05/09/2022 Monday

Prediction on gas price

1. Where: 1 state – California
2. When: depends on our analysis? Upcoming the rest of the year of 2022 (the last half)

Monthly, quarterly, mid-year, yearly

1. U.S.
2. California
3. Since 2000 to current

US - Gas consumption, gas production, gas imports, population, gas prices by type, date

Output – gas price

California -

Population data: <https://www.multpl.com/united-states-population/table/by-year>

https://www.eia.gov/opendata/qb.php?sdid=PET.EMM\_EPM0U\_PTE\_NUS\_DPG.W

<https://github.com/madsenmj/ml-gas-price>

Phoebe: Square role, Circle, and X

Kim: Triangle role, Circle, and X

5/10/2022 Tuesday

From the circles: Excel, Python, ETL, Web Scraping, Machine Learning

US – focusing on the U.S. analysis in general

5/11/2022 Wednesday

Kim – Resources, ERD, **saving into database, folder structure**

Phoebe – overview, **Data cleaning for gas price, gas consumption, gas production**

5/12/2022

A picture containing timeline

Description automatically generated

Table

Description automatically generated with low confidenceGraphical user interface, application

Description automatically generated

Kim: Make a new branch to save new data files

Build new ERD

(US imports of total gasoline weekly -delete)

Gas price by type – change to monthly

US All grades all formulations retail prices weekly – change to monthly

Total 10 files including weekly California file & US All grades all formulations retail prices weekly

Phoebe: work on the date files on jupyter notebook

05/13/2022

Downloaded monthly data – instead of weekly (finally found lol)

Now we have all monthly data

But we need to know what year/month to run analysis for.

Kim: needs to change the formatting for US Price of Exports and Imports

Storage data

ERD

cali\_all\_form\_retail\_gas\_price\_monthly

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

Price\_per\_Gallon float

gas\_price\_by\_type\_monthly

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

A1

A2

A3

R1

R2

R3

M1

M2

M3

P1

P2

P3

D1

US\_Price\_of\_Natural\_Gas\_Exports\_Imports

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

Exports\_Price\_per\_Gallon float

Imports\_Price\_per\_Gallon float

US\_Natural\_Gas\_Exports\_Imports

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

Total\_Imports\_Mmcf

Total\_Exports\_Mmcf

US\_Natural\_Gas\_Supply\_Demands

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

Production

Consumption

US\_All\_Grades\_Retail\_Gas\_Price

-

Year int pk fk

Month int pk fk

Price\_per\_Gallon float

US\_Natural\_Gas\_Underground\_Storage

-

Year int fk - US\_All\_Grades\_Retail\_Gas\_Price.Year

Month int fk - US\_All\_Grades\_Retail\_Gas\_Price.Month

Volume\_Mmcf

Graphical user interface, application

Description automatically generated

cali\_all\_form\_retail\_gas\_price

-

Year int fk - US\_Natural\_Gas\_Exports\_Imports.Year

Month int fk - US\_Natural\_Gas\_Exports\_Imports.Month

Price\_per\_Gallon float

gas\_price\_by\_type

-

Year int fk - US\_Natural\_Gas\_Exports\_Imports.Year

Month int fk - US\_Natural\_Gas\_Exports\_Imports.Month

all\_grade

regular

midgrade

premium

diesel

US\_Natural\_Gas\_Exports\_Imports

-

Year int pk fk

Month int pk fk

Exports\_Price\_per\_Gallon float

Imports\_Price\_per\_Gallon float

Total\_Imports\_Mmcf

Total\_Exports\_Mmcf

US\_Natural\_Gas\_Supply\_Demands

-

Year int fk - US\_Natural\_Gas\_Exports\_Imports.Year

Month int fk - US\_Natural\_Gas\_Exports\_Imports.Month

Production\_Mmcf

Consumption\_Mmcf

US\_Natural\_Gas\_Storage

-

Year int fk - US\_Natural\_Gas\_Exports\_Imports.Year

Month int fk - US\_Natural\_Gas\_Exports\_Imports.Month

Volume\_Mmcf

