THE WIRES INDUSTRY --- WHO WILL PAY FOR TOMORROW'S GRID?

Financial implications of aggressive renewable energy policies

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IF YOU DON'T KNOW WHERE YOU ARE GOING, ANY ROAD WILL GET YOU THERE
- Lewis Carroll
Which technology?
Central renewables
Distributed
Or ...
Too cheap to meter?

- **50%** Increase in price above the same period last year
- **$22.53** Average price from Jan. 1 to Feb. 18
- **$13.72**

Santa Fe 2014: Who Pays for Tomorrow's Grid?
Have we learned anything?
Exhibit 10
Wireline Cord Cutting Expected to Continue

Source: Company Data, Morgan Stanley Research estimates

Exhibit 11
Wireline Exodus Highlights Essential Service Customer Behavior

Source: Federal Commerce Commission, Morgan Stanley Research

Exhibit 12
Wireline Usage Has Steadily Declined Since 2000
Maybe not
* California with rates +5%/year, 20% solar paying 50% of fixed grid fee:
  - $0.26 per kWh in 2020
  - Solar off-grid w/storage, $0.12

* New York
  - $0.18 per kWh
  - Stirling engine off-grid (also HW, some heat) w/storage, $$0.14

Source: Morgan Stanley
Spiral
What should we do?
Cornered by Mike Baldwin

"It's simple. First we look at the upside. Then we look at the downside. Then we look at the upside-down side."
Caution
Principles

* Affordability
* Prudence
* Used and useful (economic)
* Least-cost alternative
* Known, verified, and measurable costs
* Cost-effectiveness based on concrete and measurable benefits to ratepayers
* Cost allocations based on benefits and cost-causation
FOLLOW THE MONEY
- Deep Throat
Jerrold Oppenheim is an independent consultant and attorney who has advised and represented low-income and other utility consumer advocates, government agencies, labor, and utilities across the country for more than 40 years. A graduate of Harvard College and Boston College Law School, he led utility litigation and argued precedent-setting cases for four Attorneys General in New York State and Massachusetts; for Legal Services in Boston, Chicago and New York City; and for the National Consumer Law Center. He founded the Renewable Energy Technology Analysis project at Pace University Law School and is now a member of the Center for Public Utilities Advisory Council, New Mexico State University. He has spoken and published on four continents, including Democracy And Regulation with Theo MacGregor and Greg Palast, published by Pluto Press (London) and winner of the ACLU Upton Sinclair Award.