# Scrap the Solar Cap

## Why lifting Georgia Power's net metering cap benefits the state


# **GA** Power & **Net** Metering

GA Power is the largest power utility in Georgia, serving **over 2.3 million residential customers**. A net-metering program was initiated in 2019 that allowed customers with PV solar panels on their roof to sell excess electricity to GA Power at competitive rates. The cap of 5,000 customers for the program was recently reached, **disincentivizing customers from installing solar power on their homes**.

# **Scrap the Solar Cap** to **Strengthen** Georgia

**Increasing the number of homes with PV solar panels** will **benefit the residents** of Georgia and will position the state to be **more resilient** in the face of a changing energy landscape.

# How Scrap the Cap **Benefits Georgia**

## Eliminate Cap

Remove the cap on net metering for residential solar customers

## Increase Solar

Competitive rates for selling excess electricity will encourage homeowners to install solar

## Benefit Georgia

There are **four ways** that increased residential solar will **benefit GA**

# Methodology

Data from the **U.S. Energy Administration (EIA)** were used to **analyze the trends** and **forecast future changes** in Georgia's **residential power demand, natural gas prices and residential solar generation**. In addition, the relationship between extreme temperatures and demand on the electrical grid was investigated.

# 01

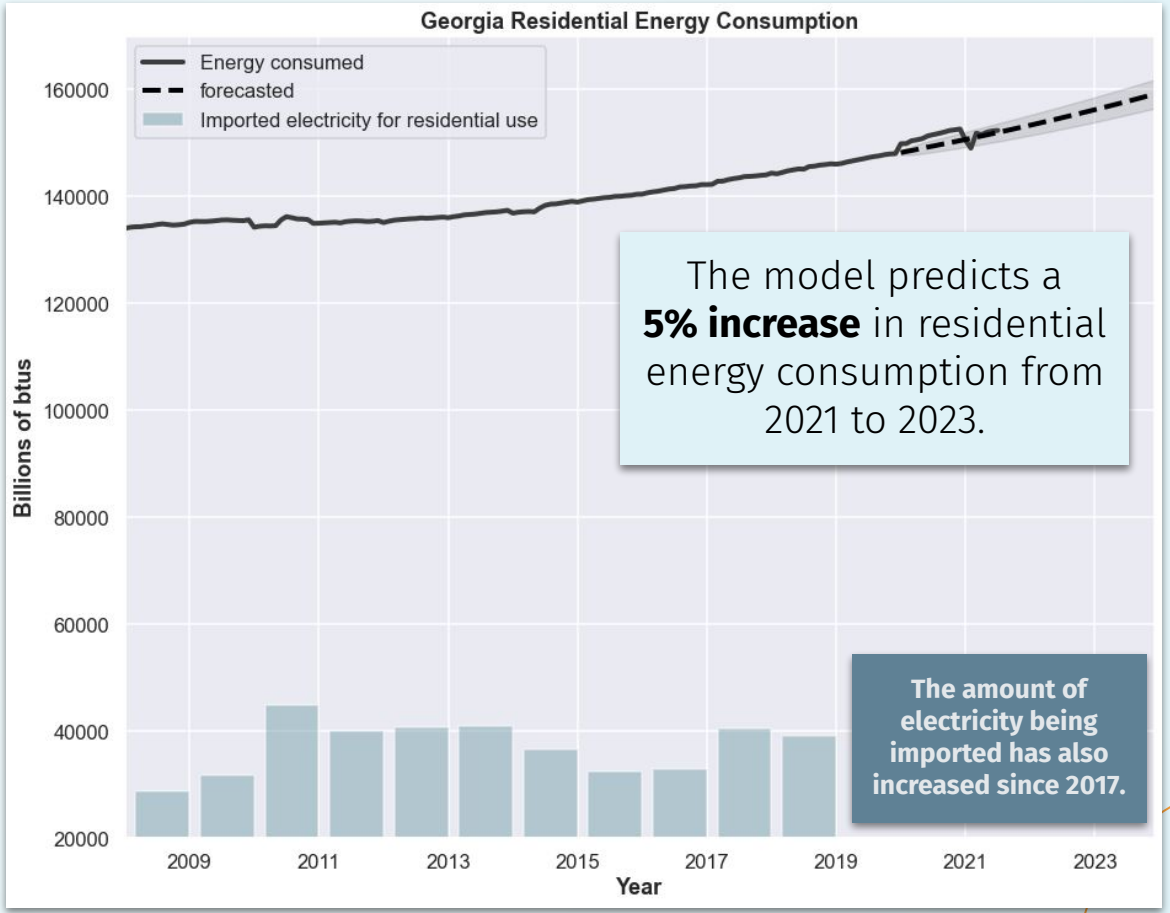
## GA Faces **Increased Dependence** on **Imported Electricity**

Since 1995, Georgia **uses more electricity than it produces** and relies on imports to make up the difference

# The **Data**

The forecast model uses the energy consumed 5 months ago to predict the current energy usage.

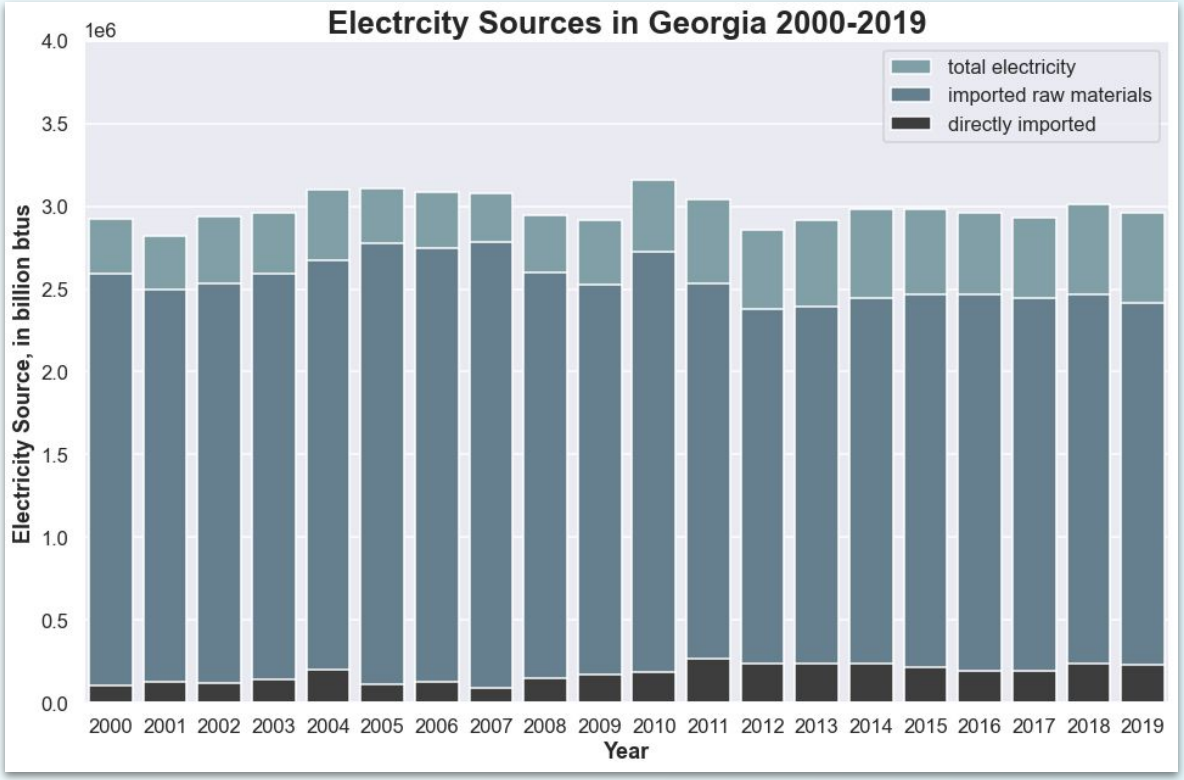
It has an average error of 0.01 billion btus.




Data from EIA.gov

# The **Analysis**

The ONLY sources of electricity in Georgia that are **not dependent upon imports** are renewable energy, including **solar**.




Data from EIA.gov

# Scrap the Cap Benefits Georgia

## Scrap the Cap

Remove the net metering cap.

## Increase Solar

Incentivize residential solar.

## Increase Independence

**Reduce dependence on imported electricity and raw materials by increasing renewable energy sources, including solar.**

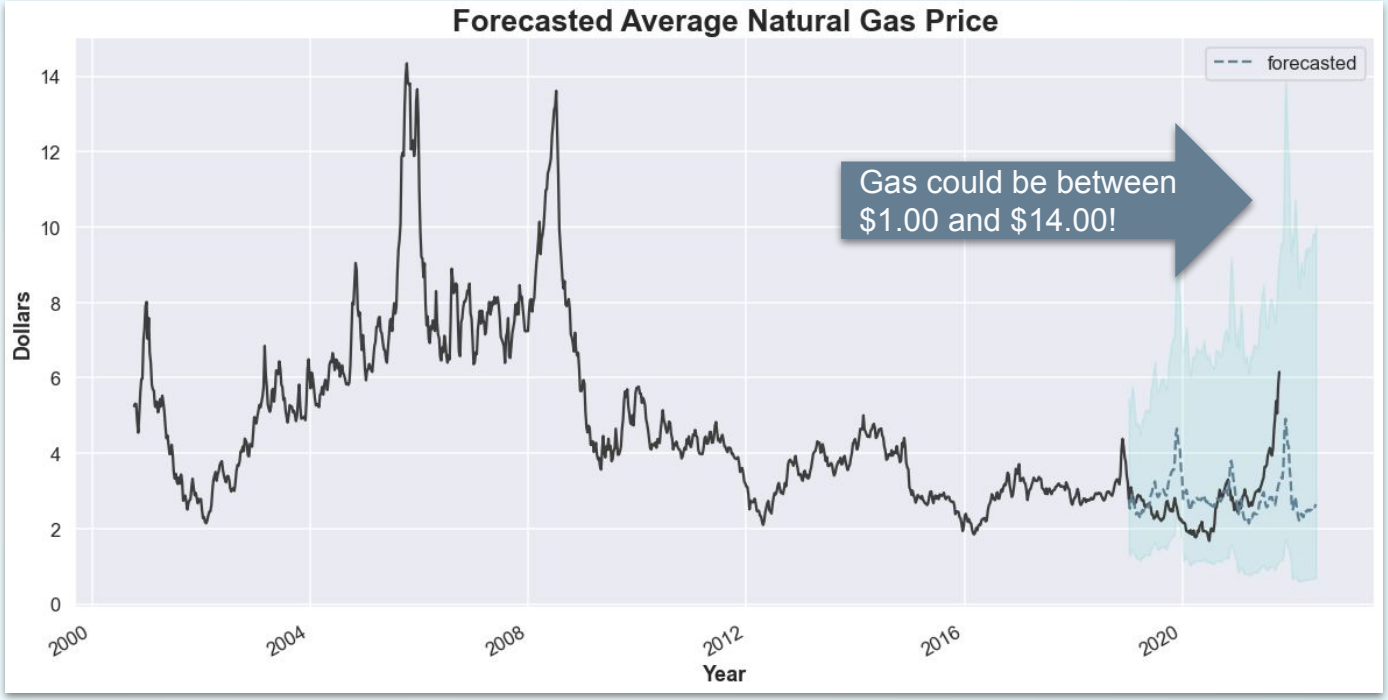
# 02

## **Rising Natural Gas Prices** Mean Higher Electricity Costs

**46% of Georgia's electricity** (and 27% of residential electricity) is generated **from natural gas**.

# The **Data**

At first glance, this model seems to do a decent job predicting gas prices. However, look carefully at the shaded region - it is **VERY uncertain** about its predictions!

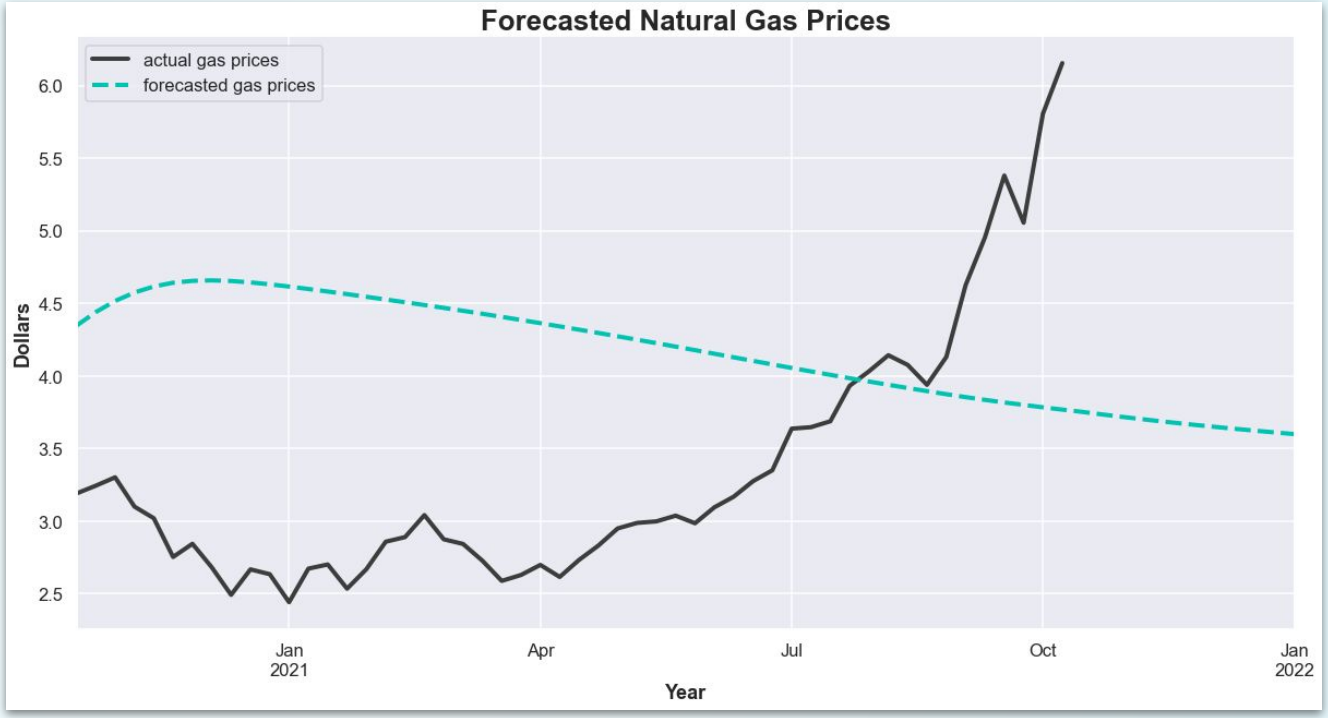



This model is using the prices one and two years ago to predict the current price.

Data from EIA.gov

# The **Data**

These predictions are from a **neural network**. These are very good at picking up on patterns in the data. However, notice that **the forecasted prices don't match the actual prices**.



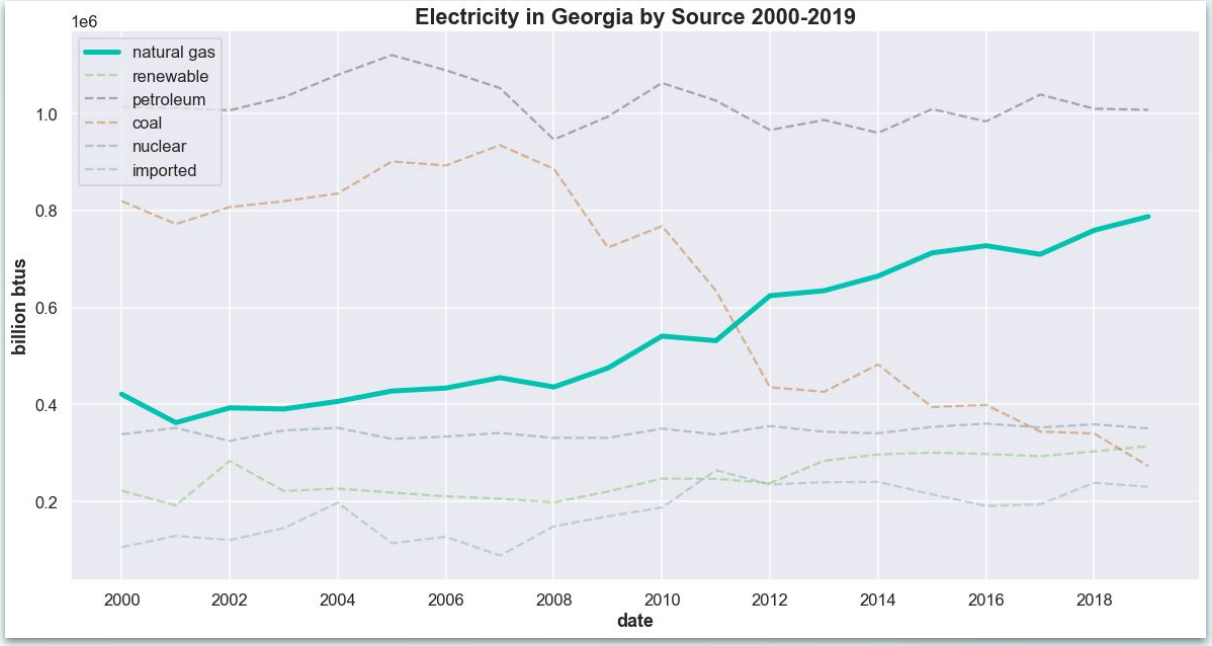

This model uses 52-week "windows" to predict the price in the next week.

Data from EIA.gov

# The **Analysis**

Future natural **gas prices are dependent upon external factors**, rather than the previous price.

As the state relies more on electricity produced via natural gas, **the state risks higher gas prices leading to higher electricity costs**.




Data from EIA.gov

# Scrap the Cap **Benefits** Georgia

## Scrap the Cap

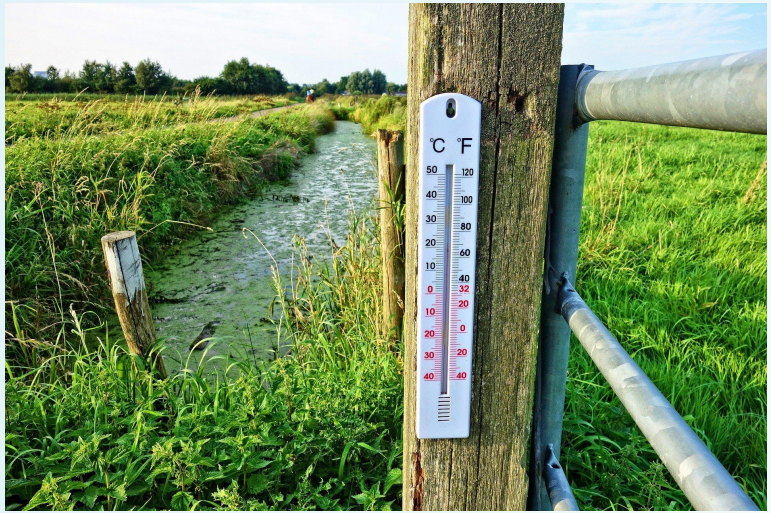
Remove the net metering cap.

## Increase Solar

Incentivize residential solar.

## Lower Costs

**Shift some of the electricity production from gas to solar to limit the impact of changing gas prices.**




# 03

## Hot Days **Increase Risk of Grid Collapse**

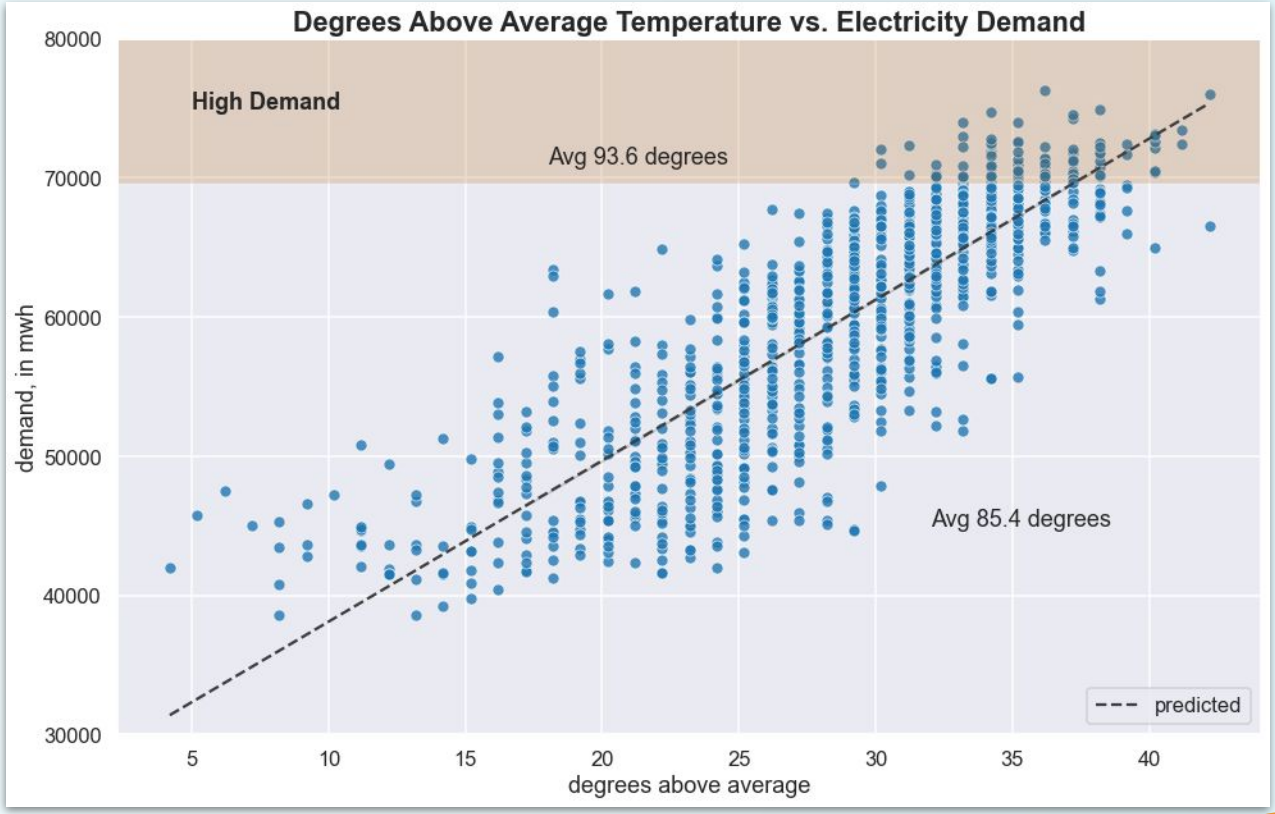
Hot days place **stress on the electrical grid**.

# The **Data**

On a 58℉ day, the SE electrical region (which includes Georgia), is expected to use 26,540 mwh for residential use.

For **every degree the temperature increases, the electricity demand goes up by 1,101-1,212 mwh**.

**Hot days put a strain on the energy grid.**



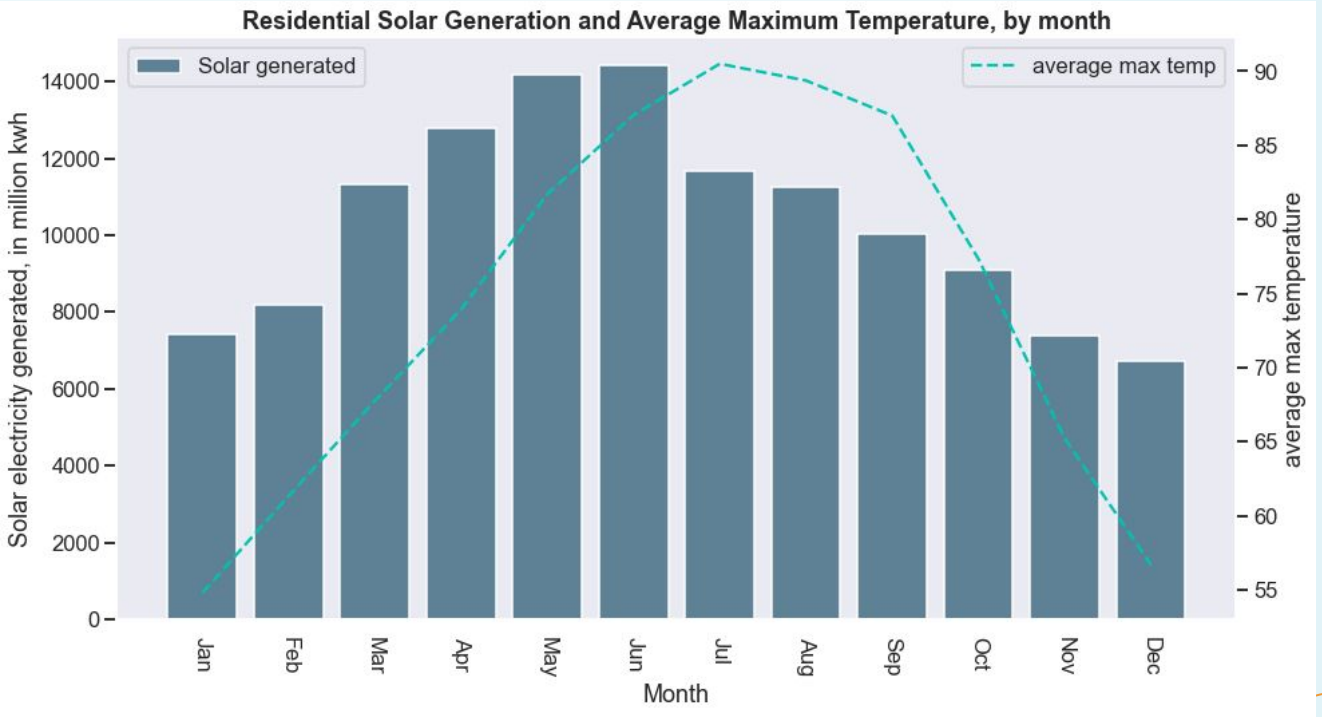

The model has an average error of 4,700 mwh.

Data from EIA.gov

# The **Analysis**

A residential **solar** system can provide electricity for the home it is on AND other homes in the area **without placing additional demand on the grid**.

According to Cobb County EMC (which has a net metering program), **30% of their power on sunny days comes from solar**.




Data from EIA.gov

# Scrap the Cap **Benefits** Georgia

## Scrap the Cap

Remove the net metering cap.

## Increase Solar

Incentivize residential solar.

## Reduce Risk

**Adding more residential solar lifts some of the strain on the grid during extreme hot weather, thus reducing the chances of grid collapse.**

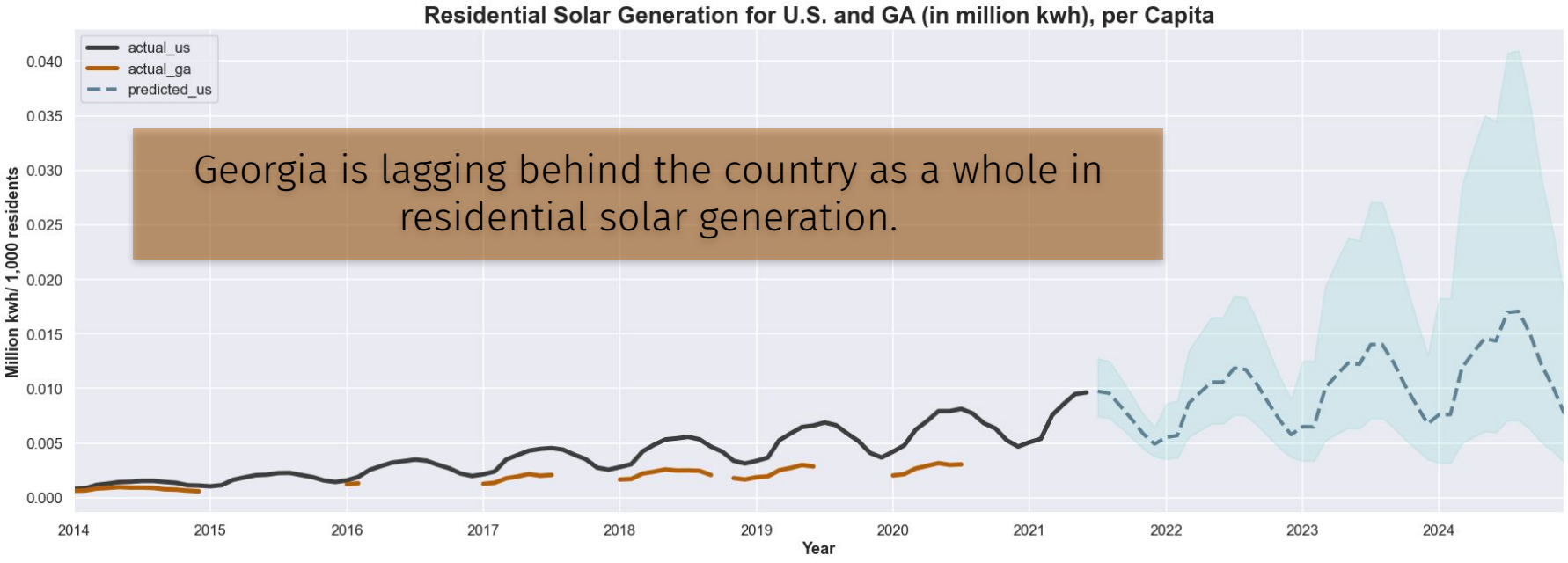
# 04

## **GA is Falling Behind** the U.S. in Residential Solar Production

State and federal initiatives mean that **Georgia has less residential solar production per capita** than the U.S. as a whole.

# The **Data**

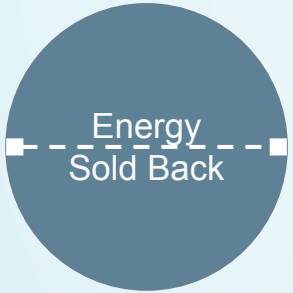
Data from EIA.gov

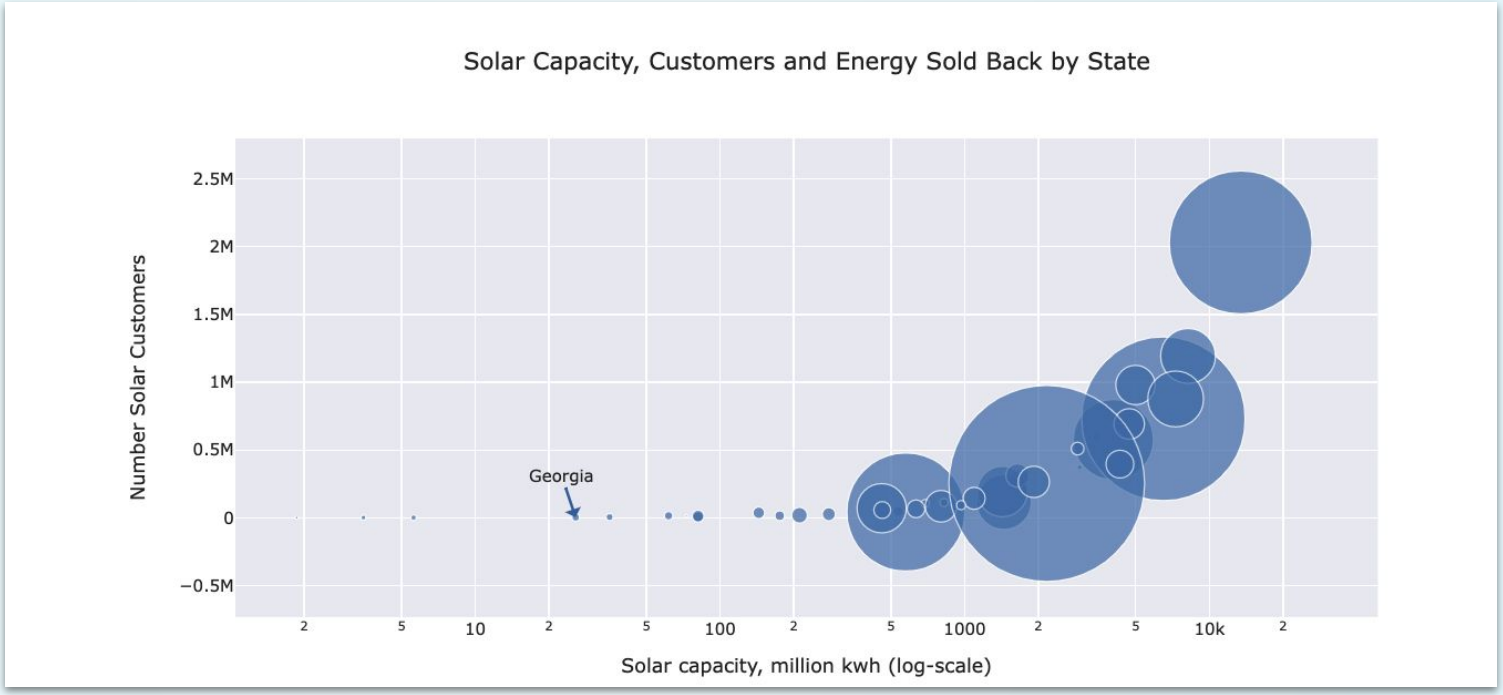



This forecast model uses data from 12 and 24 months ago to make predictions. It has an average error of 0.123 million kwh.

# The **Analysis**

**States with net metering tend to have more residential solar customers.**




Data from EIA.gov

# Scrap the Cap Benefits Georgia

## Scrap the Cap

Remove the net metering cap.

## Increase Solar

Incentivize residential solar.

## Stay Competitive

**Create policies that will allow Georgia to keep up with the rest of the country on energy.**

# Scrap the Cap **Benefits** Georgia

- **Increase independence** from imported fuel
- **Lower costs** associated with natural gas
- **Reduce risk** of grid collapse
- **Stay competitive** with energy changes

# **Future** Work

## Research Net-Metering

Which types of programs have the best return?

## Improve Predictions

What other variables can be considered to better predict gas prices?

## Update Information

What are the current data from Georgia Power?

**Thank you for your time** as we work to make **Georgia's future bright**.

Are there any questions?