Cost and Integrated Resource Plans by Company

A Least Cost Plan (LCP) or Integrated Resource Plan identifies a company's long-term energy resource strategy, that is, how it will meet future demand at the least cost to ratepayers. Commission rules call for least cost plans to be prepared by both electric and natural gas utilities. The UTC is currently reviewing its rules for least cost plans.

Link to Avista's 2007 Integrated Resource Plan

Electric: http://www.avistautilities.com/resources/plans/electric.asp

Gas: http://www.avistautilities.com/resources/plans/default.asp

Link to Northwest Natural's 2004 Least Cost Plan

http://www.nwnatural.com/cms300/content_aboutus.asp?id=480

Link to PacifiCorp's 2004 Integrated Resource Plan

http://www.pacificorp.com/Navigation/Navigation23807.html

Link to Puget Sound Energy's 2005 Least Cost Plan

http://www.pse.com/energyenvironment/supplypdfs/preface.pdf

Link to Cascade Natural Gas 2004 Integrated Resource Plan -

http://www.cngc.com/_docs/2004IRP.pdf

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Filing Cycle

- Balancing keeping up with changes in the world, with level of effort to produce an IRP
- My intuition: 3 years (NV, VT), more often at utility option, or through amendments
  - If utility sees material change in the world and wants to bring regulators into their new thinking right away

Expectations for Future Investments

- Utilities always want pre-approval
- Regulators never want to grant pre-approval
  - Guess who wins?
- IRP needs to matter
  - IRP should be pivotal in certificate of need
- IRP should match up with utility business plan

Impact of IRP on Resource Investments

- IRP *does not* guarantee pre-approval of a resource investment. In all states, investments undergo prudency reviews or are reviewed in rate cases.
- Findings within the IRP may be used as supporting evidence and have weight in rate proceedings or prudency reviews (Nevada, Utah, Washington, California)

Regional Concerns

- Utilities do not control their own destiny
  - What others do affects utilities in a state
  - Actions by a state's utilities affect others
- Regional considerations have value
  - Value is most fairly allocated if all states take a regional approach

When You Are There: Incentives Will Take You

- Service will still be good
  - Customers may get more choice or value
- Management on all sides will be moving to where the puck is going, not where it is
  - New skills may be needed
- Public and private interests more aligned
  - Motivated by compensation, recognition

Thanks for your attention

- rapsedano@aol.com
- http://www.raponline.org
- RAP Mission: ***RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.***