

*Colorado General Assembly
Joint Select Committee*

Rising Utility Rates

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Objectives and Goals Today

1. Understanding the current incentive structure
2. Knowing that fuel costs are a big operating cost
3. Learning about possible solutions

How We Got Here

1. Generating electricity required heat to spin a turbine. Making heat required burning a fuel.
2. 1973 Oil Embargo (plus rail strike) created a very sharp spike in energy prices
3. Utilities would have lost a lot of money if they had to keep paying for fuel
4. All 50 states and D.C. adopted an FCA (Fuel Clause Adjustment) moving 100% of costs to customers.



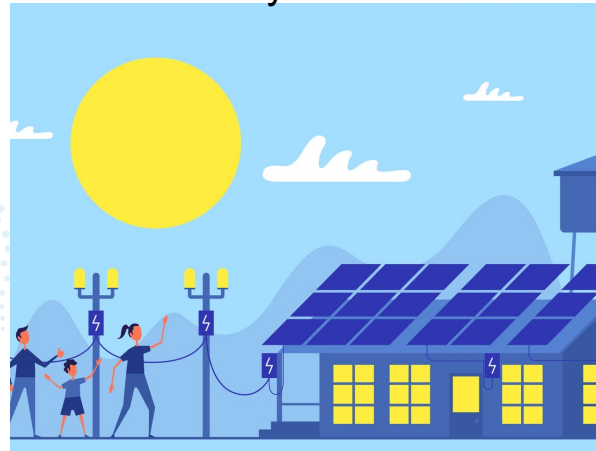
...The World Changed

We invented many ways to generate and manage electricity...

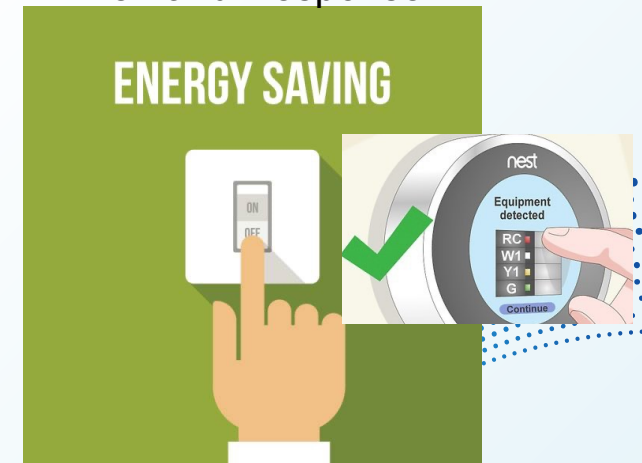
Wind and Solar



2-Way Grid



Conservation & Demand Response



Many solutions use little or no fuel

~100+ Billion dollars A Year For Nat Gas

The cost of fuel is the largest operating cost for coal and natural gas plants

Natural Gas Plant USA Average = 33% of Total Operating Cost in 2021

Shifting 100% of the fuel cost to another party is a big deal

Like living in a house, but somebody else pays the rent/mortgage and utilities

Motivation to harm customers is high

Moral Hazard

- No “skin in the game” or motivation
- Good/Bad or Lucky/Unlucky. All the same
- Rational to ignore the topic

Risk Shifting

- Preserving approved ROEs while shifting risks to other parties is the most rational action
- “We don’t profit” is irrelevant. It’s about minimizing risk and cost

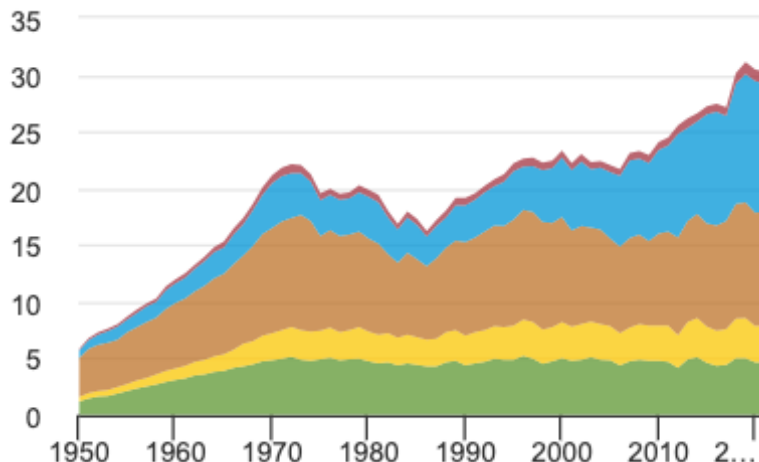
Bad Choices

- Ignore technology changes
- Double down on rising risks like natural gas price volatility hitting an all time high

Electricity is #1 Customer to Nat Gas

U.S. natural gas consumption by sector, 1950-2021

trillion cubic feet



2021

- residential: 4.65 trillion cubic feet
- commercial: 3.26 trillion cubic feet
- industrial: 10.04 trillion cubic feet
- electric power: 11.27 trillion cubic feet

300%+
Electric Power

1973

- residential: 4.88 trillion cubic feet
- commercial: 2.60 trillion cubic feet
- industrial: 10.18 trillion cubic feet
- electric power: 3.66 trillion cubic feet

Note:
Residential,
Industrial is
down...
Electricity &
Commercial is
up 25%

What to Do? Align Policy and Real World

1. Party with all the information and skills needs to be motivated for an optimal outcome
2. Share real world costs and risks. 0% or 100% is our history. A blend is more realistic. Share symmetrically so money can be made when efficiency improves
3. Better transparency of information. Doesn't the buyer get to know what they are paying for?

What Else Can We Do?

Cost of service regulation depends on accounting

**“Like driving down the road
looking in the rear-view mirror”**

Once investments are made, hard to unwind

So, getting new investments right is important




Optimize Planning For a Better Future

- IRP (Integrated Resource Plan): add engineering economics to accounting
- Define future resource portfolios that manage risks, using engineering estimates and modeling
- Add financial economics -- risks and rewards – to refine economic judgments going forward
- Example: forecasting fuel: always be wrong and too high
- Example: discounting future fuel expenses to present value: WACC at 7% vs lower discount rates

What Other States Are Doing

Share Variation Between Forecast and Actual (Utility/Customer)

- Utah 70/30
- Montana 90/10
- Idaho 95/5 or 90/10
- Wyoming 95/5
- Hawaii 97.5/2.5
- Vermont 90/10



"Loophole"
is the
gaming of
forecasts

Summary and Q&A

**The FCA ruins rational economic outcomes
in a world with no or low fuel cost options**

**Policies made a long time ago worked, but
updates are needed**