**Wind Energy Design Project**

Assignment

Use the RETScreen Clean Energy Software package to design a *Wind Energy Power Plant*, estimate its cost, and analyze the economic profile of the project.

(15 questions, 100 points possible)

Instructions

* Download the free “RETScreen Expert” Design Software <https://www.nrcan.gc.ca/energy/software-tools/7465>
* Using the ‘Wind Energy Design Project’ homework video located on the class portal, use RETScreen to design the plant and optimize the financial profile.

Provide the following information:

1. Location of the project (City, State, Country):
2. Size of the plant in kW or MW:
3. Number of turbines used:
4. Manufacturer of turbine, model number:
5. Size (power capacity) of each turbine in kW or MW:
6. Wind speed used, in m/s:
7. Estimated Greenhouse Gas (GHG) emission reduction in tCO2/year:
8. Total initial cost of the plant:
9. O&M costs per year:
10. Debt payments per year:
11. Total annual costs:
12. Electricity export revenue:
13. Simple payback of the project in years:
14. Write a few paragraphs on ‘why’ you designed your project as you did, ‘why’ you chose the location, how satisfied you are (or aren’t) with the results, and anything in particular you learned from this exercise.
15. Required attachments: please attach screen shots of 1) the “Energy” tab, and 2) the “Finance” tab from RETScreen.