HOW RENEWABLE ENERGY CAN PROVIDE AUSTRALIA'S ENERGY SECURITY

Australia's energy system is changing

More than half of our coal plants are at or beyond their retirement age. They are increasingly unreliable and expensive for their private owners to maintain and it is inevitable that they will close.

As they close, it is now clear that Australia will replace these power stations with clean energy solutions. We already have the affordable technology and solutions to ensure there is sufficient generation to meet demand and that the system is reliant and we can keep the lights on.

What can our energy system look like with renewables?

There is no single solution for Australia's energy needs. The solutions will involve a combination of the following.

- Moving away from a small number of large, centralised power stations to a diverse and distributed portfolio of different generation sources such as:
  - solar
  - wind
  - hydro
  - bioenergy

- Energy storage which is reducing in cost rapidly will play a big role in managing our system. This will include batteries of various sizes, pumped hydro and hydrogen energy.

- Smart technologies integrated with renewable energy sources and the grid that can help to control the system quickly and accurately, and can provide the grid services that will be needed (such as inertia and rapid frequency response).

- Stronger interconnection across the energy system can provide greater resilience while maximising the value of Australia's renewable energy regions.

These new technologies are more flexible and controllable than old coal power stations. Combine this with the increase in the number of households and businesses moving to solar and batteries, and the strain on the electricity grid will be further reduced.

Unlocking the potential of these solutions requires the right mix of market signals and regulatory framework. We have the technology and expertise to create a secure and affordable clean energy system.

SOLAR

HYDRO

GENERATION

WIND

BIO-ENERGY

SMART TECHNOLOGIES & STORAGE

THE GRID
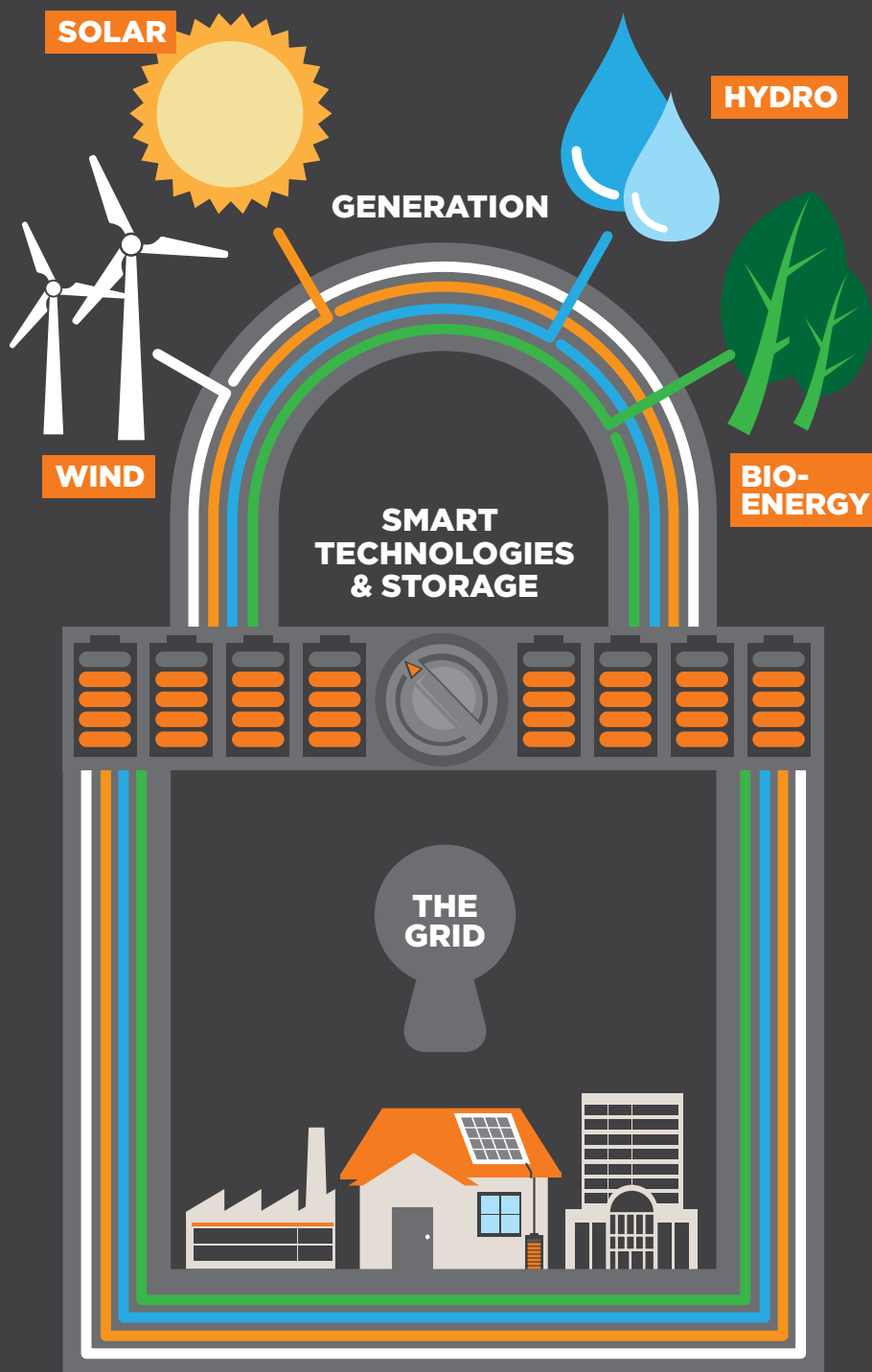
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