

# WJEC England GCSE Physics

## 1.3 - Energy Transfers

### Flashcards

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# What is the purpose of the National Grid?



What is the purpose of the National Grid?

To link power stations to consumers so that they have access to a source of electricity.



What are the two types of transformers used in the National Grid?



What are the two types of transformers used in the National Grid?

1. Step-Up Transformers
2. Step-Down Transformers



Where are step-up transformers found in the National Grid? What do they do?



Where are step-up transformers found in the National Grid? What do they do?

- Step-Up Transformers are used when connecting power stations to transmission cables.
- They increase the potential difference.



Where are step-down transformers found in the National Grid? What do they do?





## Where are step-down transformers found in the National Grid? What do they do?

- Step-Down Transformers are used in connecting transmission cables to domestic buildings (like houses).
- They decrease the potential difference.



# Why do transmission lines transfer electricity at high potentials?



## Why do transmission lines transfer electricity at high potentials?

- A high potential, results in a low current.
  - The lower the current, the less energy that is wasted as heat.
    - Therefore it is more efficient.



Why does the potential need to be decreased between transmission lines and houses?



Why does the potential need to be decreased between transmission lines and houses?

- Lower potentials are safer for domestic use and reduces the likelihood of severe electrocution.
- Appliances are designed for 230V.



Describe the energy transfers in a battery powered torch.



Describe the energy transfers in a battery powered torch.

- Battery converts chemical energy into electrical energy.
- Bulb converts electrical energy into light as well as waste energy in the form of heating.



Describe the energy transfers in a battery powered motor.





Describe the energy transfers in a battery powered motor.

- Battery converts chemical energy into electrical energy.
- Motor converts electrical energy into kinetic energy as well as waste energy in the form of heating due to friction.

