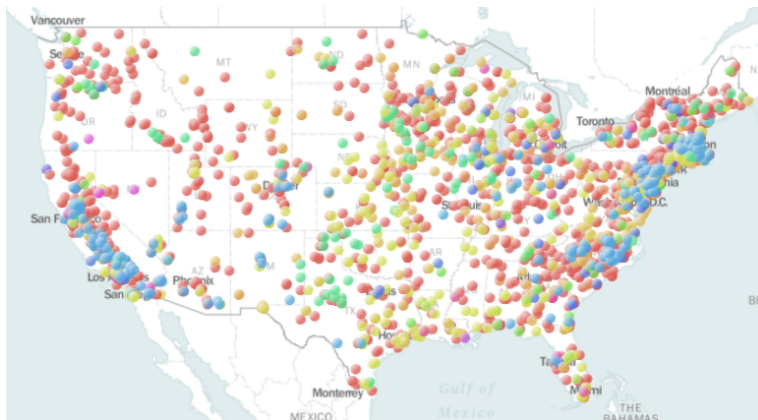


# US Power Plant Analysis Pipeline:

Where in the US do I install a plant?



# Data Pipeline

**EIA-923  
Generation and Costs**

**EIA 860  
Plant Information**

**County Census Data**

**Predictive Features**

**Prediction of Interest**

## Data Cleaning/Preparation

U.S. Department of Energy, The Energy Information Administration (EIA)  
EIA-923 Monthly Generation and Fuel Consumption Time Series File, 2012 File  
Sources: EIA-923 and EIA-860 Reports

Plant Id	Combined Heat And Power Plant	Nuclear Unit Id	Plant Name
2N			Bankhead Dam

## Data validation

Net Generation (Megawatthours)	
-147,503	
-206,679	
-773,280	

## Feature Engineering

- $\text{Gen/Fuel} = \text{Efficiency}$
- $f(\text{Lat}, \text{Long}, \text{Gen}) = \text{power density}$
- $f(\text{Lat}, \text{Long}, \text{Pop}) = \text{Pop density}$

## Feature Matching

Tot_MMBtu January	TOT_MMBTU _JAN
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'PLNTCODE,N,5,0','PLNTCODE',  
'PLANT\_CODE','Plant Code'

**Geography**

**Population  
Density**

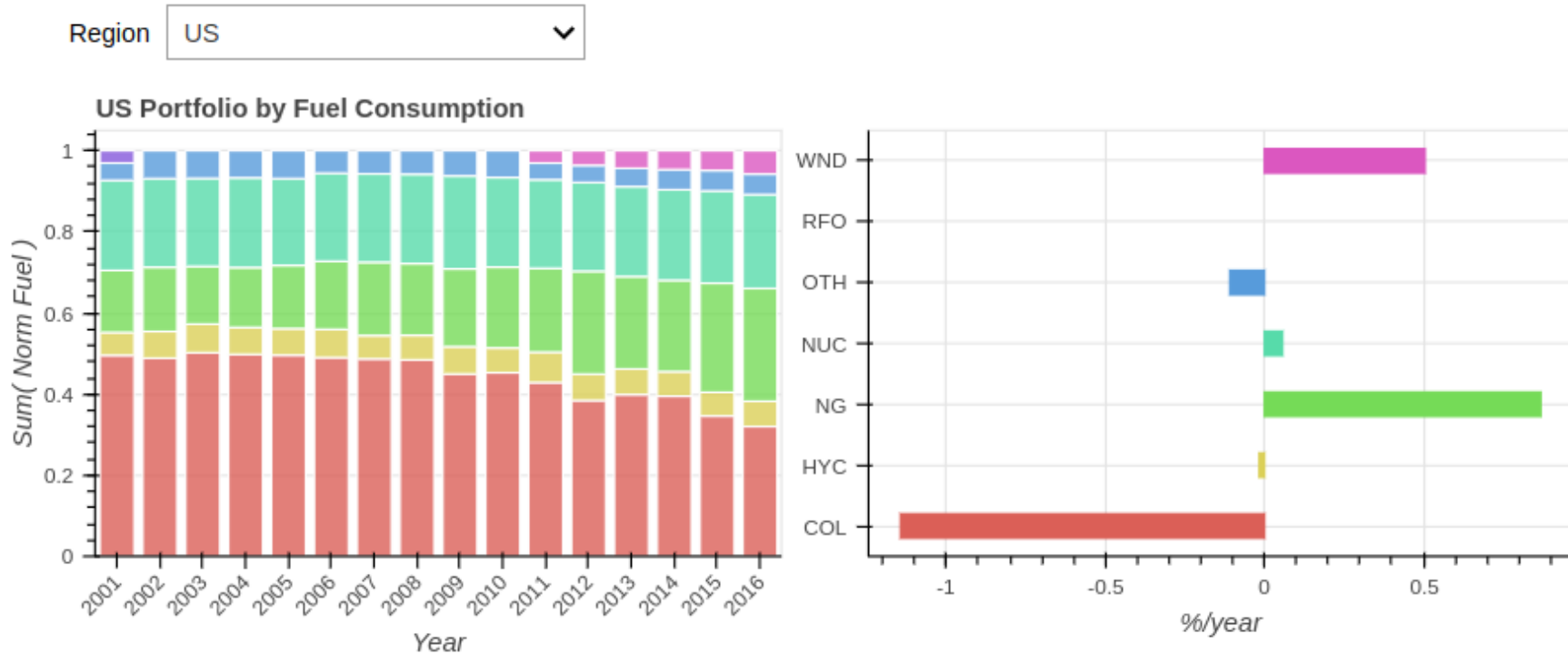
**Fuel Used, Sector,  
Tech Trends**

**Fuel Type Used  
18 classes**

**Capacity  
Continuous**

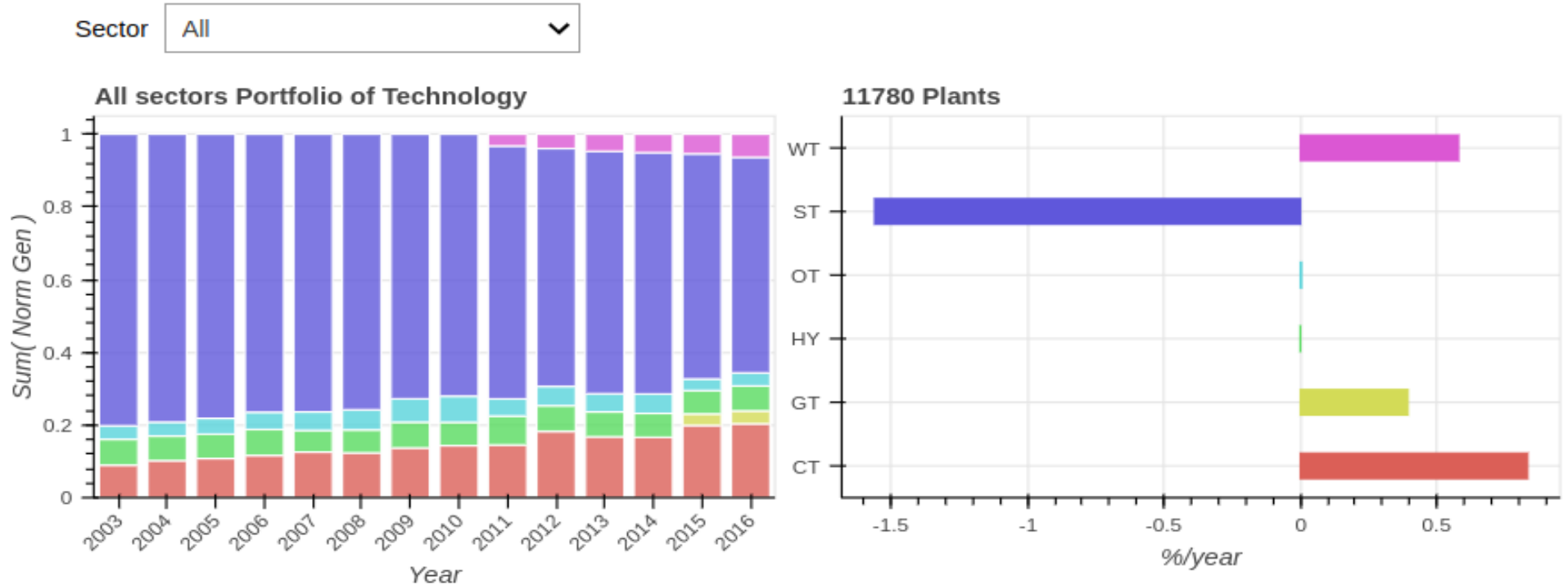
**Technology  
13 classes**

# Fuel Trends



*Natural Gas and Wind replacing Coal*

# Technology Trends



*Combined Cycle and Wind Turbine Replacing Steam Technology*