

PULLING BACK THE CURTAIN

WHO'S CHARTING OUR ENERGY FUTURE?



Glossary of Key Words

Session 1: Utilities in the U.S.

NCUC: [North Carolina Utilities Commission](#), North Carolina's version of a Public Utilities Commission (PUC), which exists in some form in every state in the U.S. The NCUC is a state agency, and is the regulatory body that oversees various utilities in NC, including electric and gas utilities such as Duke Energy and Dominion. The NCUC has limited [oversight](#) over other utilities, such as municipal electric utilities.

CAPACITY: A power plant's capacity is like a bucket. The bigger the bucket, the larger the power plant's capacity. For example, at 1,000 MW, the average nuclear power plant is one of the largest "buckets," usually defined as MW (megawatts) or kW (kilowatts). Whether it is running or not (generating electricity), a power plant's capacity [does not change](#) (except for a minor amount in summer versus winter due to the fact that heat reduces a power plant's ability to generate power). A power plant's capacity is its [maximum power output](#).

REGULATED vs DEREGULATED (or RESTRUCTURED) STATE: This is a concept that can be difficult to grasp, but [the gist](#) is that a regulated state generally has a monopoly utility – such as Duke Energy in NC; while a deregulated or restructured state has a much more open and transparent competitive market.

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ENERGY: [Energy is defined](#) as the ability to do work. In the power plant world, energy is measured in kWh (kilowatt-hours) or MWh (megawatt-hours). The amount of energy – i.e. kWh or MWh – from a power plant differs with the type of power plant. For example, a nuclear power plant runs 93% of the hours in a year, while a typical coal plant runs ~50-60% of the hours in a year. (Less than a decade ago, most coal plants ran 80% of the hours in a year.) Solar PV (photovoltaic), on the other hand, is able to produce electricity only when the sun is shining, so the average solar PV plant in NC can generate electricity between 14% and 25% of the hours in a year, depending on the location and whether the solar PV plant has “trackers” that follow the sun

EXTERNALITIES: An “[externality](#)” is an uncounted cost, such as pollution, health effects, or climate damages. Our current regulatory system does not account for these very real costs, except in certain states, including NY and MN. These “external” costs can be enormous, dwarfing the cost of the fuel, for example. [Coal’s “externalities” have been estimated at ~\\$500 billion/year](#), far exceeding the raw cost of the coal at [~\\$40 billion spent per year for all US utilities](#).

EROI (ENERGY RETURN ON INVESTMENT): The energy that is left after energy is spent to locate, drill, mine, ship or process a fuel. For example, the EROI of oil has [declined](#) over the past 100 years, as the easy-to-get oil has been used up, and we are now using energy-intensive oil products like tar sands. Charles Hall and David Murphy have written and explored this extensively [here](#). [Not all experts agree](#) that EROI is a useful metric, and the numbers can vary drastically. However, the easy-to-use energy, particularly from fossil fuels, is clearly used up first, and has a greater return on energy invested.

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