Renewable Siting in the Northwest

Max Greene Renewable Northwest Nov. 17, 2022

Northwest Energy Coalition Fall Conference





About Renewable Northwest
What the Northwest Needs
What the Challenges Are
What We're Doing

1. ABOUT RENEWABLE NORTHWEST

Mission

 To decarbonize the region by accelerating the transition to renewable electricity.

Vision

 For every home, business, and vehicle in the Northwest to be powered by renewable, affordable, carbon-free electricity.



1. ABOUT RENEWABLE NORTHWEST

What motivates us?

https://www.wsj.com/articles/emissions-cuts-in-next-decade-are-crucial-to-meet-paris-targets-u-n-panel-says-11649085009

SCIENCE

Renewables Are Key to Cutting Emissions Over Next Decade, U.N. Panel Says

Human activities in the past decade resulted in the highest average annual global emissions ever recorded

By Nidhi Subbaraman Follow

Updated April 4, 2022 11:32 am ET

Countries must make major, rapid shifts away from fossil fuels and to renewable energy to meet the goals in the 2015 Paris agreement, climate experts tapped by the United Nations said in a report released Monday.

Carbon-dioxide emissions must be halved by 2030 from estimated 2019 levels, and methane emissions cut by a third, if warming is to stay within 1.5 degrees Celsius past preindustrial levels, a target in the Paris accord, scientists assembled by the U.N. Intergovernmental Panel on Climate Change said.

But countries are off track to meet those goals, climate experts said. The last decade saw the highest average yearly greenhouse-gas emissions from human activities ever recorded. Current climate policies are set to push global average temperatures between 2.4 and 3.5 degrees Celsius past preindustrial levels by the end of the century, the report said.

2. WHAT THE NORTHWEST NEEDS

Projected Resource Additions

Power Council:
3,500 MW by 2027

- PNUCC:
 - >9,000 MW by 2030

- WA State Energy Strategy:
 - o 16,000-28,000 MW by 2050
 - 11,000 MW transmission
- OR Pathways:
 - ~30,000 MW by 2050
 - 9,400 MW transmission

2. WHAT THE NORTHWEST NEEDS

Projected Generation Additions



2021 Northwest Power Plan, p.51

2. WHAT THE NORTHWEST NEEDS

400,000 Installed Capacity (megawatts) 300,000 200,000 100,000 0 2020 2025 2035 2040 2030 Solar Wind Pumped Sto Solar with Storage Storage Natural Gas Pumped Storage

Projected Generation Additions With a Unified Market

2021 Northwest Power Plan, p.71

2. WHAT THE NORTHWEST NEEDS

... model results show that limiting warming to 2°C or 1.5°C will require faster diffusion of installed capacity of low-carbon energy options and a rapid phase out of fossil-based options. This points to the importance of focusing on overcoming real-life barriers to technology deployment.

Median values of renewables installed capacity increase with respect to 2020 capacity ... More [] stringent targets (2°C) are achieved through a **higher deployment of renewable technologies: by 2050 solar (wind) capacity is estimated to increase by a factor of 15 (10)** (Box 16.1, Figure 1c).

IPCC WG3 16.2.4.3: Implications for the modelling of technical change in decarbonization pathways

3. WHAT THE CHALLENGES ARE

- The energy transition is complicated.
- Misinformation is spreading.
- Numbers need context.
- Tradeoffs are hard.
- Transmission is limited.
- Change is hard!

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IPCC WG3 16.2.4.3: Implications for the modelling of technical change in decarbonization pathways

4. WHAT WE'RE DOING

• The energy transition is complicated.

- We're answering questions and using plain language to share why and how we can make it work!
- Misinformation is spreading.
 - We're preparing fact sheets, sharing others' good work, and – most importantly – building relationships.
- Numbers need context.
 - We're explaining that not every permit application or project in an interconnection queue will be built.

4. WHAT WE'RE DOING

Tradeoffs are hard.

• We're facilitating conversations among diverse stakeholders to explore and support least-conflict solutions.

Transmission is limited.

• We're working to unlock capacity on the existing transmission system and supporting more integrated regional transmission planning.

Change is hard!

 We're engaging in broad conversations in Oregon and Washington to identify pragmatic legislative solutions to siting constraints.

BONUS! A FINAL NOTE

Although the debate is still ongoing, preliminary conclusions indicate that integrated assessment models tend to underestimate innovation on energy supply ... Scenarios emerging from cost-optimal climateenergy-economy models are too pessimistic, especially in the case of rapidly changing technologies such as wind and batteries in the past decade. Conversely, they tend be too optimistic regarding the timing of action, or the availability of a given technology and its speed of diffusion (Shiraki and Sugiyama 2020).

IPCC WG3 16.2.4.3: Implications for the modelling of technical change in decarbonization pathways

CONTACT

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