The TOM RAND Solution Project

“***Our Generation has inherited an incredibly beautiful world from our parents and they from their parents. It is in our hands whether our children and their children inherit the same world.”***

-*Richard Branson*

Background:

Over the last two periods, we have investigated the Athabasca Oil Sands. We have studied the sands infinite wealth production but to go along with this wealth, its catastrophic damage to our air, our wildlife and waterfowl, our people and perhaps most staggering, our climate.

Prime Minster Stephen Harper and the Canadian Federal government have approved the Northern Gateway Pipeline – a high velocity, high volume oil pipeline from northern Alberta, through the Western Cordillera, to the pristine Pacific coast of British Columbia. No small feat, but $5.5 Billion will get you a lot! However, this investment represents Canada’s commitment and ideology on power generation for the next century – we are championing oil, the pollution spewing, non-renewable resource!

But what about climate change? According to the *International Energy Agency*, we need to reduce carbon emissions by half within the next 30 years before the earth begins to experience irreversible climate impacts.

Tom Rand is a venture capitalist. He makes money for a living building and selling companies. He believes renewable energy initiatives make economic sense but also environmental sense.

Task:

You are smart, creative people! Tom Rand has approached this class to investigate, invest and mitigate the installation of a network of renewable energy sources throughout North America – creating a web of renewable energy systems that will power North America. In groups of two, you will be researching, reporting and presenting on the following topics.

Solar (Breanna, Rachel and Jessica)

Wind (Devoney and Russell)

Geothermal (Tyler and Justin)

Biofuels

Hydropower (Laura and Korey)

Ocean (Chloe and Merike)

Transportation Conservation (Jack and Connor)

According to CBC in 2011- North America used 4 422 Trillion kwh of power

If we divide all the renewable energy sources into equal producing faucets

**Each renewable needs to be producing – 737 Billion kwh to keep up with energy demands**

**This gives your research and planning a sense of size that is needed.**

Specifics – you must research and present on the following topics

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| * Explain the technology in depth   + different kinds, how it operates   + different types * ideal locations within North America (show on maps) to build/implement the technology * What physical features must exist to optimize the technology * Pitfall and negatives of the technology | * What companies are the world leaders? * Where are they located? * How much power will the technology produce? Per unit? * How much will construction cost? * Citations and references. |

1. Presentation must be approx. 20 minutes in length min– use the above specifics to guide your research and presentation
2. Use videos, diagrams, interactive maps etc. to aid in your proposal.
3. All researched materials must have in-text citations attached - See Preston High School Referencing Guide for proper instruction.

Presentations begin Thursday, December 10th – On the day of your presentation, you must submit the following

1. A script - complete with citations
2. PowerPoint Printout – 6 slides per page – grayscale
3. References Attached

Resources:

* Kick the Fossil Fuel Habit by Tom Rand
* Environmental Science – Sustainable Energy p. 501-525
* This Earth – Flow Resources p. 167 – 180
* Tom Rand Kick the Fossil Fuel Habit Book
  + Launch http://vimeo.com/11080320