Washington Solar Summit

SENATOR REUVEN CARLYLE

CHAIR, ENVIRONMENT, ENERGY & TECHNOLOGY COMMITTEE

OCTOBER 2019

Washington is already experiencing climate change impacts that will become much more severe if global temperatures rise more than 1.5˚C.

Continued warming
+3-9 deg F by the 2050s

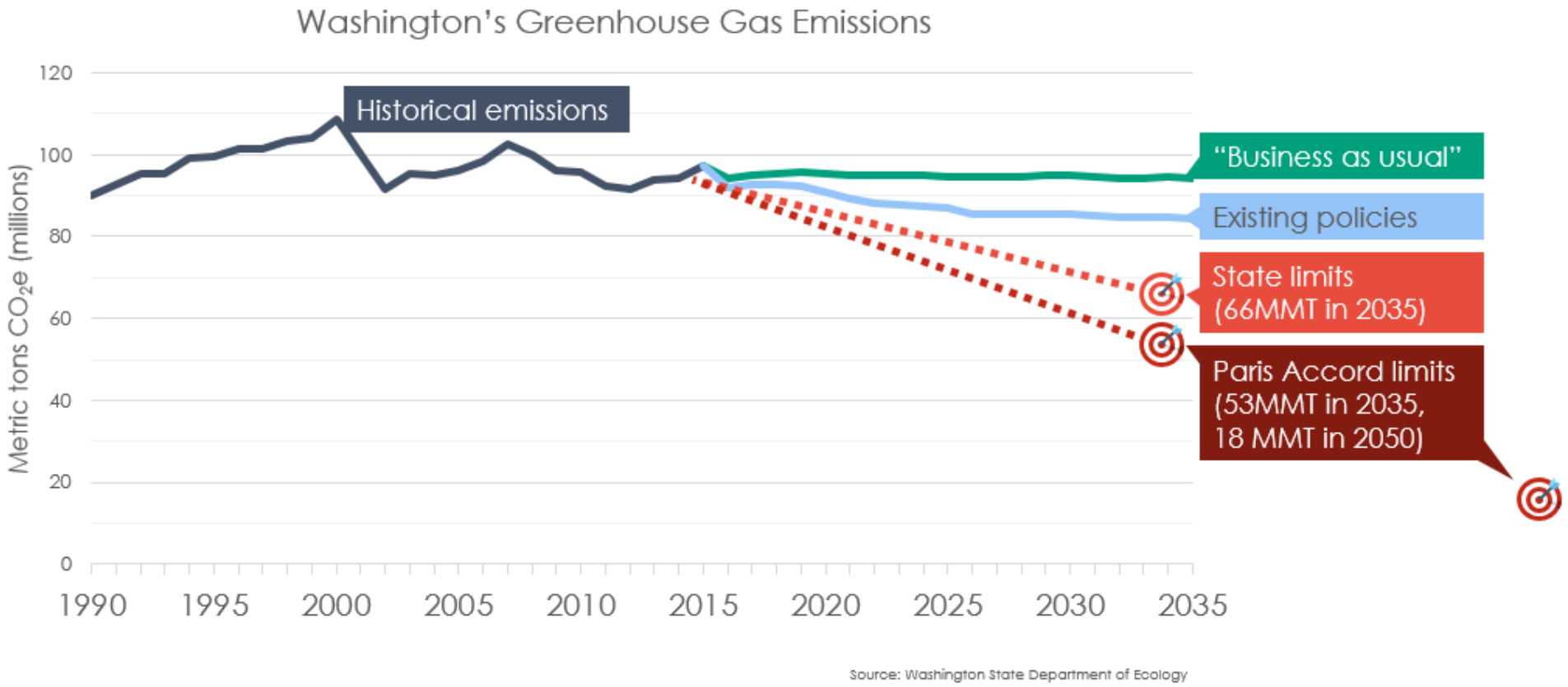
Increasing heavy rainfall
Heaviest rain events +22% more intense by the 2080s

Higher sea level
+4-56" by 2100, depending on location

Increasing ocean acidity
Ocean acidity is projected to increase 100-150% percent by 2100

Ongoing natural variability

Strong policies like the Renewable Energy Standards and "clean car" standards have largely levelled emissions. But more work is needed.

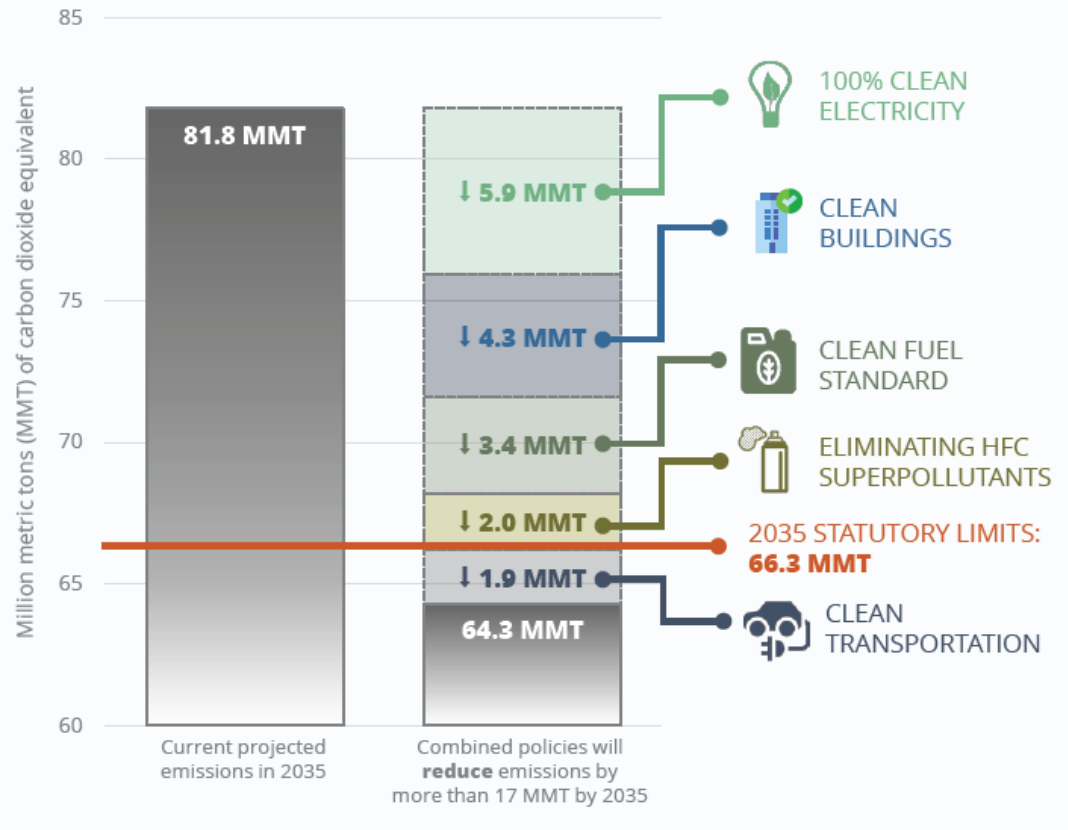


*"Existing policies" does not account for legislation passed in 2019

2019 legislative building blocks for climate action

- 100% clean electricity
- Energy efficiency in buildings and appliances
- Reducing superpollutants (Hydrofluorocarbons or “HFCs”)
- Electrifying transportation

Emissions reductions that will result from 2019 environmental bills*

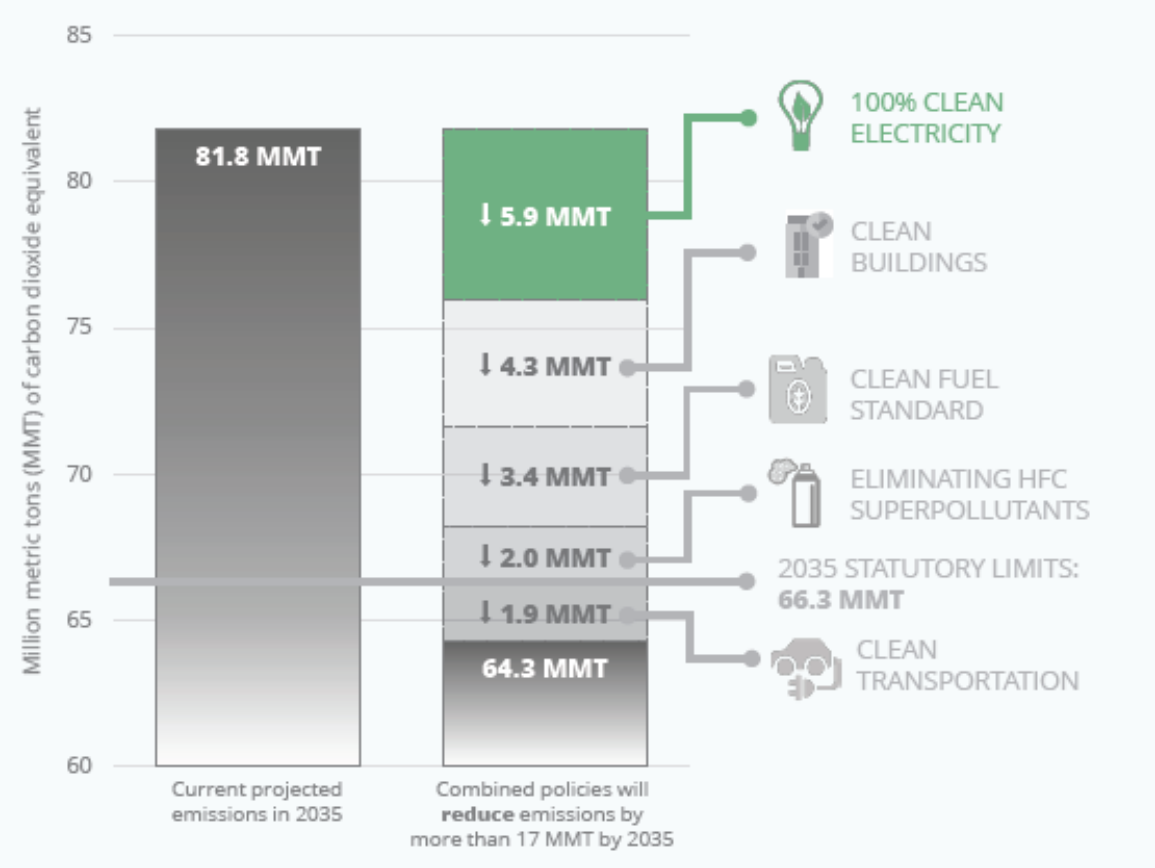


*The Clean Fuels Standard did not pass in the 2019 session.

100% Clean Energy

- Electric utilities must drop coal-fired power from supply by 2025
- The supply must be carbon neutral by 2030 (80% from non-carbon sources; 20% can be mitigated by emission reduction measures)
- By 2045, utilities' supply must be 100% percent carbon free
- Begin now, through resource planning, to meet interim targets
- Cost cap: not to exceed 2% in any given year, inclusive of Energy Independence Act (EIA) costs
- May be suspended if grid reliability jeopardized
- In 2030, compliance with this program also complies with the EIA
- Adds "incremental hydro" provision to EIA
- Extends sales tax incentives for renewable energy installation

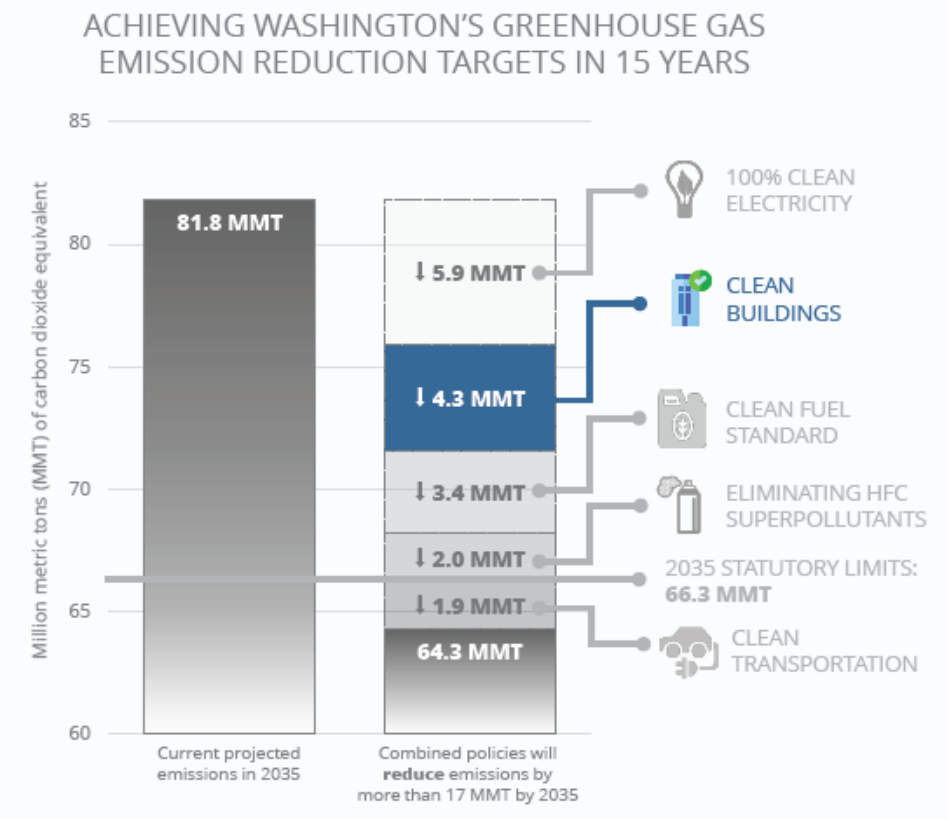
Implementing 100% clean energy will achieve almost 40% of the total emission reductions needed to meet the 2035 limits.



Clean buildings and appliances

- Energy performance standards for larger existing commercial buildings will be phased in, starting in 2026
- State financial assistance to building owners will be phased in, beginning in 2021 with the largest buildings
- The assistance is funded by utilities, which will receive a 100% credit against their public utility tax obligation
- Natural gas suppliers must meet a conservation standard and may offer customers renewable gas (cost capped at 5% above retail)
- Energy efficiency standards are adopted for 20 appliances and fixtures where substitute products are already on the market

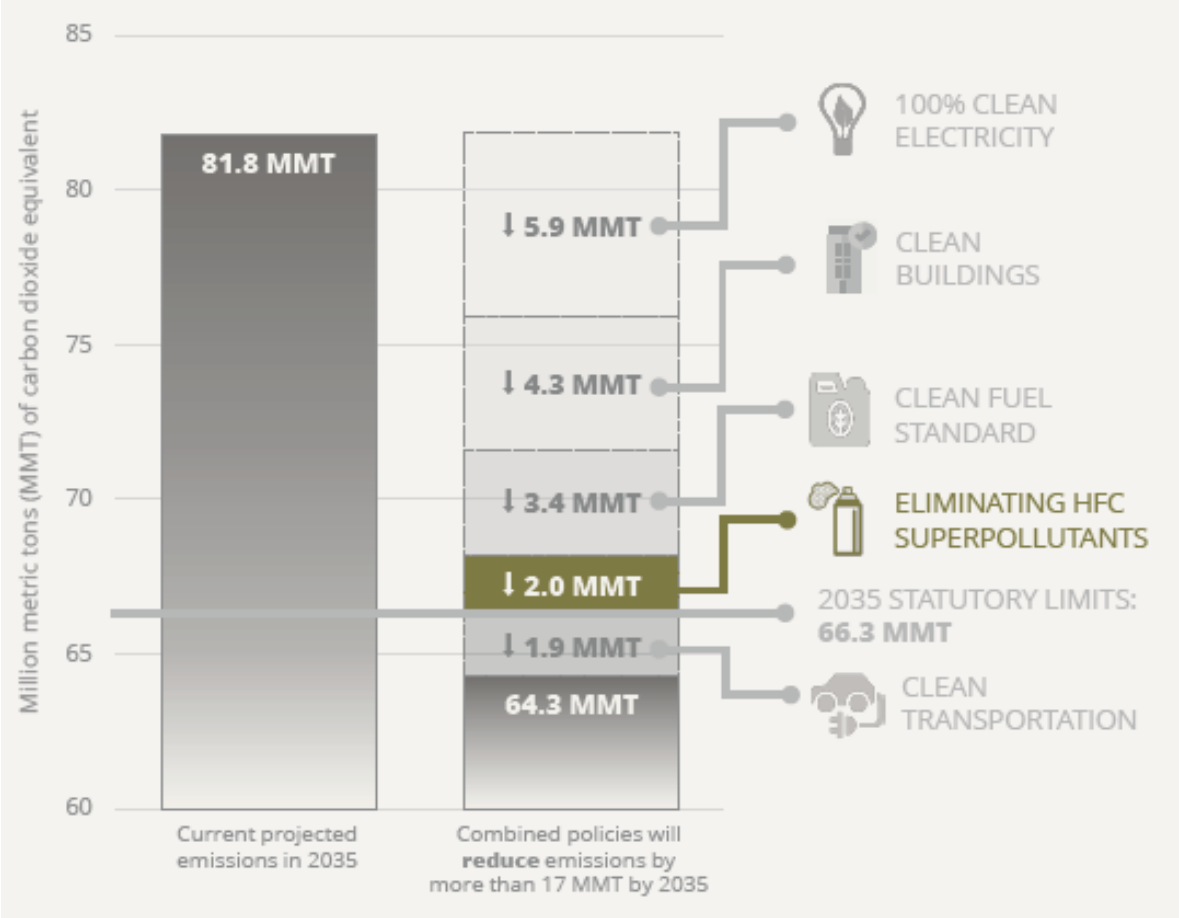
With 27% of GHG emissions coming from buildings, these legislative measures will achieve about a quarter of the reductions needed to meet the 2035 limits.



Reducing super pollutants (HFCs)

- Pound-for-pound, HFCs have a global warming potential that varies by chemical, but can be thousands of times that of carbon dioxide
- HFCs, used primarily in refrigeration and air conditioning, account for 4 million tons of the state's carbon footprint
- HFC use is growing rapidly and would increase our carbon footprint to 6 million tons by 2030, equivalent to emissions from 1.2 million cars
- Despite the United States joining with 190 countries in 2016 to eliminate HFCs, courts threw out a federal regulation as not authorized under the federal Clean Air Act
- Legislation passed this year will direct Washington to work in concert with other states to phase down certain HFCs over the next five years

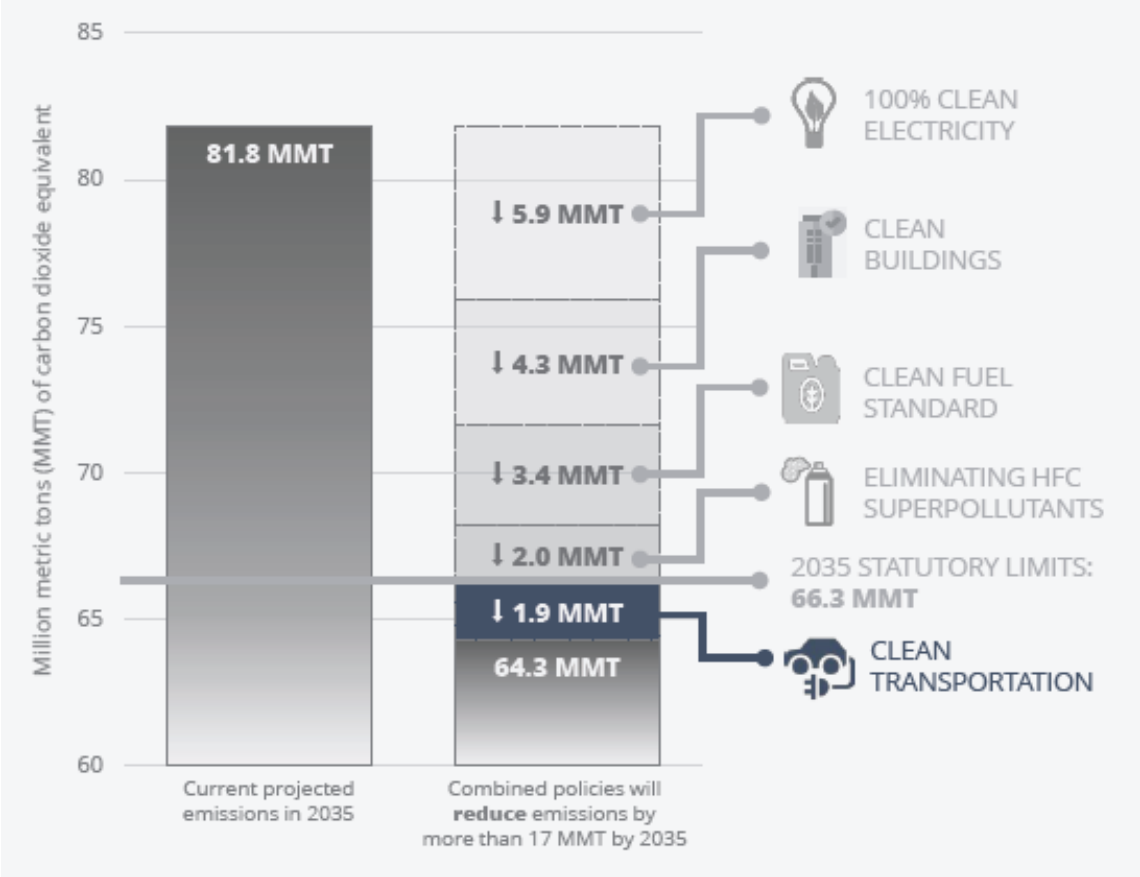
Phasing out HFCs achieves more than 10 percent of the emission reductions needed to meet 2035 limits, equivalent to eliminating emissions from 400,000 cars.



Electrifying transportation

- Transportation emissions are nearly half of WA's carbon footprint
- Legislation and budget provisos will:
  - Give customers more incentives to buy electric vehicles (EVs)
  - Let municipal utilities promote EVs and build home and workplace charging stations
  - Require new commercial and multi-family buildings to install more charging stations
  - Expand multi-modal commuter options
  - Fund new electric-hybrid ferries

By expanding multi-modal commuting options and fueling vehicles with clean electricity instead of fossil fuels, more than 10 percent of the emissions needed to meet the state's 2035 limits can be achieved.



Solar Power in WA – Historical Overview

- **Net metering**: essentially, no state-level policies to promote solar until 1998, when Legislature required utilities to offer a small portion of load to be served by distributed generation
- **I-937, the Energy Independence Act**: voters in 2006 narrowly approved initiative requiring utilities to bring increasing amount of new renewable energy into power supply – 9 percent of supply in 2012, increasing to 15 percent by 2020. Utilities receive "bonus" for distributed generation (counted double for compliance purposes)
- **'Solar Incentives'**: Legislature created around same time. Program finances upfront installation costs, but effectively takes from general fund. Was to sunset, but in 2017 Legislature extended with reduced payment rates: 8-year limit for payments to new participants and cap on total payments. Sunset of sales tax exemption for solar systems also moved up to 2017 from 2020

2019 Net Metering Expansion

- SB 5223: passed in 2019, will greatly expand minimum amount of a utility's load that must be offered for net metering – from 1 percent to 4 percent of 1996 peak demand
- By 2029 or once the 4 percent threshold is reached, whichever is sooner, utilities will have the option to develop an alternative standard rate or tariff
- Unused net metering credits must go to assist low-income households cover electricity bills

Potential Future State Policies

- **Electricity**: major proposals unlikely, given focus on implementing 100-percent clean pathway
- **Community solar**: create flexibility to create 'community' projects and require utilities to accept them into distribution system and buy their power. 'Community choice aggregation' may allow communities to more broadly buy or produce their own power independent of a local utility.
- Note: proposals must scrutinize impacts on community, including ensuring that low-income consumers are not harmed.
- **Financing options**: property-assessed clean energy (PACE) programs, voluntary contracts between finance entities and homeowners, and utility "on-bill" repayment programs
- **Project site permitting and regulatory standards**: legislation unlikely. But, sponsors currently can seek site approval from a local government or a "one-stop" permit from state's Energy Facility Site Evaluation Council

Grid Integration

- Maintaining grid reliability is a key part of resource planning as we move away from fossil fuels
- Previous legislation requires utility IRPs to identify methods and commercially available technologies, like energy storage and demand response
- Washington's Clean Energy Fund provides investments for large-scale solar deployment
- Also, the current biennial capital budget continues to fund solar deployment, requiring competitive grants for projects with over 100-kW capacity. Major components made in Washington are given priority
- Additionally, grants for community solar projects must require at least 35 percent of total allocation be designated for low-income households, affordable housing providers and tribal housing programs

Conclusion

In 2019, the Legislature pursued a sector-specific strategy to combat climate change and electrify Washington's economy.

We made substantial progress on clean electricity, building and appliance efficiency, electrifying transportation and banning super-pollutants.

Expanding solar production will play a key role in advancing these statewide decarbonization efforts.

The solar industry must continue to collaborate closely with the entire power community as our state moves towards a post-fossil fuel pathway to ensure grid reliability, flexibility and affordability.