Net Metering – Past, Present and Future

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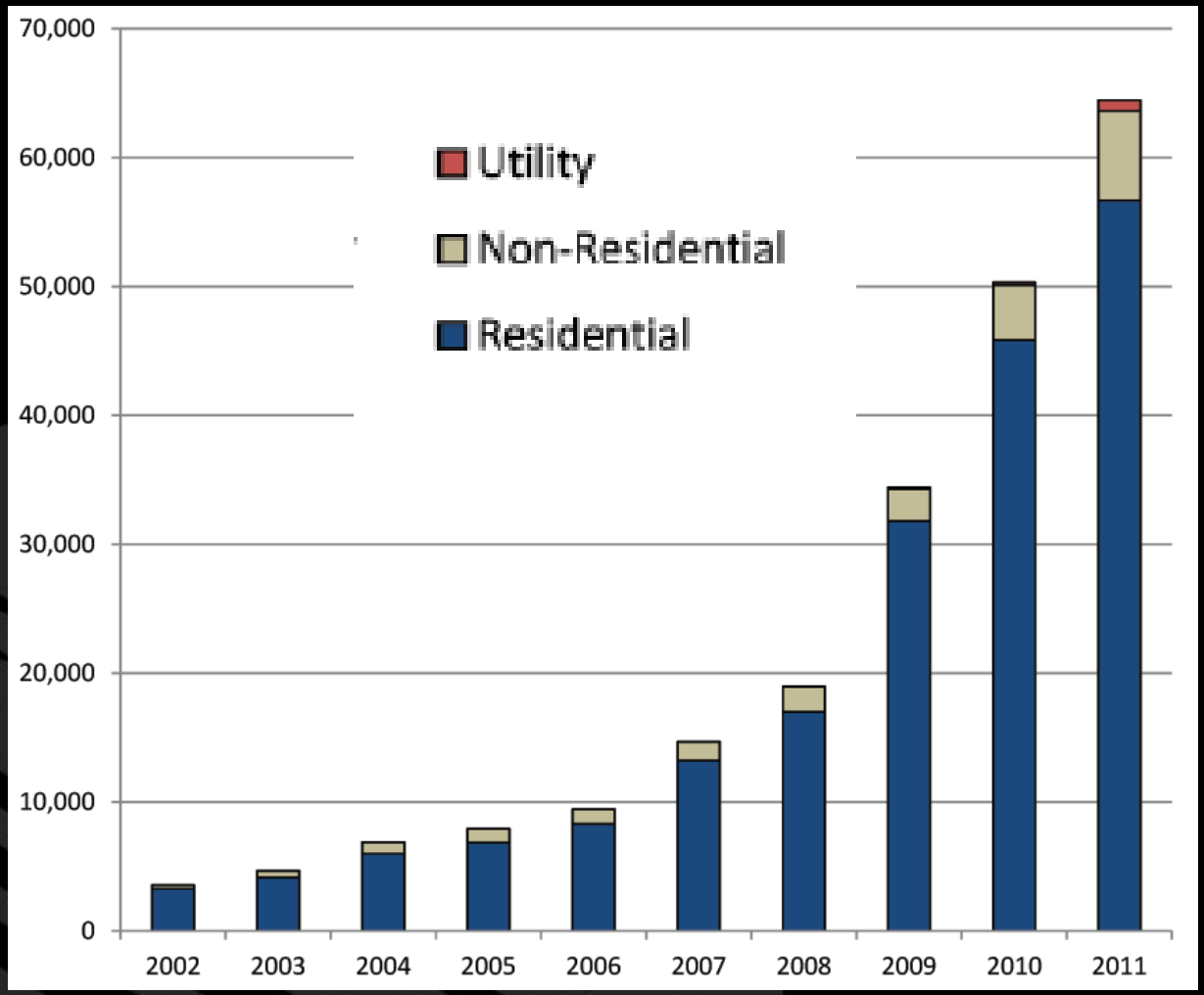
Interstate Renewable Energy Council

Net Metering Basics

- For customer-sited renewable energy generation
- Most systems are solar – some bio, wind, hydro
- Excess kWh at one time exchanged for a kWh when needed – that night, later that month, later that year . . .
- “Spin the meter backwards”
- Lots of variations by state based on:
  - Program size
  - Facility size
  - Rollover
  - Safe Harbor / customer charges
  - Aggregation / virtual net metering

IREC Interstate Renewable Energy Council

New PV Installations



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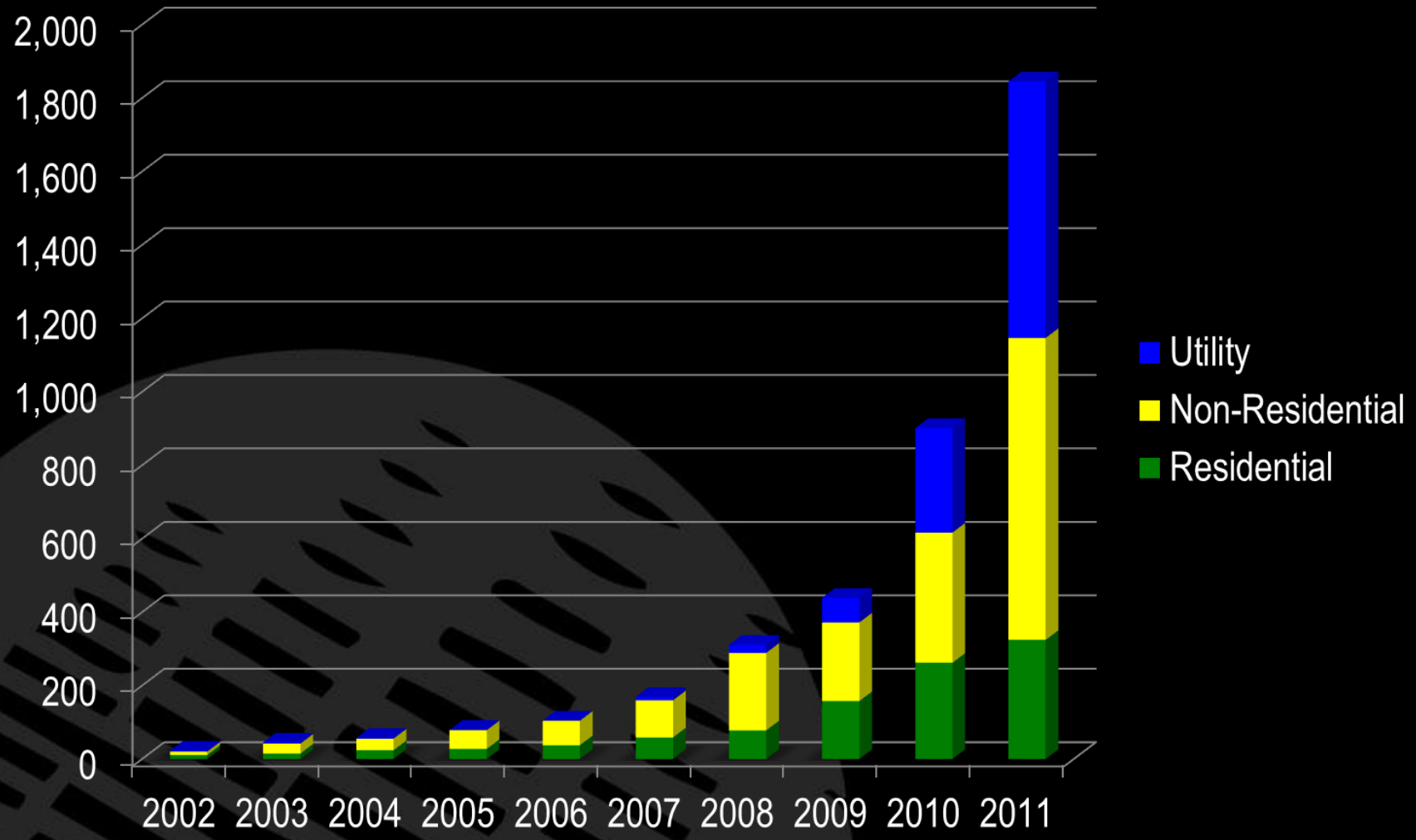
Installed Grid-Connected PV Capacity in the U.S. (MW)



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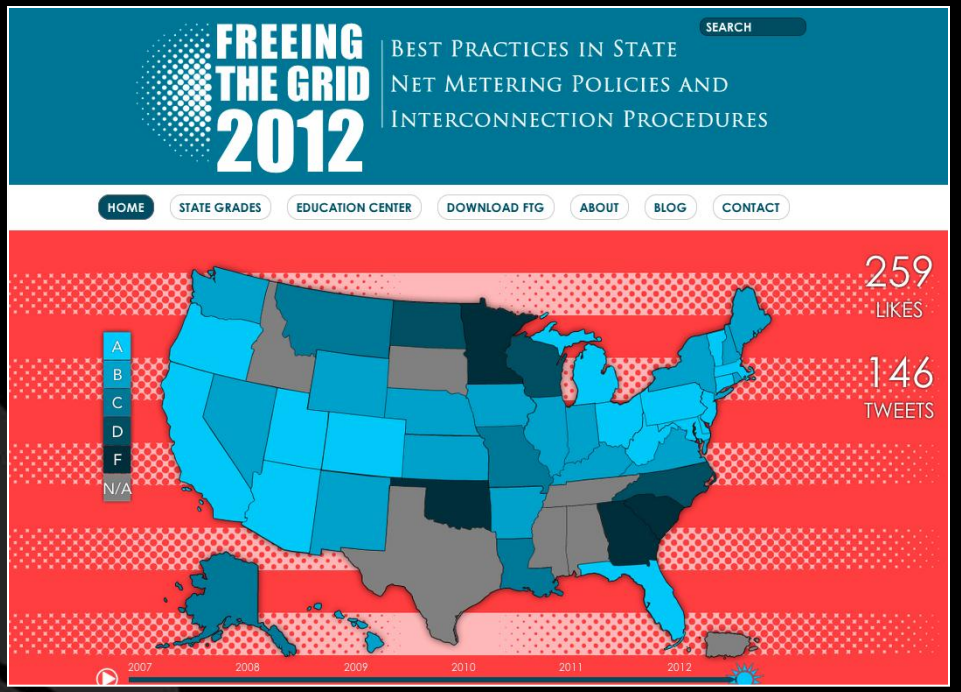
2011 Rank by State	2011 (MW_{DC})	2010 (MW_{DC})	10-11 % change	2011 Market Share
1. California	537.8	255.6	110%	29%
2. New Jersey	306.1	132.4	131%	17%
3. Arizona	287.8	63.6	352%	16%
4. New Mexico	122.1	40.9	199%	7%
5. Pennsylvania	78.2	46.5	68%	4%
6. Colorado	75.5	62.0	22%	4%
7. New York	68.3	21.6	217%	4%
8. Texas	51.1	25.9	97%	3%
9. North Carolina	45.5	28.7	59%	2%
10. Hawaii	40.5	18.5	119%	2%
All Other States	232.0	208.5	11%	13%
Total	1,844.9	904.1	104%	--

Where Are We Now?

- Problems
  - Program caps hitting limits (1% - 5% of utility peak)
  - Facility size caps not being raised (sub MW caps)
  - Concerns about rate impacts is stalling program expansion
  - Customer Charges / “Value of Solar Tariff”
  - Gradually shifting utility peak demand to later hours
- And Solutions
  - Rate Impact studies showing minimal impacts
  - Non-residential recognized as likely to be helping
  - Third party ownership model dominating
  - Costs plummeting (and data not keeping up)
  - New models opening new markets: aggregate net metering, virtual net metering, community solar, feed-in-tariffs

Grading States
www.freeingthegrid.org

- Comparison of state net metering and interconnection rules
- Online with filters: able to view by key criterion and year
- Updated regularly, includes DSIRE data
- Collaborative effort, including IREC



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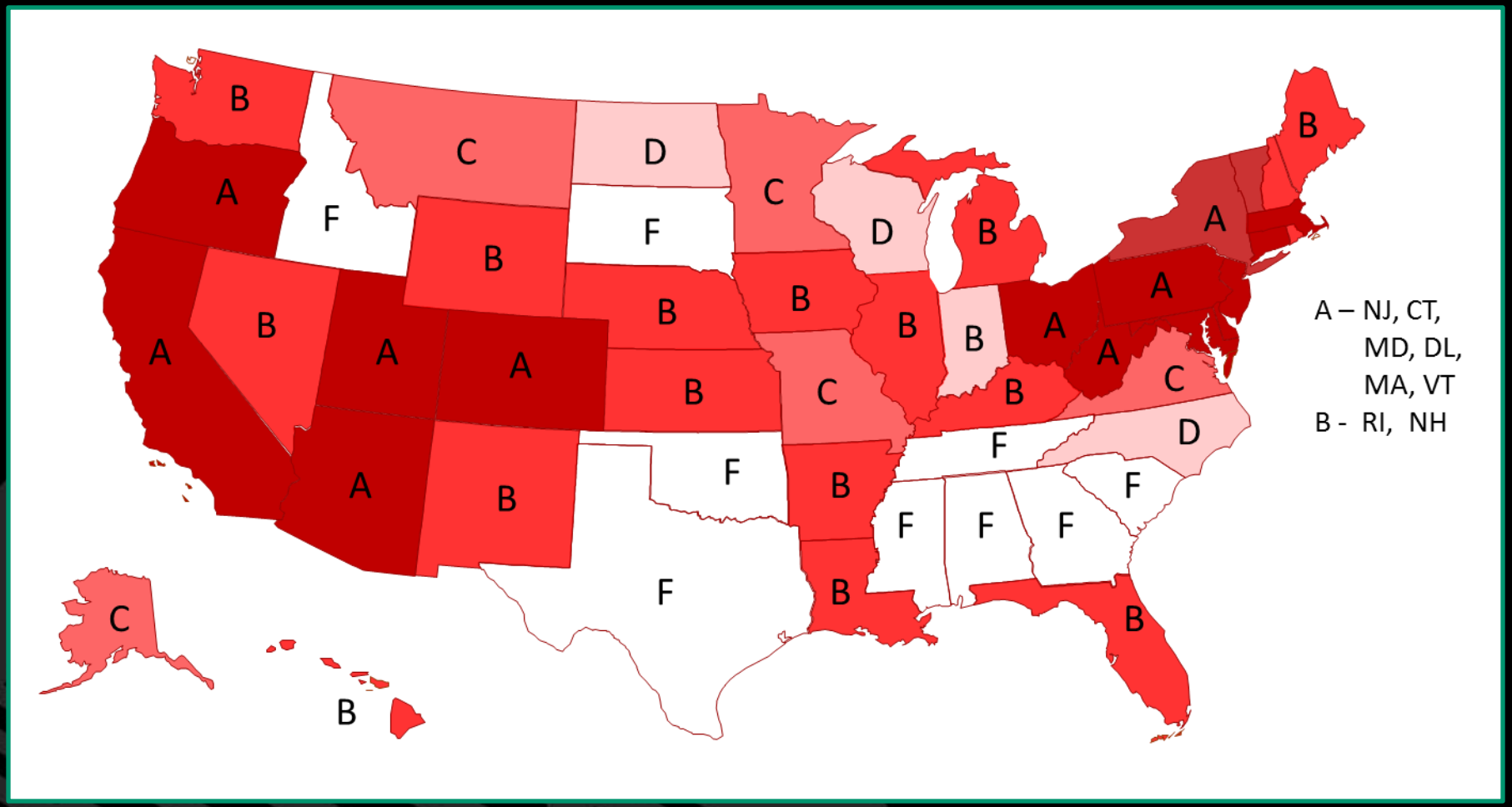
Net Metering - *Freeing the Grid 2012*



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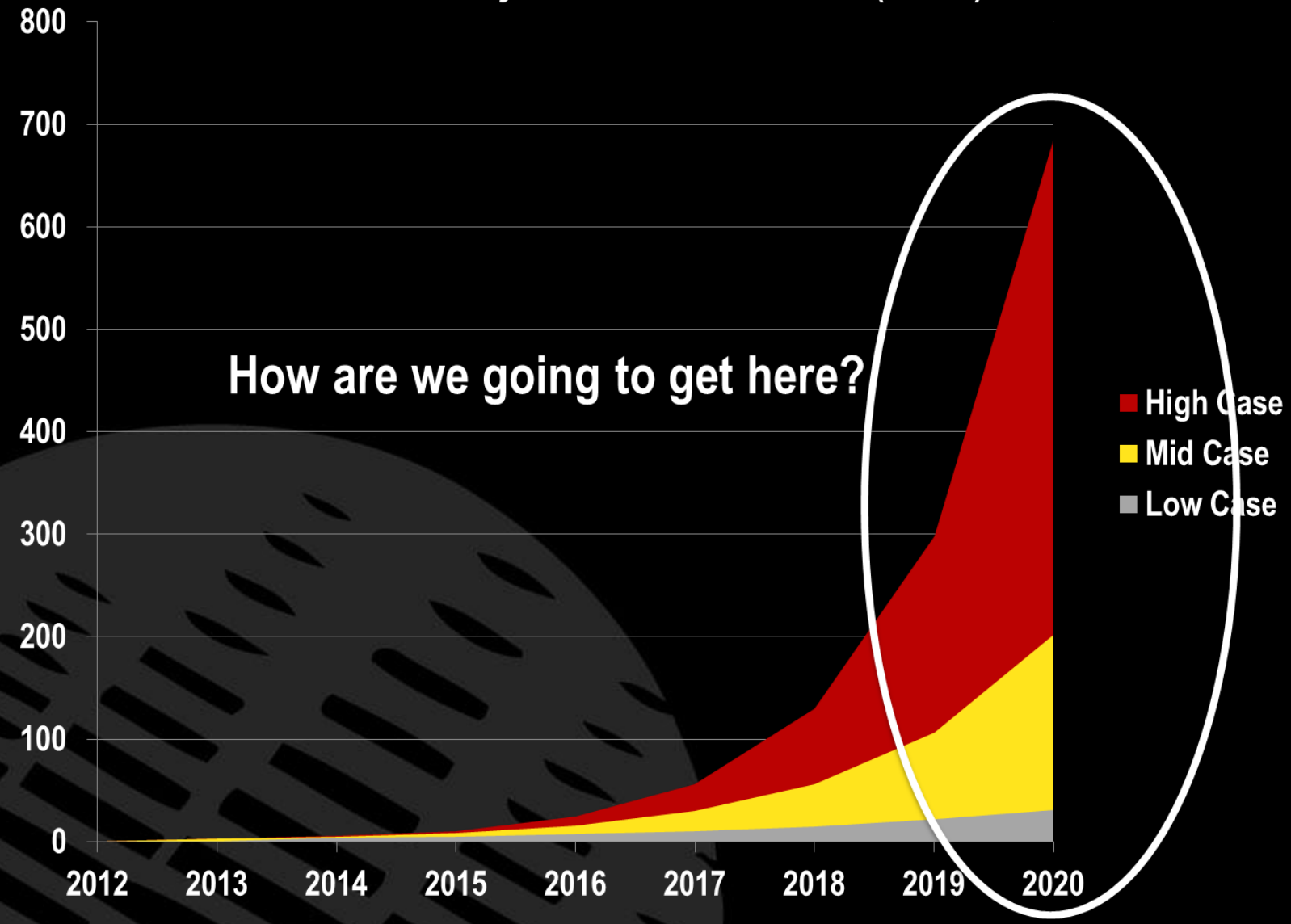
US PV Projections to 2020 (GW)



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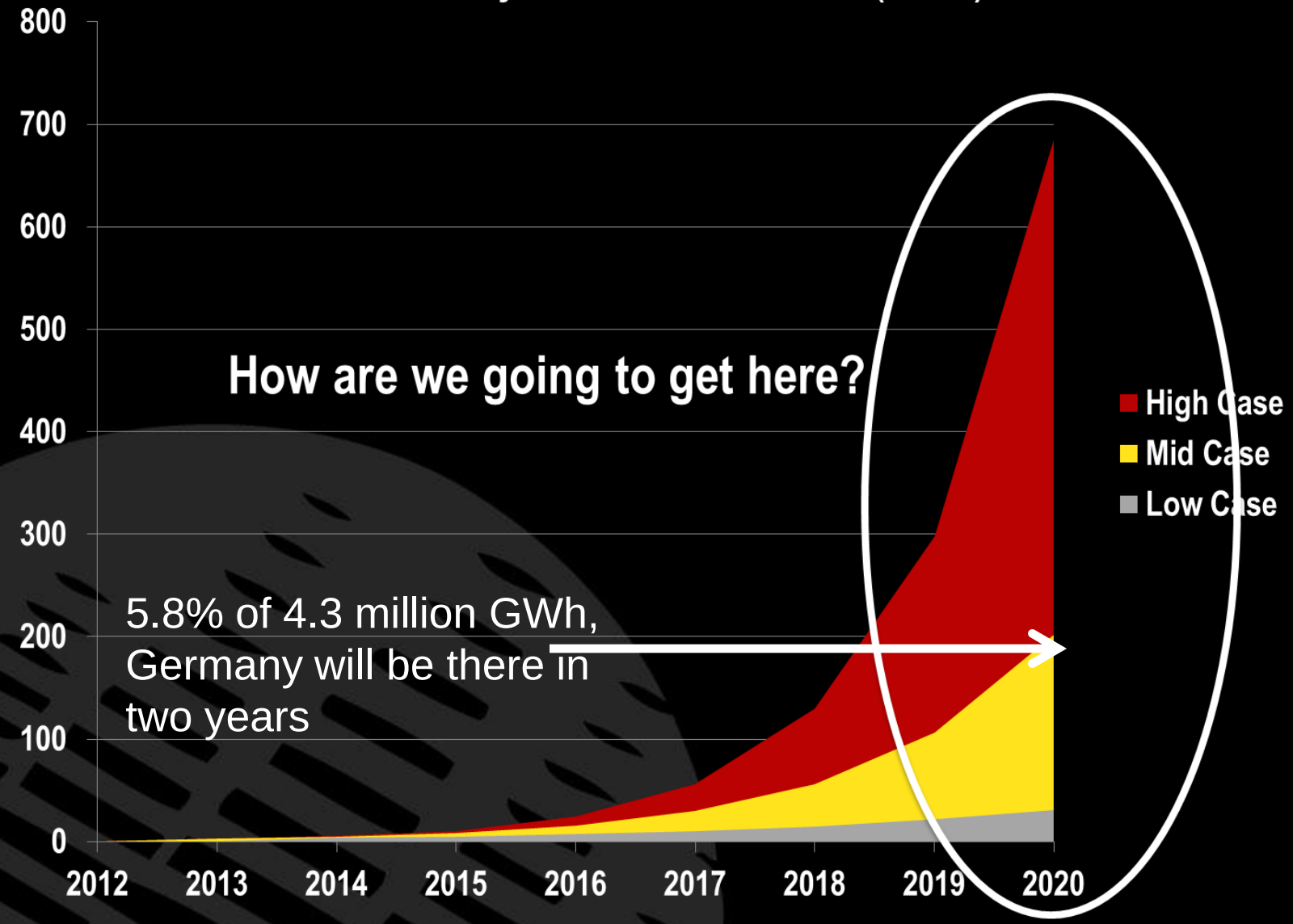

NEM Costs and Benefits

- Costs
  - Administrative
  - Lost revenue (or cost of service)
- Benefits (avoided costs)
  - Energy generation
  - Line losses
  - Ancillary services
  - Generation capacity
  - T&D capacity
  - Environmental benefits
  - RPS Adder

Next Steps

- Lots more studies on the way (including IREC's)
- Evaluate net metering like energy efficiency – impact overall, not just on the non-participants
- Recognize capacity benefits for now
- Recognize shifting utility peaks past sunset
- Potential for demand response or storage
- Technical issues with high penetration
- Open new markets with community solar

IREC Supporting Material

- www.irecusa.org/publications
  - IREC model net metering rules
  - Connecting to the Grid Guide
  - Community Solar Guide
  - US Solar Market Trends 2011
- www.freeingthegrid.org
- www.solarabcs.org/rateimpact
- www.dsireusa.org

Thank You

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