Thème	Vidéo	Baccalauréat
5.1 Deux siècles d'électricité	Non	**Technologique/général**

SECTION EUROPÉENNE
Épreuve spécifique de Physique-Chimie en Anglais

Is green electricity so recent technology?

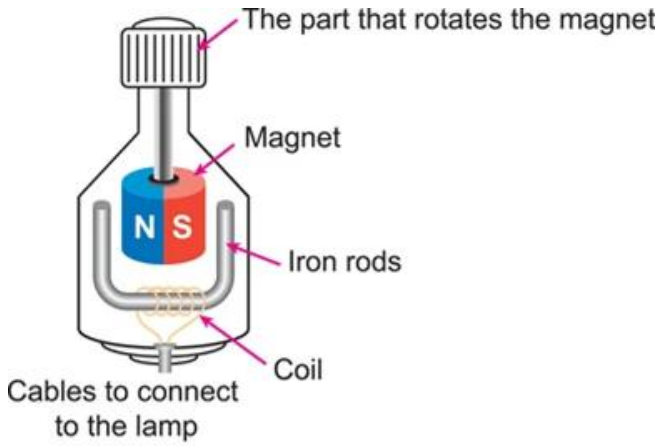
Document 1: History

Electromagnetic Induction was first discovered way back in the 1830's by Michael Faraday. Faraday noticed that when he moved a permanent magnet in and out of a coil or a single loop of wire it induced a voltage, and therefore a current was produced.

Thus, what Michael Faraday discovered was a way of producing an electrical current in a circuit by using only the force of a magnetic field and not batteries.

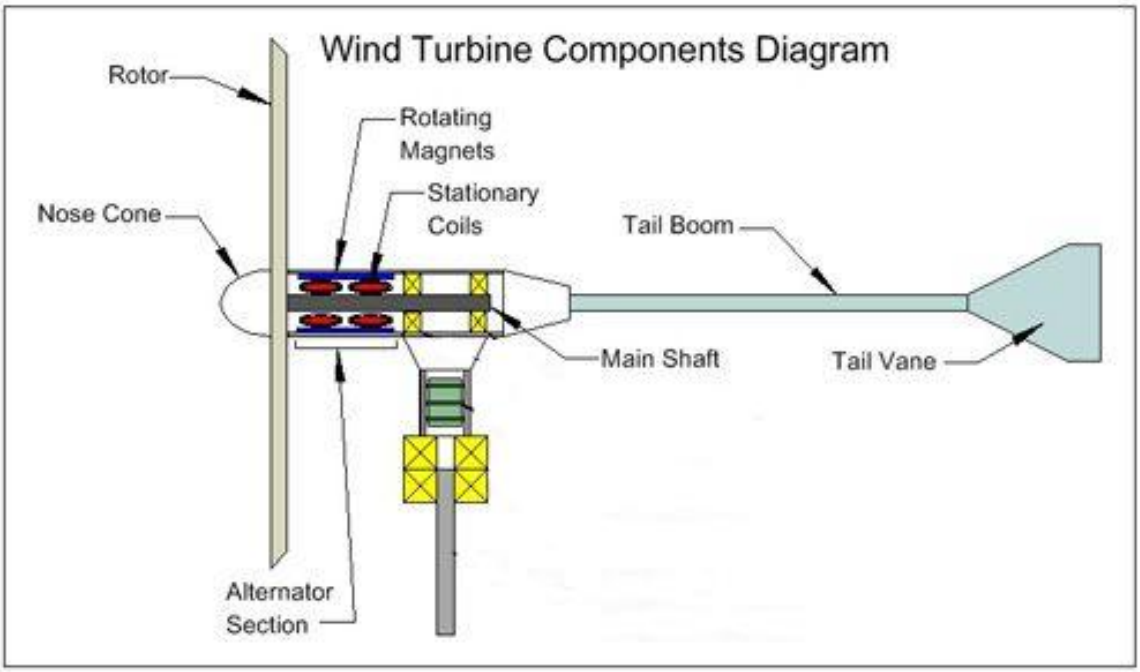
Document 2: The dynamo

Old bicycle dynamo produces electricity by stealing a small part of the bicyclist power output, while the bicycle is moving. Traditional "bottle-type" generators with a roller on the tire sidewall have been made for many decades, and work as long as good contact is maintained. Bottom-bracket generators which roll on the tread were introduced around 1980 but are no longer in production.

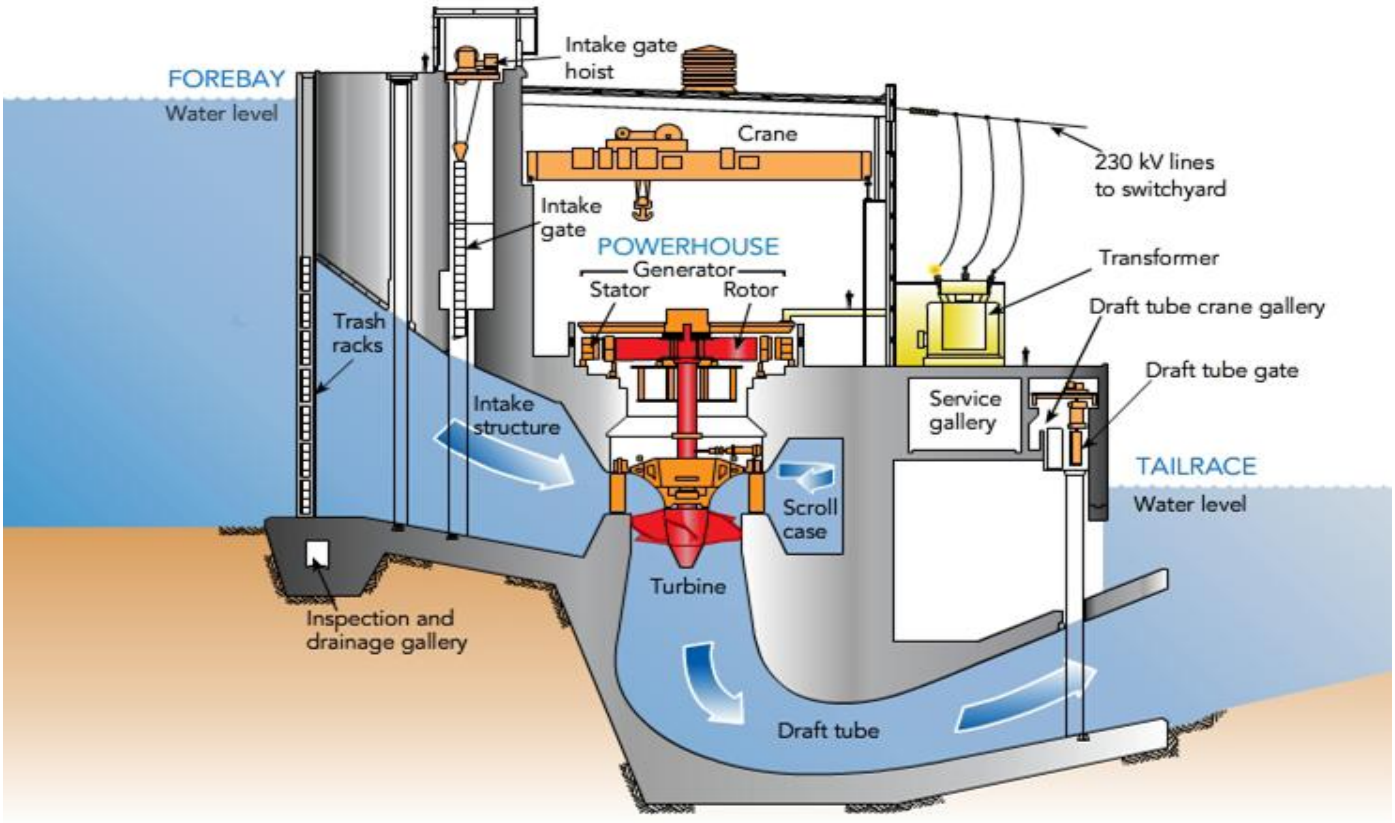


Les sujets et brouillons sont à rendre aux examinateurs en fin d'épreuve.

Document 3: Wind electricity



Document 4: Hydro electricity



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TASK:

You're an engineer student, and you're studying renewable energies...

Visiting your grandfather, you tend to explain to him how similar hydropower generator, a wind turbine and the dynamo he had on his old bike are.

Use the documents and any other knowledge for your presentation. The following questions are guidelines. Feel free to use them in any order you like.

Clues:

- Which common element produces electricity in these equipments? How does it work?
- Advantages and drawbacks of these devices
- Are there other ways to produce electricity?
- How does a power plant work?