

Hudson Public Power American Municipal Power City Council Introduction

2020



CITY OF HUDSON POWER SUPPLY

Updated November 2019

History

Established in 1911 the mission and purpose of the Hudson Public Power Division is to provide Hudson's residential, commercial and industrial electric customers with high quality, reliable electric power and associated services in an effective and efficient manner and within a fiscally responsible framework.

Electric power is supplied to the City by American Municipal Power, Inc. (AMP). AMP was founded in 1971 when a small group of municipally owned electric systems joined together to collectively work towards lowering future power costs by entering into competitive purchasing contracts and developing their own generation assets. Hudson Mayor John Rogers (1962-1980) was instrumental in getting AMP off the ground and established as a competitive force in the power industry. Today there are 135 AMP member communities across nine states. The City of Hudson has been a member since the organization's inception.

Where does Hudson's power come from?

AMP acquires power to provide their member communities in two basic ways. First, AMP owns or participates in several power generation plants which generate electricity from different resources such as coal, natural gas, wind, solar, hydro and methane gas. Each member community has an opportunity to be a participant or investor in all of AMP's generation projects and receives a portion of the power generated from them. Like any business commitment or investment, individual member communities must carefully consider the benefits, risks and costs that come with being a project participant or partial owner. Second, because each member community requires a certain amount of power based on their unique needs or demand, and because not all the demand can be satisfied by AMP owned generation resources, additional power requirements are purchased off the market on behalf of the member community based on AMP recommendations and the member community's approval. Each member community then has a unique mix of energy resources which make up their power portfolio. The portfolio is often a reflection of what a community believes their power resources should be, which is often balanced between reasonable costs and diverse resources. Currently approximately 20 %-25 % of the City's power supply comes from sustainable energy resources. Hudson City Council has also practiced looking at the feasibility of renewable energy sources when evaluating power supply options.

How much power is required and consumed and what is the cost?

The pie chart below shows the most up to date distribution of Hudson's power portfolio. It is a 2020 resource projection. The City of Hudson requires approximately 42-46 MW of power annually depending on actual load. The City reached its highest demand for 2018 on September 5 at 3:00PM EST with a peak demand of 44.89 MW at a recorded temperature of 95 degrees. As a comparison most average cities with populations up to 50,000 can meet demand with approximately 45-50 MW. Average monthly electric usage for a Hudson residential account is approximately 1075 kWh. The average monthly commercial/industrial use is approximately 10,000 kWh. This equates to approximately 200 million kWh's consumed on an annually basis. At a 2020 all-in projected rate of \$76.56 per MWh based on 2020 projected usage of 180,874 MWh, the City's estimated cost of power for 2020 is 13.8 Million. The cost of power has been decreasing over recent years mainly due to energy efficiency efforts and lower energy costs for market and remaining requirements power.

How does the power get to the City of Hudson?

The transmission of electric power is an industry in and of itself. Regional Transmission Organizations (RTOs) exist in several locations and service predetermined zones across the country. It is the function of these RTOs to operate the transmission grid and move power across it in the most reliable and efficient manner possible. More importantly, the RTOs must ensure there is adequate power to meet peak demands. The City of Hudson is within the Pennsylvania, New Jersey, Maryland (PJM) RTO. As such, the City is invoiced for transmission services as a portion of its power costs. Transmission costs are directly related to how much electricity is being moved and the distance its being moved. Transmission charges are calculated through formulas from the RTO's and is regulated by Federal Energy Management Commission (FERC). Transmission costs have been increasing for many years and accounts for approximately one third of the City's overall power costs.

The City's power comes across high voltage transmission lines owned by First Energy and connects to the City system at two connection points. The eastside substation located on Stow Road at the Ohio Turnpike Bridge and at the south main substation located on east side of South Main Street adjacent to the railroad tracks. Power is then stepped down through transformers at five system substations that send power out to the City's distribution system for residential and commercial use.

What are Hudson's specific power portfolio resources?

Generation Resources (2020 Projections)

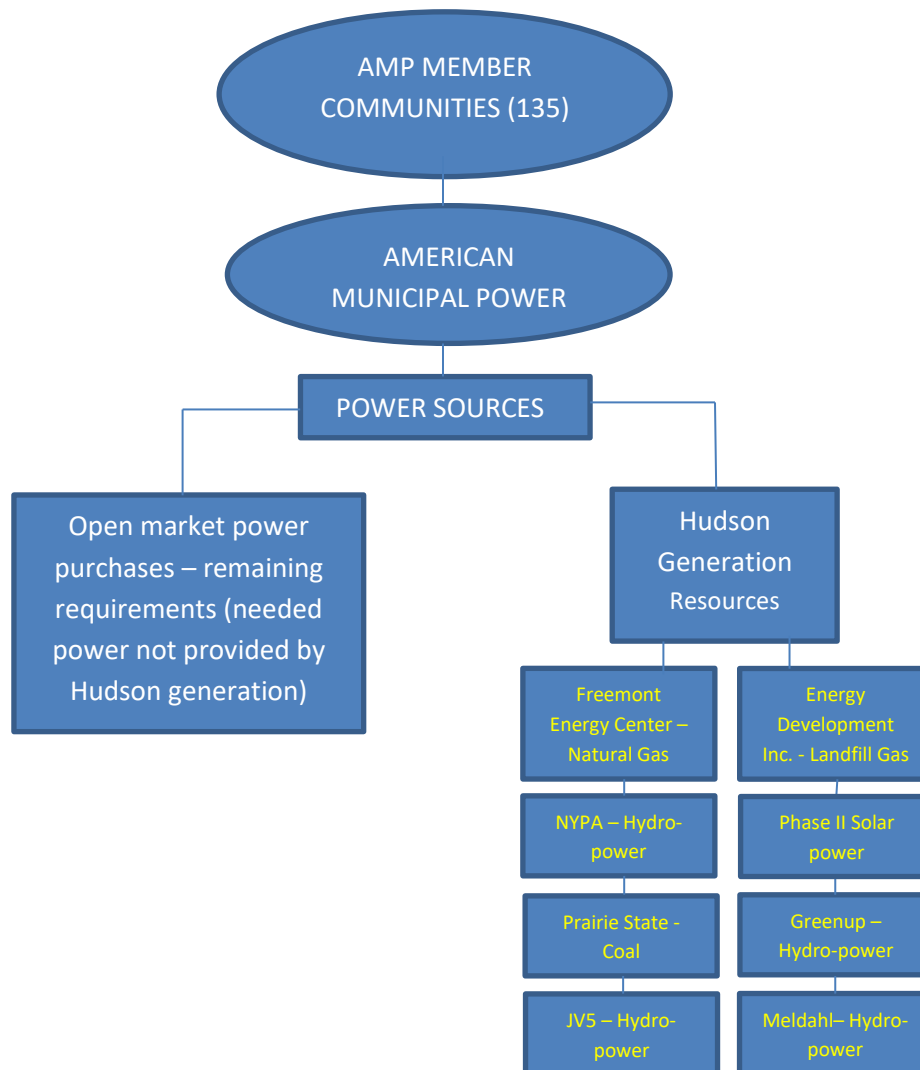
- The Amp Freemont Energy Center (AFEC) is a natural gas generation plant located in Freemont Ohio. Power from the AFEC plant makes up 9.8% of Hudson's energy portfolio. Hudson is a participant in this resource for the life of the unit.
- The New York Power Authority (NYPA) is power generated from federal hydro plants located in the state of New York. This resource accounts for 2.7% of the City's power. This is a contract purchase agreement through 2027.
- Prairie State generation is a recently constructed coal generation plant located in southern Illinois. It generates 38.2% of Hudson's power. This power is through a long-term contract agreement. Hudson is a participant for the life of the unit.
- Joint Venture 5 is a hydroelectric plant located in Belleview, Ohio. It accounts for 9.5% of the City's power portfolio. This resource is a long-term participant contract agreement. Project debt drops off in 2029. Hudson is a participant for the life of the unit.
- Greenup and Meldahl are newer hydroelectric generation plants on the Ohio River that went online in 2016. They are "run of the river" facilities, no dams. They represent about 1.8% of the portfolio. Hudson is a participant for the life of the units.
- EDI Landfill Gas is power generated by methane gas from capped landfills. This resource is through 2021 generated from three different landfill sites and makes up 3.2% of the portfolio.
- AMP Solar Phase II is a newer resource of what will be several solar sites. The first of which came online in January 2017. This first solar array is in Bowling Green Ohio with other sites to come across the state being installed Bowling Green is the largest solar site in the State. This resource will account for 3.8% of the portfolio and will be for peak power needs and will increase to 5.8% at build out. This is a 25-year participation agreement.
- **Market Resources**

AMP

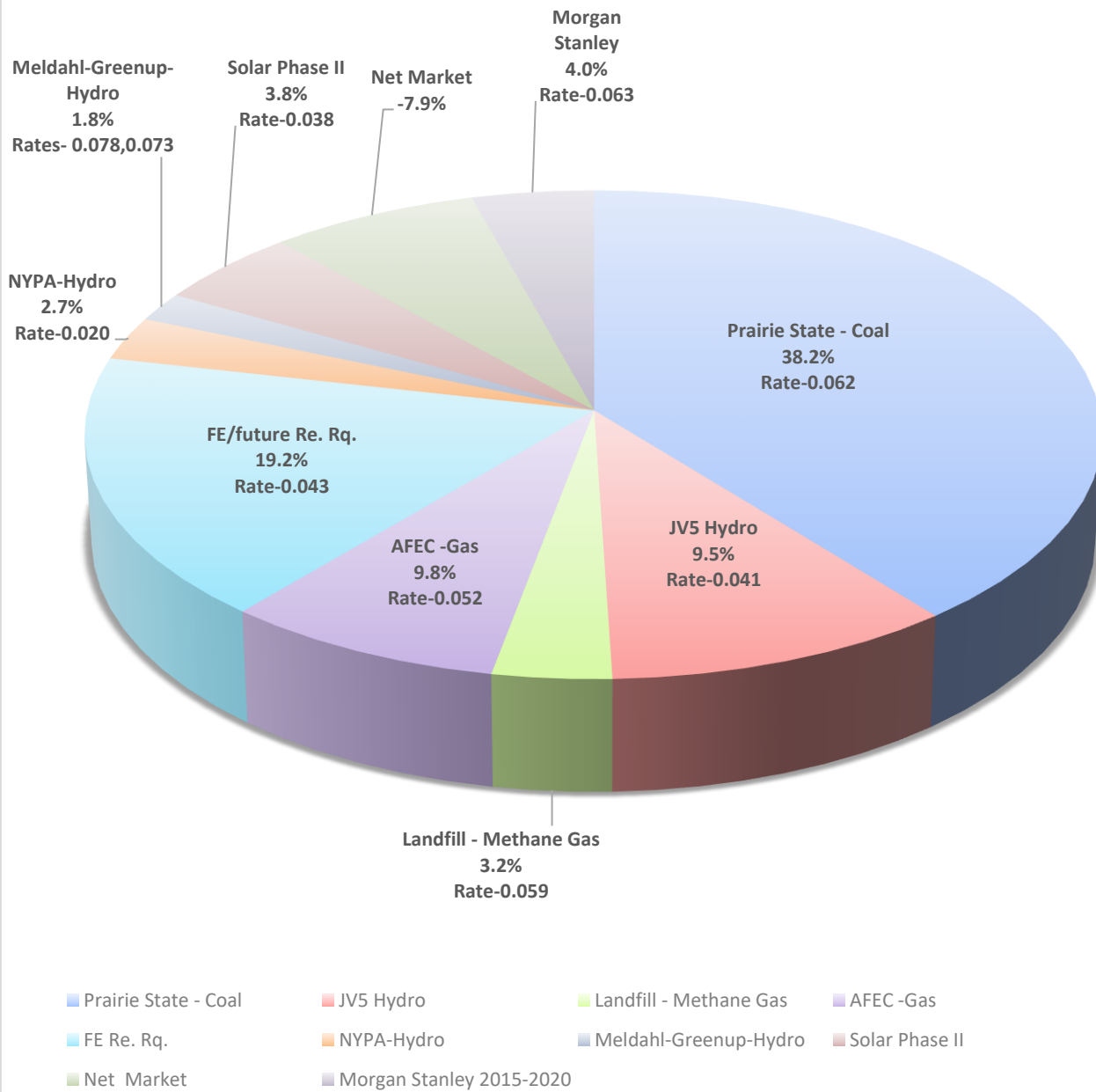
Market
Purchases

- Morgan Stanley (rate-\$0.062) – 7X24 power (24X7 days) contract through 2020 = 4.0%
- Remaining requirements (rate through 2020-\$0.043) (rate 2021-2024- \$0.041) =19.2%
- Net Market (sold back to the grid) -7.9%

Amp Organization/City of Hudson relationship:

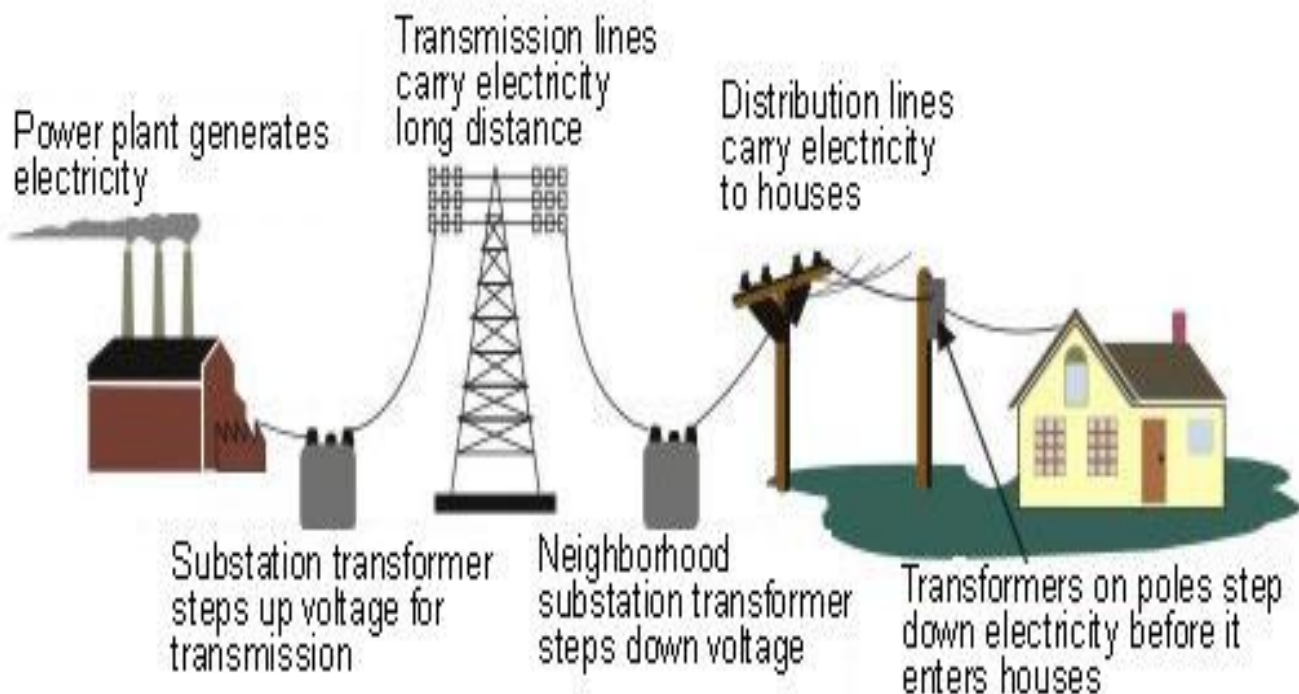


2020 PROJECTED POWER RESOURCES



Rates for month ending January 31, 2019

How does the power get to the customer?



City of Hudson electric rate structure and Summary

Residential Rate = **0.115** per kWh (Average Home uses 1000-1200 kWh per month)

Hudson Electric Invoice: Account/Meter Charge = \$10.00 per month

Rate Breakdown:

Base Power = 0.0815 per kWh

Operations & Distribution = 0.0335 per kWh + \$10.00 account/meter charge

PCF (Power cost factor) = \$ Percentage amount over or under base power rate

Mr. John Doe
Hudson Public Power
Statement

Total Usage-----1200 KWh (6-1 to 6-31)

Account / Meter Charge-----\$10.00

Base Power Charge-----\$97.80

Operating & Distribution Charge---\$40.20

Power Cost Factor-----\$3.72 (February PCF=0.0031)

KWh Tax-----\$5.58

Tax per kWh:

The first 0 – 2,000 kWh-----0.465

The next 2,001 – 15,000-----0.419

For 15,001 kWh and above---0.363

Total Amount Due-----\$157.03