Inflation Reduction Act and Microgrids

Ed Rightor
Director, Center for Clean Energy Innovation
erightor@itif.org

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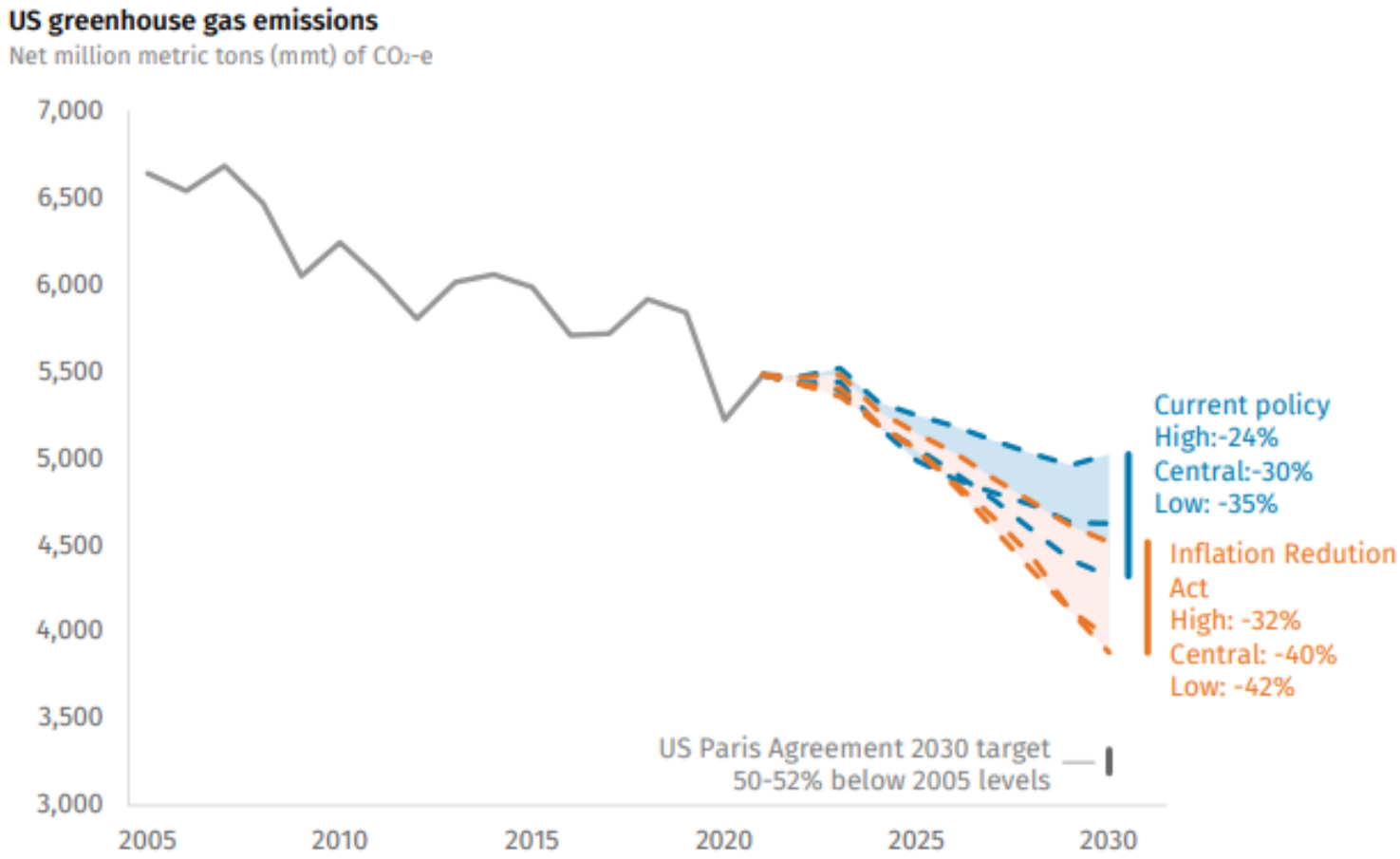
Inflation Reduction Act (IRA): Landscape

- $370 billion for climate and clean energy investments
- 40%, GHG reductions by 2030 (vs. 2005 baseline)
- 2-2.5 times, expansion of wind and solar capacity
  - 2300 grid-scale battery plants
  - 120,000 wind turbines
  - 950 million solar panels

Source: Forbes

Impact of IRA on GHG Emissions



Source: Rhodium Group. The range reflects uncertainty around future fossil fuel prices, economic growth, and clean technology costs. It corresponds with high, central, and low emissions scenarios detailed in Taking Stock 2022.

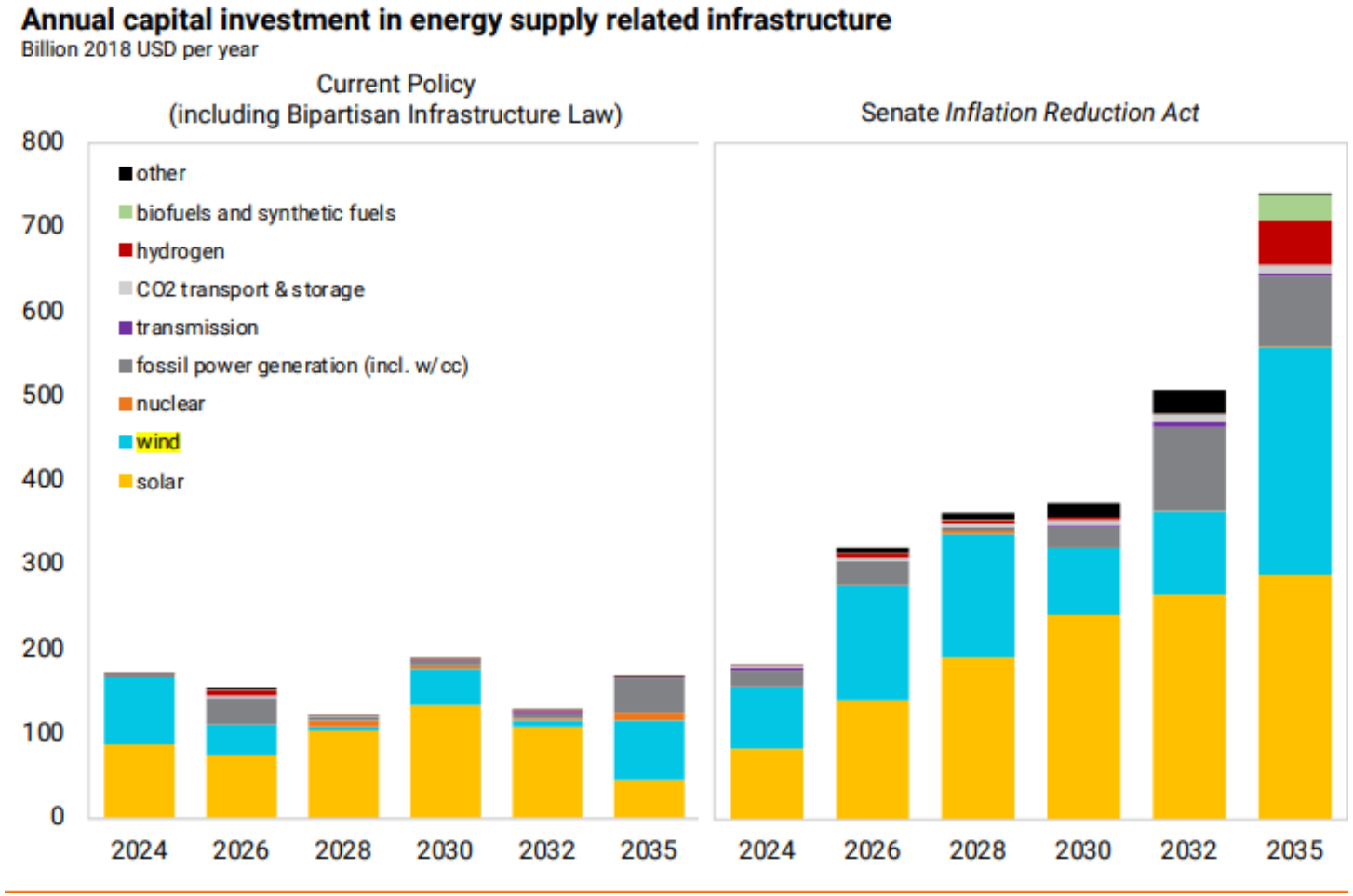
Source: Rhodium Group

Inflation Reduction Act (IRA): Energy Storage

- 30% Investment tax credit (ITC) for technologies used within microgrids (solar, energy storage, microgrid controllers)
- The ITC is standalone (not tied to solar generation)
- 100 GW of storage needed by 2030. 3 GW built to date
- "The passing of the landmark Inflation Reduction Act is a critical win for long-duration energy storage technologies. This historical act enables energy storage to accelerate to the scale we need by leveling the playing field for all types of storage." - Julia Souder, LDES Council

Sources: Energy Storage News, Utility Dive

Impact of IRA on Wind, Solar & Other



Source: REPEAT Project

Inflation Reduction Act (IRA): Microgrids

- 10 year, Long-term credits for wind, solar, storage provides certainty
- Tax exempt entities, cities, states, tribes, power utilities can utilize tax credits.
- Cost reductions for microgrids, can help lower adoption hurdles
- "Having the ability for tax exempt entities to monetize tax credits is going to be really helpful in making microgrids more easily adopted by a variety of different types of consumers." Jaimie Hamilton, Cummins

Source: Microgrid Knowledge

IRA and Microgrid Controllers

- Section 13102. Extension & Modification of Energy Credit
  - Qualified
    - electrical system capable of generating 4-20 MW electricity
    - Operates with electrical grid as single controllable entity
    - Not part of a bulk power system
  - Construction deadline, Dec. 31, 2024

Source: IRA Bill H.R. 5376 text

IRA, Microgrid Controllers, and INNOVATION

- 40% reduction by 2030 FANTASTIC, but wait the goal is 50%
  - innovation, and entrepreneurial action needed
- Artificial Intelligence (AI), machine learning, digital interoperability, systems integration…
- 90% reduction in long-duration energy storage costs by 2032 (DOE Earth Shot)
- Resilience, sustainability, security - key drivers

Source: Innovators Central

IRA, INNOVATION, Transformative Tech. opportunity

- Section 550161. Advanced Industrial Facilities Deployment Program
  - $5.8 billion for accelerating deployment of low-carbon technologies directly involved in heavy industrial processes to substantially reduce GHGs
  - process heat, electrification, smart manufacturing…
  - Electrification & variable renewable energy use will require integration with control systems, sensing, and energy storage
- This is an opportunity for microgrid innovation, integration and enabling of transformative technology

Source: IRA Bill H.R. 5376 text

Summary

- IRA a huge, durable boost for renewable energy
- Microgrids & storage will benefit
- Opportunities for innovation;
  - Energy storage
  - Electrification (e.g. industry)



Thank You!

Ed Rightorl erightor@itif.org | @PresenterHandle