

Green uno

90%

Why do you think you're the teachers??

Power Grid Plan

Check all that apply

| T | S | Exceptional | T | S | Proficient | T | S | Not Yet Proficient | T | S | Experiencing Difficulty |
|---|---|--|---|---|---|---|---|--|---|---|---|
| | ✓ | Very organized and informative | | ✓ | Organized and informative | | | Somewhat organized and informative | | | Not organized or informative |
| | ✓ | Energy production is accurately graphed by source and money spent. | | ✓ | Energy production is graphed by source and money spent | | | Energy production is graph includes source or money spent | | | A graph has been attempted. |
| | ✓ | A detailed written report provides rationale for each source including advantages and disadvantages. | | ✓ | A written report provides a rationale for chosen sources including advantages and disadvantages | | | A written report provides a rationale for chosen sources | | | A written report attempts to provide a rationale for chosen sources |
| | | Illustrated blueprint of grid, including source production capacity, overlays geographic layout. | | ✓ | Illustrated blueprint of grid overlays geographic layout | | | Illustrated blueprint of grid has been completed | | | Illustrated blueprint of grid has been attempted |
| | ✓ | Blueprint symbols and key are detailed, well thought out, and easily read. | | ✓ | Blueprint symbols and key are detailed, and easily read. | | | Blueprint symbols and key are easily read. | | | Blueprint symbols and key are present. |
| | | Blueprint is accurate and informative in terms of size, quantity and location of power sources. | | ✓ | Blueprint is accurate in terms of size, quantity and location of power sources. | | | Blueprint attempts to show sources in terms of size, quantity or location. | | | Blueprint is missing size, quantity and location of power sources. |

Comments:

- * Title Graph & label X-axis
- * Possibly make your geothermal plants bigger in your board
- * Why put tidal where your Coral Atoll is located?

Geothermal 40% MWh 40% Geothermal MWh

$$176,700 \times 0.40 = 70,680$$

Main Energy source

\$6,007,800

Geothermal cost per MWh MWh Price

$$85 \times 70,680 = 6,007,800$$

Wind 30% MWh 30% Wind MWh

$$\text{Supplemental Energy source } 176,700 \times 0.30 = 53,010$$

\$4,145,382

Wind cost per MWh MWh Price

$$78.2 \times 53,010 = 4,145,382$$

Hydro 30% MWh 30% Hydro MWh

$$\text{Supplemental Energy source } 176,700 \times 0.30 = 53,010$$

\$3,063,978

Hydro cost per MWh MWh Price

$$57.8 \times 53,010 = 3,063,978$$

Advanced Coal 10% MWh 10% AC MWh

$$\text{Backup energy source } 176,700 \times 0.10 = 17,670$$

\$1,835,913

AC cost per MWh MWh Price

$$103.9 \times 17,670 = 1,835,913$$

Nice work!

F.B.R.U.D.H.Y.Y.S

Our city runs off of 1 main energy source 2 supplemental sources and 1 extra source. The main source is geothermal the supplemental sources are wind and tidal, and the extra source is advanced coal. There are many advantages and disadvantages to each of these sources.

For our main source, geothermal, some advantages are that one of our 3 plants is located close to an active volcano, two are located near inactive volcanoes. So since they're located near these spots there is plenty of heat to produce our needed amount of electricity. Another advantage to using this energy source is that they're underground. It is also clean, and renewable. Some disadvantages of geothermal energy is it produces steam instead of smoke. The geothermal energy source also tends to sink the ground, The plant is also really big so takes up a lot of space.

Another one of our city's main source is, wind. Some advantages of this source is in about the range of twenty years of having the wind energy source is that it will pay for itself, and it is renewable. Another advantage of wind is that we have wind coming from the south east and we don't have too many mountains in the way, but this is also a disadvantages because the ones that are in the way will affect how big we need to make the wind farm. Another disadvantage is we don't know how fast our wind is or how constant it is but we know its there and that we have a windy season so we are assuming that it will be enough to generate the power we need to get the 30% we need.

We are also using tidal to power for some of our needed electricity. We have an absolute ton of coastline so we will easily be able to capture tidal energy due to the current patterns of the ocean around of us. This is a great advantage over the other energy sources because the others are more selective over where they can be placed. The disadvantage is that currents are not always gonna be in our favor so it is a little selective over where we can place our plants but this is still better then other sources.

Our last energy source is advanced coal, this has big advantages over conventional coal but still not the amount that other sources have. We are using this as a pure back up source so incase something would happen we would still have electricity to power the city. The disadvantages is that it still produces CO_2 and harming the environment but this will be a drastically less number of pounds then before all of the changes.

- Comments:
- 1. Tell me how much it costs
 - 2. How big must your government be to handle this?
 - 3. How far would you have to travel to get it?

Group 1 Green F.B.R.U.D.H.Y.Y.S

