Using MS Project to plan the construction of a wind farm

Your task is to plan the construction of a wind farm. Your project plan will look like the plan which was described in the lecture for the solar power station. You will use MS Project to make a project plan containing the tasks listed below:

- **Wind farm design:** Numerical modeling of the wind flow to optimize the position of the turbines. (1 month)
- **Environmental impact assessment:** Biologists are to study how the introduction of the wind farm will alter the local eco-system. (1 month)
- **Financial analysis and legal planning**: (1 month)
- **Manufacturing of the wind turbines**: (1 month)
- **Transporting the wind turbines** from the factory to the construction site. (1 month)
- **Constructing the foundations** : (1 month)
- **Building the wind turbines on the foundations**: (1 month)
- **Laying a cable from the wind farm to the main land**: (1 month)
- **Testing of the wind farm**: (1 month)
- **Connecting to the grid**: (1 month)

Resources:

- A ship to build the turbines (2000 pounds per hour)
- A Ship designed to lay foundations (1000 pounds/hour)
- Wind turbine factory (3000 pounds/hour)
- A team of Electrical engineers (1000 pounds/hour)
- A team of scientists to model the wind farm (300 pounds/day)
- Biologists to do the environmental assessment 300 pounds per day.
- Lawyers and bankers (300 pounds per day)
- A port (1000 pounds/day)

After you have constructed your project plan, do the following:

- Insert two milestones in the project
- Find the critical paths.
- What is the total spend on the project?
- How long does the project take?
- How long would the project last if manufacturing the wind turbines lasted 2 months or 1 year?

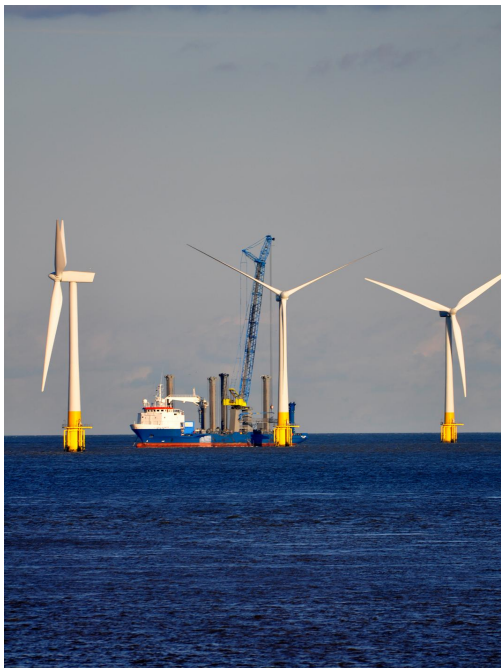

Figure 1: The Thanet wind farm consisting of 100 wind turbines generating a total of 300MW. Image: Martin Pettitt.

External links of interest:

http://www.bbc.co.uk/news/science-environment-14412189
http://www.bbc.co.uk/news/uk-england-cumbria-16961051
https://www.youtube.com/watch?v=JFzTFROqIbU&feature=related
https://www.youtube.com/watch?v=xFl3Dy2k6oQ&feature=relmfu

Dr. Roderick MacKenzie, 2019