

SOLAR PANEL POLICY

ERIKA SWEET

OVERVIEW

- Current global GDP spent on fossil fuels: 6.5%
- Global GDP needed to switch to renewable: .2%
- Types of Solar power
 - Photovoltaic (PV)**
 - Low Temperature Solar
 - High Temperature Solar (Commercial)
- Costs of Solar dropping drastically (\$7.50/kWh to \$2.75/kWh in 6 years)
- Solar in homes: 4kWh-8kWh total output at peak (NH: 5.5kWh)
 - Average home: 11,000kWh- 12,000kWh a year (NH: 7,200 kWh)
- Costs of Solar dependent on Interest Rates (investment)

Current coal values

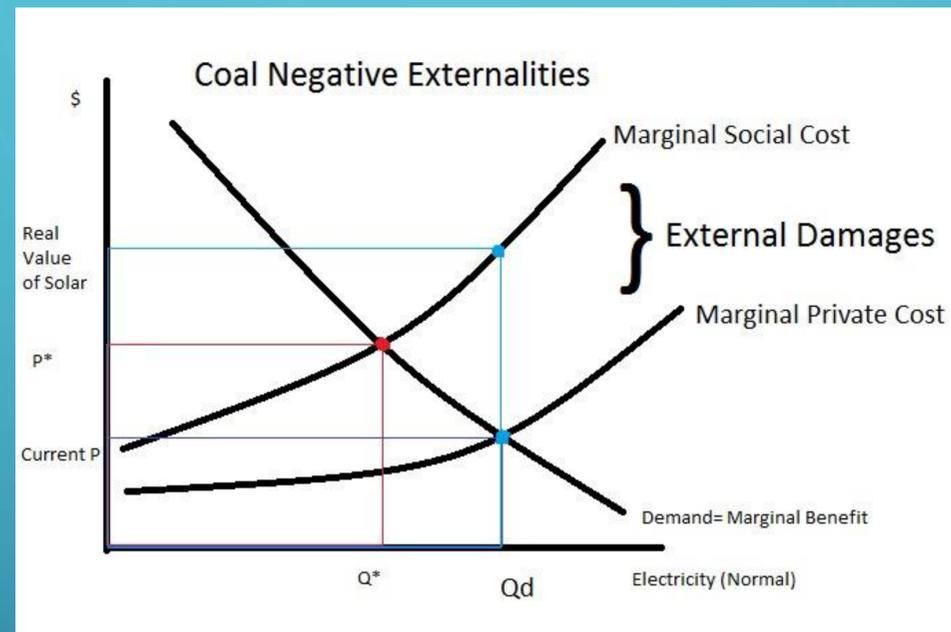
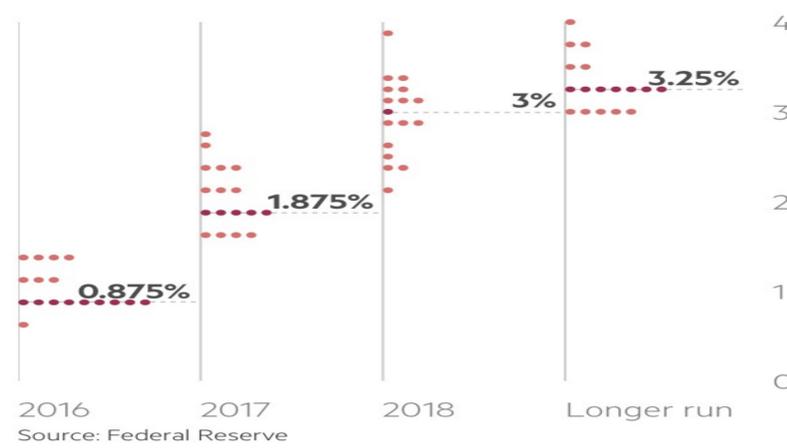
- Wholesale rate: \$0.1611/Kwh (nh.gov).
- Retail rate: \$0.162/kWh - \$0.24/kWh (depending on system) (NHEC).
 - Plus \$28.93 service charge.
 - Other costs: Delivery Costs, Regional Access Charge, System Benefit Charge, Co-op power, NH consumption tax, and BET Tax.
- Charges avoided with Solar:
 - Regional Access Charge: Infrastructure, operation costs, management costs. Decreased by 34% for PV users (NHEC).
 - Co-op Power: compliance with NH Policy, wholesale coal, services for reliability. Decreased by 43% for PV users (NHEC).

“Above the Cap” vs. “Below the Cap”

- New Matching Rates for Systems built after December 2015 (With grace period until May 2015 for systems in process) based off 50% loss in transportation.
- “Below the Cap” matching rates:
 - Below 100kWh: \$0.13/kWh.
 - Above 100kWh: \$0.065/kWh.
- “Above the Cap” matching rates:
 - < 20 kWh: \$0.12674/kWh.
 - 20kWh < x < 100kWh: \$0.12184/kWh.
 - > 100kWh: \$0.11115/kWh.



Interest rate predictions from the March 2016 meeting; median values highlighted



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Sources:

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Solar vs. Coal

- **Coal positives:** 90% energy return on energy investment, low capital costs, minimal reliance on interest rates, infrastructure already established, easy to extract.
- **Coal negatives:** getting harder to extract, burning of coal emits CO₂ (GHG) attributing to climate change.
- **Solar Positives:** no GHG emissions, less reliance on “the grid”, doesn’t rely on finite resources.
- **Solar Negatives:** supply and demand opposite, high capital costs (dependent on interest rates), 20% energy return on energy investment (at current prices).

What is “Net Metering”?

- Currently 42 states are dealing with building a policy around net metering
- The excess amount of kWh produced by a PV solar panel is bought by the utilities company and sold to other consumers on the grid.
- Owners of the PV are then charged on the “net” amount (amount energy used from the grid minus amount energy contributed to the grid).
- New Hampshire Electric Cooperation (NHEC): Policy makers.