

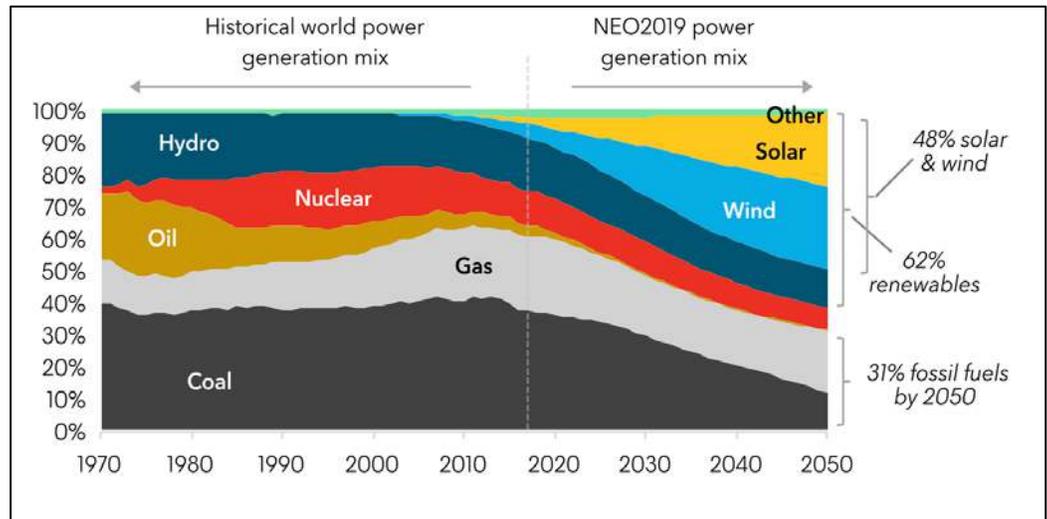
# Mainstreaming Renewables

## Description:

As the renewable energy industry matured, technology improved, and global production of generating equipment increased. Renewable energy is increasingly seen as the least cost, and lowest risk form of energy (excluding energy efficiency). A 2019 Bloomberg New Energy Finance [report](#) predicts that renewable resources will generate at least 60% of total global electricity and 43% of U.S. electricity by 2050. With

increased deployment, utilities are learning more about how to integrate renewables effectively, investors are becoming more comfortable with the technologies, and building code officials are recognizing common standards and best practices. For these reasons, it is in the interest of policymakers to ensure that their states are well positioned to benefit from the transition to clean energy resources.

**World power generation: 1970 to 2019 and Predicted to 2050**



Source: [Bloomberg New Energy Finance 2019](#)

## Discussion of the Policy:

To reduce barriers in the renewable energy market, policymakers might consider several options.

### Customer-Oriented Policies

1. **Interconnection** - Interconnection is the process of plugging renewable energy systems into the grid. Interconnection standards apply to both customer-sited and utility-scale systems; however, the focus of most interconnection standards are customer-sited systems. Generally, customers want a clear, streamlined, affordable, and predictable process for connecting to the grid. Without clear interconnection standards, requirements for customers looking to install distributed generation can be burdensome and expensive.
2. **Net Metering** - Net metering has been one of the most important policy tools for supporting distributed generation (DG) - electricity generation near the user, such as rooftop solar panels. Net Metering allows customers to produce onsite electricity and sell excess generation to the utility at a set credit per kilowatt hour (kWh), which creates an incentive for private investment in DG. With net metering, power customers are billed only for the net power consumed over their generation, while they are credited for excess electricity delivered to the grid. Net metering arrangements not only allow the grid to operate like a battery for the customer, but they also contribute clean generation to the energy mix. A key provision of net metering is that the customer is not paid for power, but credited against their use of electricity. This is important for tax reasons, as revenue to a customer is taxable, while crediting for power is not. Net metering policies can apply only to generation that is produced on the customer-side of a single meter (like a solar panel); however, for customers like agricultural facilities, there may be multiple meters serving multiple loads and systems generating electricity at multiple

sites. For these customers, aggregated net metering policies allow credit to be applied using aggregated generation and demand.

3. **Streamlined Permitting** – For DG, “soft costs,” including permitting expenses for installers, can drive up costs for consumers to connect renewable energy projects to the grid. Streamlining this process can save costs and reduce time for both installers and consumers. Installation of renewable energy systems requires interconnection to the grid and engineering and installation of electrical components. As a result, there are important permitting steps that need to be followed to ensure safety. As the industry has matured, some standard systems have become established. These enable a streamlined permitting process and cost savings to consumers. States might consider establishing either statewide standards for streamlined permitting processes, or resources to support local governments that voluntarily implement a streamlined program. States and communities interested in developing streamlined processes should consult utilities and other stakeholders to ensure that appropriate safety standards will continue to be met. State financial incentives, including tax credits or loans, can be tied to systems that are established within a designated streamlined permitting jurisdiction.
4. **Shared Renewables** – Due to building and property attributes and ownership issues, many customers are unable to install renewable energy technologies where they live or work. Allowing shared, or community, renewable energy projects addresses these barriers. These projects have multiple owners or subscribers who pay for a portion of the project or the generation provided by the system. Shared renewable programs rely on “virtual net metering” where shared systems are off-site from the customer, but the customer receives credits from the shared system as if it were on site. Virtual net metering is different from a power purchase agreement (PPA), which pays the customer for the proportion of power they produce. Because virtual net metering is treated as a credit on the customer’s bill, the customer can avoid the tax implications of a PPA payment - which can adversely affect the economics of the system and may come as a surprise to the participant.
5. **Corporate Procurement** – Many Fortune 100 and 500 companies have established either climate goals or commitments to purchase renewable energy, and are signing large renewable energy contracts with utilities and other suppliers to meet these targets. The [Corporate Renewable Energy Buyers’ Principles](#), a list of principles developed by seventy corporate signatories, provides a framework for what multinational companies need when buying renewable energy from the grid. States can include corporate renewable purchase commitments in integrated resource, or other long-term plans that utilities submit to regulators to plan for resource needs over multiple decades. By integrating these renewable purchase commitments into the planning process, regulators can avoid over-building resources and stranding generation assets.
6. **Low-Moderate Income Policies** –

**Adapt Existing Energy Assistance Programs** – Programs such as the Low Income Home Energy Assistance Program (LIHEAP) and the Weatherization Assistance Program (WAP) exist to provide monetary support with utility bills. Including distributed energy resources as eligible for funding under these programs can reduce energy costs and increase energy security for low-to-moderate income (LMI) families.

**Fund DG for Community Organizations** – Organizations or groups that provide support services for LMI communities can be provided funding to install solar or other distributed energy resources. Places such as homeless shelters, food banks, and clinics often have enough rooftop area for solar installations. After installation, these resources can reduce an organization’s utility bills, freeing up funds for other activities to support the community.

### Utility-Oriented Policies

1. **Accelerating and Amending Renewable Portfolio Standards** – One of the oldest and most successful advanced energy policy tools, [renewable portfolio standards](#) (RPSs) usually set a target for a specific percentage of renewable electric generation to be achieved by a specific date. While these policies have various target dates

and percentages (for example 25% by 2025), states can revisit existing policies to increase targets and/or accelerate target dates to spur the development of renewable resources and save ratepayers money. Additionally, states might add one or more carve-outs to further incentivize the development of DG.

2. **Clean Peak Standards (CPS)** – Clean peak standards aim to increase the share of clean energy resources in use during peak demand and reduce energy bills over time. These goals can be met through:
- planning and procurement requirements that focus on peak demand,
  - moratoriums on the construction of new peaking units,
  - phasing out existing units,
  - incentives – including carve-outs in states with RPSs – for clean energy resources delivered during peak times, and/or,
  - establishing a new clean peak standard that sets a target for clean energy deliveries during peak times.

In combination, these initiatives can increase available clean energy for dispatch during peak hours, reduce peak demand, and increase efficiency, all while reducing energy bills for customers.

### Example Programs:

States, local governments, and electric utilities offer a variety of incentives to support renewable energy.

- Net Energy Metering in California: <https://www.cpuc.ca.gov/General.aspx?id=3800>
- Streamlined permitting: <https://solsmart.org>
- Community Solar in Colorado: <https://energyoffice.colorado.gov/community-solar-0>
- EPA’s RE-Powering America’s Land Initiative: <https://www.epa.gov/re-powering/learn-more-about-re-powering#what>
- New York State’s Renewable Energy Growth and Community Benefit Act: <https://www.nyserda.ny.gov/About/Newsroom/2020-Announcements/2020-04-03-NEW-YORK-STATE-ANNOUNCES-PASSAGE-OF-ACCELERATED-RENEWABLE-ENERGY-GROWTH-AND-COMMUNITY-BENEFIT-ACT-AS-PART-OF-2020-2021-ENACTED-STATE-BUDGET>

### More Information:

- Energy Sage, Corporate Renewable Energy Procurement: An Overview: <https://news.energysage.com/corporate-renewable-energy-procurement-an-overview/>
- Evolving the RPS: Implementing a Clean Peak Standard: <https://www.strategen.com/reports-1/2018/3/28/evolving-the-rps-implementing-a-clean-peak-standard>
- IREC Model Interconnection Procedures: <https://irecusa.org/publications/model-interconnection-procedures/>
- The Business Renewables Center: Corporate Renewables Deals: <https://businessrenewables.org/corporate-transactions/>