

**Senate Finance and Public Administration Legislation Committee**  
**ANSWER TO QUESTION ON NOTICE**  
**Prime Minister and Cabinet Portfolio**  
**Department of Climate Change**  
**Budget Estimates Hearing–May 2009**

**Written question reference:** CC38a-b

**Outcome/Output:** Outcome 1, Output Group 1.1 – Response to climate change

**Topic:** Renewable energy generation

**Hansard Page:** Not relevant for written QoN

**Question:** (Senator Boswell)

- a) Is it a true or is it a false claim that one megawatt hour of renewable energy generated from an intermittent source of renewable energy such as wind or solar will displace one megawatt hour of base load energy generated from coal or gas?
- b) Can you simply turn coal- or gas-fired generation up and down to compensate for changes in the wind?

**Answer:**

- a) Renewable energy from an intermittent source such as wind can displace base, intermediate, or peak load electricity provided by coal, gas or another renewable energy source, such as hydro or biomass.

The source of the electricity displaced depends on a range of factors, such as the time of day, the other sources of generation available at that time in that region of the electricity network and the price at which the available sources have bid their generation into the electricity market.

- b) Coal, gas and hydro power generators are generally able to alter their output to compensate for changes in wind generation.

The variable nature of wind energy, as well as sudden changes in the output of fossil power stations caused by fuel supply disruptions, power unit failures or faults in power distribution networks, and variations in demand, all currently require compensating adjustments by other power generators or users to maintain supply-demand balance.