Map Portfolio Technical Documentation

Map 1

Map Title: State of National Hydrogen Strategy

Thematic or Reference: Thematic Map

Map Description: Map explaining the availability of national hydrogen strategy for each country by October 15th, 2023.

How many Map Frames are there: 2

Answer the following questions for each Map Frame	**Map Frame 1**	**Map Frame 2**
Describe the map extent.	**World map, showing different year of national hydrogen publication**	**Europe map inset, to show the detail in Europe continental area**
What is the map projection and why was it used?	**Goode's Homolosine, to maintain the accuracy of shape for each country by adding interruptions to the ocean, which is not very important for this map.**	**Europe Lamber Conformal Conic, which has been used for Europe continental, and recommended by the European Environmental Agency.**
What geographic unit(s) are used in the Map Frame?	**Country**	**Country**
Describe the symbology choice(s) used in the Map Frame.	**Unique values to differentiate year of publication for each country, start from 2017 to 2023**	**Unique values to differentiate year of publication for each country, start from 2017 to 2023**
What are the data sources?	**Each national hydrogen strategy in 51 countries**	**Each national hydrogen strategy in 51 countries**

Note: Only fill out the applicable columns (some maps may have one Map Frame; others may have 3).

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Map 2

Map Title: National Hydrogen Trade Strategy

Thematic or Reference: Thematic

Map Description: Map explaining different in trade strategy in fulfilling domestic demand of hydrogen in the future.

How many Map Frames are there: 3

Answer the following questions for each Map Frame	**Map Frame 1**	**Map Frame 2**	**Map Frame 3**
Describe the map extent.	**World map, explaining different trade strategy for each country**	**Korea Japan inset, showing in detail these two countries in specific due to their uniqueness in this topic**	**Europe inset map, showing in detail how different European countries in terms of hydrogen trade**
What is the map projection and why was it used?	**World Robinson, to preserve familiar shape for each country and projection that often used in schoolroom map.**	**Asia Lambert Conformal Conic, to preserve shape in Asia region**	**Europe Lambert Conformal Conic, which has been used for Europe continental, and recommended by the European Environmental Agency**
What geographic unit(s) are used in the Map Frame?	**Country**	**Country**	**Country**
Describe the symbology choice(s) used in the Map Frame.	**Unique values to differentiate whether the country adopt export, import, or neutral in terms of hydrogen trade**	**Unique values to differentiate whether the country adopt export, import, or neutral in terms of hydrogen trade**	**Unique values to differentiate whether the country adopt export, import, or neutral in terms of hydrogen trade**
What are the data sources?	**Each national hydrogen strategy in 51 countries**	**Each national hydrogen strategy in 51 countries**	**Each national hydrogen strategy in 51 countries**

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Note: Only fill out the applicable columns (some maps may have one Map Frame; others may have 3).

Map 3

Map Title: Grid-Powered Electrolysis Potential

Thematic or Reference: Thematic

Map Description: Map explaining the plausibility of a country build a green hydrogen electrolysis infrastructure, proxy by renewable penetration in the electricity grid and the size/capacity of the national grid itself

How many Map Frames are there: 2

Answer the following questions for each Map Frame	**Map Frame 1**	**Map Frame 2**
Describe the map extent.	**World map, explaining different renewable penetration rate and the size of national grid**	**Europe continental map inset to explain in more detail for European region**
What is the map projection and why was it used?	**World Robinson, to preserve familiar shape for each country and projection that often used in schoolroom map.**	**Europe Lambert Conformal Conic, which has been used for Europe continental, and recommended by the European Environmental Agency**
What geographic unit(s) are used in the Map Frame?	**Country**	**Country**
Describe the symbology choice(s) used in the Map Frame.	**Bivariate colors, to illustrate the intersections of two discussed variables, which is the renewable energy penetration and the nation grid size/capacity**	**Bivariate colors, to illustrate the intersections of two discussed variables, which is the renewable energy penetration and the nation grid size/capacity**
What are the data sources?	**Energy Institute, "Statistical Review of World Energy 2023"**	**Energy Institute, "Statistical Review of World Energy 2023"**

Note: Only fill out the applicable columns (some maps may have one Map Frame; others may have 3).

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Map 4

Map Title: Grey Hydrogen Potential

Thematic or Reference: Thematic

Map Description: Map explaining the potential of each country develop grey (natural gas derived) hydrogen based on proven gas reserved, net export/import of natural gas, and economic efficiency.

How many Map Frames are there?

Answer the following questions for each Map Frame	**Map Frame 1**	**Map Frame 2**	**Map Frame 3**
Describe the map extent.	**World map**	**European inset**	**Middle east**
What is the map projection and why was it used?	**Goode's Homolosine, to maintain the accuracy of shape for each country by adding interruptions to the ocean, which is not very important for this map.**	**Europe Lambert Conformal Conic, which has been used for Europe continental, and recommended by the European Environmental Agency**	**Africa Albers Equal Area Conic, which is used usually for Africa continental, and the closest equal area projection for the middle east.**
What geographic unit(s) are used in the Map Frame?	**Country**	**Country**	**Country**
Describe the symbology choice(s) used in the Map Frame.	**Bivariate colors, to illustrate the intersectionality of two important variables, net export/import status, and the economic efficiency. In addition, proportional symbol is also used to illustrate the proven gas reserved in each country.**	**Bivariate colors, to illustrate the intersectionality of two important variables, net export/import status, and the economic efficiency. In addition, proportional symbol is also used to illustrate the proven gas reserved in each country.**	**Bivariate colors, to illustrate the intersectionality of two important variables, net export/import status, and the economic efficiency. In addition, proportional symbol is also used to illustrate the proven gas reserved in each country.**
What are the data sources?	**Energy Institute, "Statistical Review of World Energy 2023"**	**Energy Institute, "Statistical Review of World Energy 2023"**	**Energy Institute, "Statistical Review of World Energy 2023"**

Note: Only fill out the applicable columns (some maps may have one Map Frame; others may have 3).