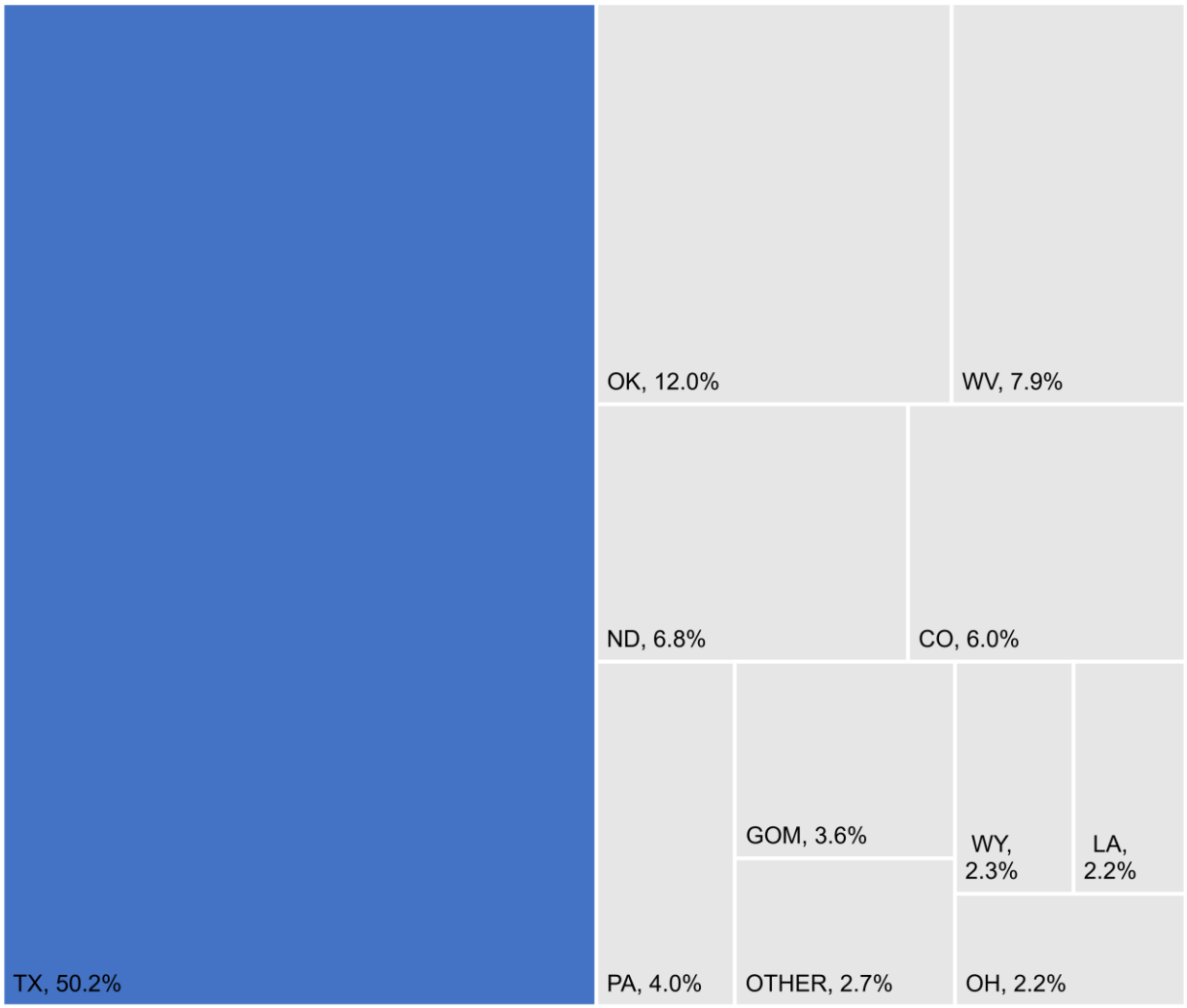
Visualizing Proportion

Figure 1. Natural Gas Production Share by State, 2019



Source: *Author's elaboration with data from the Energy Information Administration*

Remarks: OTHER refers to Alaska, Kansas, Utah, California, Kentucky, Alabama, Montana, Michigan, Florida, Arkansas, Virginia, Idaho, Illinois, Tennessee, Mississippi, and South Dakota; GOM stands for Gulf of Mexico.

The relevant points of this data visualization are:

- The main purpose of this figure is to visualize proportions of natural gas production in 2019.
- Figure 1 shows the plant liquid natural gas production share by State in 2019 using a tree-map.
- As observed in Figure 1, Texas was the largest natural gas producer in 2019 producing more than 50% of national production.
- The natural gas production in the 16 states comprising the other category shared 2.7% all combined.
- TX, LA, and GOM shared more than 55% of national natural gas production. These areas are also high-risk hurricane areas.
- As a consequence of having 55% of the production of natural gas being concentrated in high-risk hurricane areas, subsidy policy strategies or tax abatement policy strategies to insurance companies that cover natural gas producers in these states might be prioritized by national, state, and local governments to avoid high natural gas price peaks during the hurricane season.

I presented in Table 1 the six Tufte's principles recommended for a data visualization along with a description of each principle. Additionally, I indicated which of these principles I used when creating Figure 1 and explained their applications.

Table1. Tufte's Principles applied in Figures 1

Tufte's Principles	Figure1	Detailed description	Application
Show comparisons	✓	Making comparisons is helpful in identifying magnitude visually	Figure 1 compares the natural gas production distribution or shared by state in 2019.
Show causality	**NA**	The data visualization could have as major goal to show causality. How a variable cause another visually could provide a first insight in identifying causation	NA
Use multivariate data	✓	Use multiple variables to accomplish the goal of the data visualization	Figure 1 uses state and natural gas production shared by state.
Completely integrate text, images, and numbers	✓	Integrate relevant notes, remarks, and images to better inform your audience about the information you want to communicate	Figure 1 elaborates further on the labels included in the tree-map chart in the remarks. The main goal in aggregating other states was to use space efficiently as 16 states share 2.7% of national production all combined.
Establish credibility	✓	One form to establish credibility is to include the data source and also start from the origin or allow the reader to identify the scale you are using	I included at the source at the end of Figure 1. I also provided additional information about policy recommendations and elaborated further on some highlights in the graph.
Focus content	✓	Use space efficiently and avoid *chartjunk* by including relevant data to communicate your idea and stress on your main goal of your data visualization.	I included natural gas production shared by state as labels in Figure 1. I used the acronym of GOM to denote Gulf of Mexico and avoid using the entire label name to save space.