

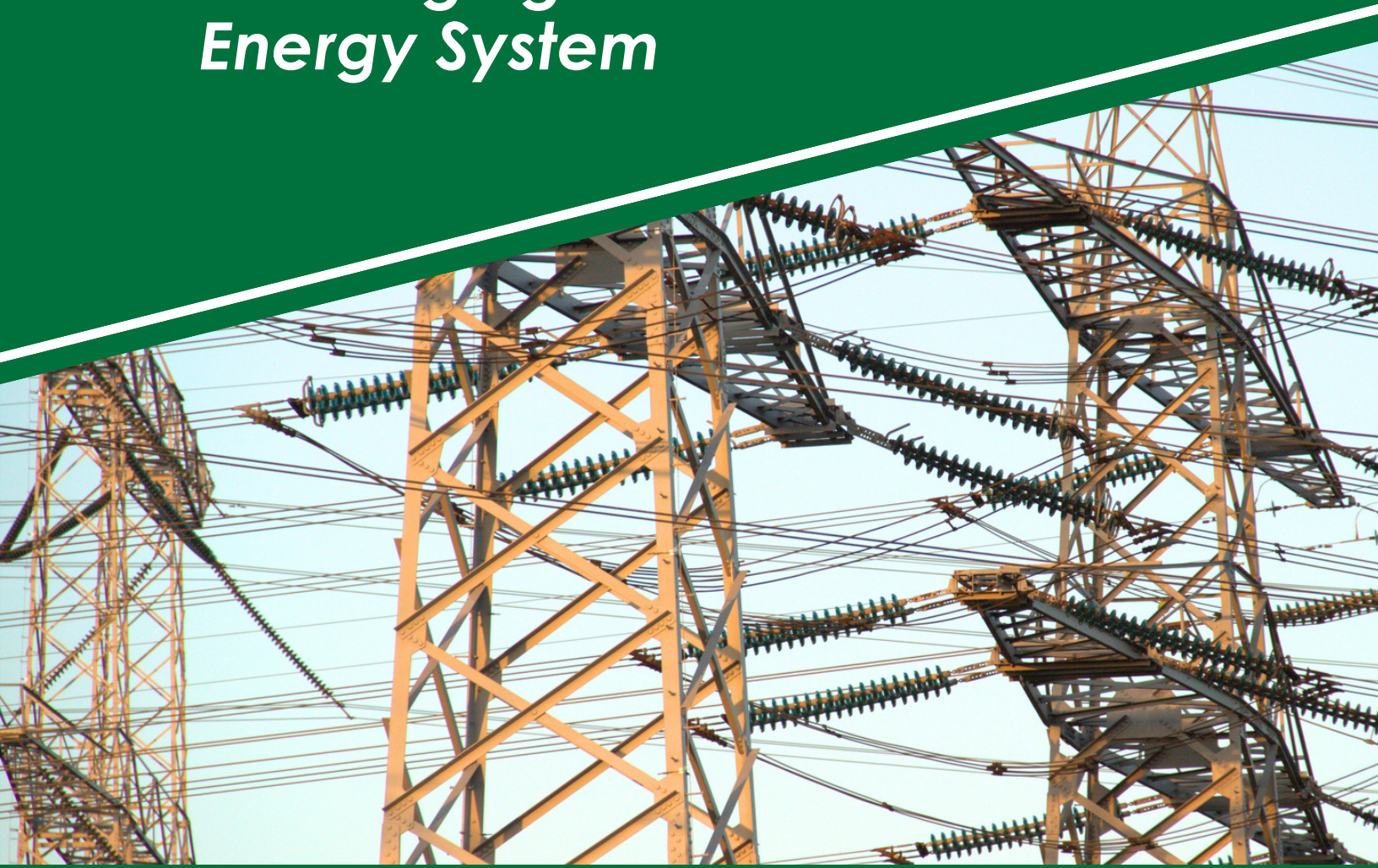
July 2026



Ecology Action Centre

IN OUR POWER:

*Recharging Nova Scotia's
Energy System*



*Understanding Energy
Terms: The Grid*



In Our Power: *Recharging Nova Scotia's Energy System*

Our energy system must meet the needs of all Nova Scotians. This is not wishful thinking. Energy is a human right, essential for health, safety, comfort and access to information. A system that is reliable, affordable and sustainable is essential.

We need that system now.



Understanding Energy Terms: The Grid

Base-load energy systems: These are power plants, such as nuclear power, that run all the time and are more efficient by doing this.

Capacity (installed capacity): This is the maximum possible output a power plant could produce if conditions were ideal. Installed capacity is almost always higher than actual output.

Capacity factor: It's a mathematical calculation that essentially measures a plant's productivity. Power companies and grids use capacity factors to balance supply and demand, manage energy transition and determine the economic feasibility of new power projects.

Clean energy: Energy that does not pollute the environment, such as wind and solar, is considered clean energy. There is low to no impact on human health.

Demand response: This occurs when customers are asked to reduce their energy use because of high demand on the system. Consumers are often financially rewarded for powering down non-essential equipment or adjusting thermostats.



Dirty energy: Energy that pollutes the environment and generates large amounts of waste, such as coal, gas or nuclear power, is called “dirty energy.” It has a moderate-to-high impact on human health.

Dispatchable energy systems: Unlike base-load systems, these power plants turn on in case of an emergency or when energy demand is high. Think battery storage and diesel and gas generators.

Distributed energy resources: These are smaller, decentralized generation and storage systems located close to where energy is actually consumed as opposed to large-scale power plants. Rooftop solar panels and small wind turbines are two examples of distributed energy resources.

Electric load carrying capacity: Often called ELCC, this refers to the maximum electrical demand a system can safely and reliably support.

Energy procurement: This is about sourcing, or buying, energy. It refers to the people, the organizations, and the governments that decide where the electricity that is delivered to consumers will come from.

Energy storage: To maintain a reliable energy system, backup energy supply is needed. Energy storage lets us save power for later when it is most needed. Often stored in a battery, this helps keep costs down and makes the energy grid more reliable.



Generation/generating assets: Quite simply, this is the production of electricity. Coal plants, wind turbines, solar panels, to name a few, are responsible for energy generation and are considered generating assets.

Interregional transmission: These are powerlines that connect different regions, such as between provinces.

Intermittent energy: This type of energy system is by its very nature variable. There is not always enough sun or wind, for example, to generate power.

Load: There are two meanings for “load.” One refers to the machines, devices, and systems that are using energy at any point in time. The other meaning refers to the total amount of electricity on the grid at any one time.

Micro-grids: Think small, specifically smaller independent grids that operate outside the provincial energy system. The grids can be as small as a solar panel that powers someone’s cottage or as large as generators that electrify a small community.

Peak demand (peak load): Those times when energy systems experience maximum usage. Think hot summer afternoons when the AC is blasting or cold winter mornings when the heat is pumping.



Power producers: These are companies or communities that own energy-generation assets and can sell power to utilities and governments. Nova Scotia Power, for example, is a power producer, and it also purchases energy from others.

Smart energy grid: This type of grid is designed to provide the most clean and efficient form of energy at the lowest cost. Wind energy, battery storage and interregional transmission lines all contribute to a smart grid.

Transmission: These are the power lines that transport electricity to where it is needed.

