

Weather Forecasting for Combined Cycle Gas Turbine (CCGT) Power Stations

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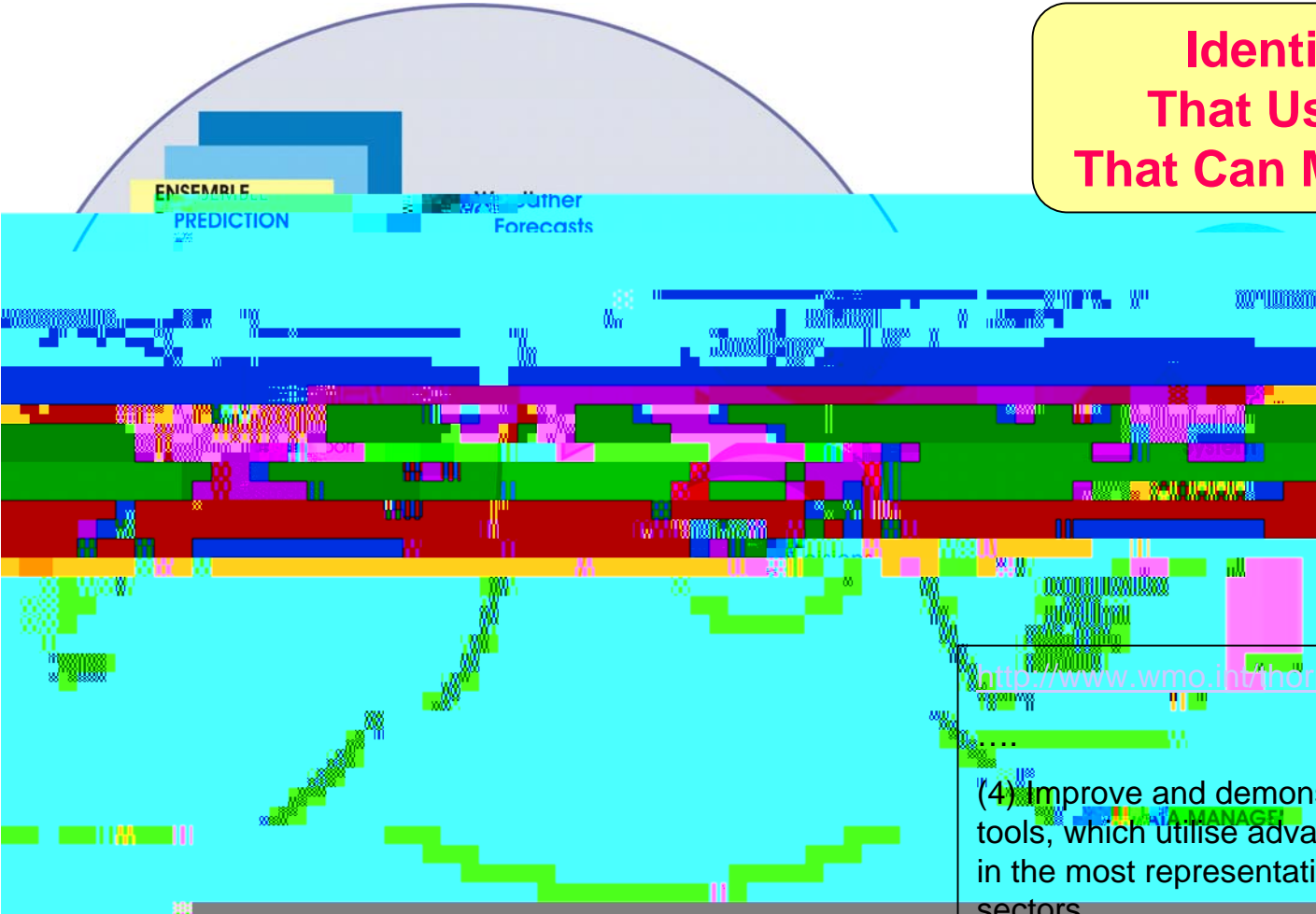
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Context

**Identify Decisions
That Users Can Make
That Can Make a Difference**



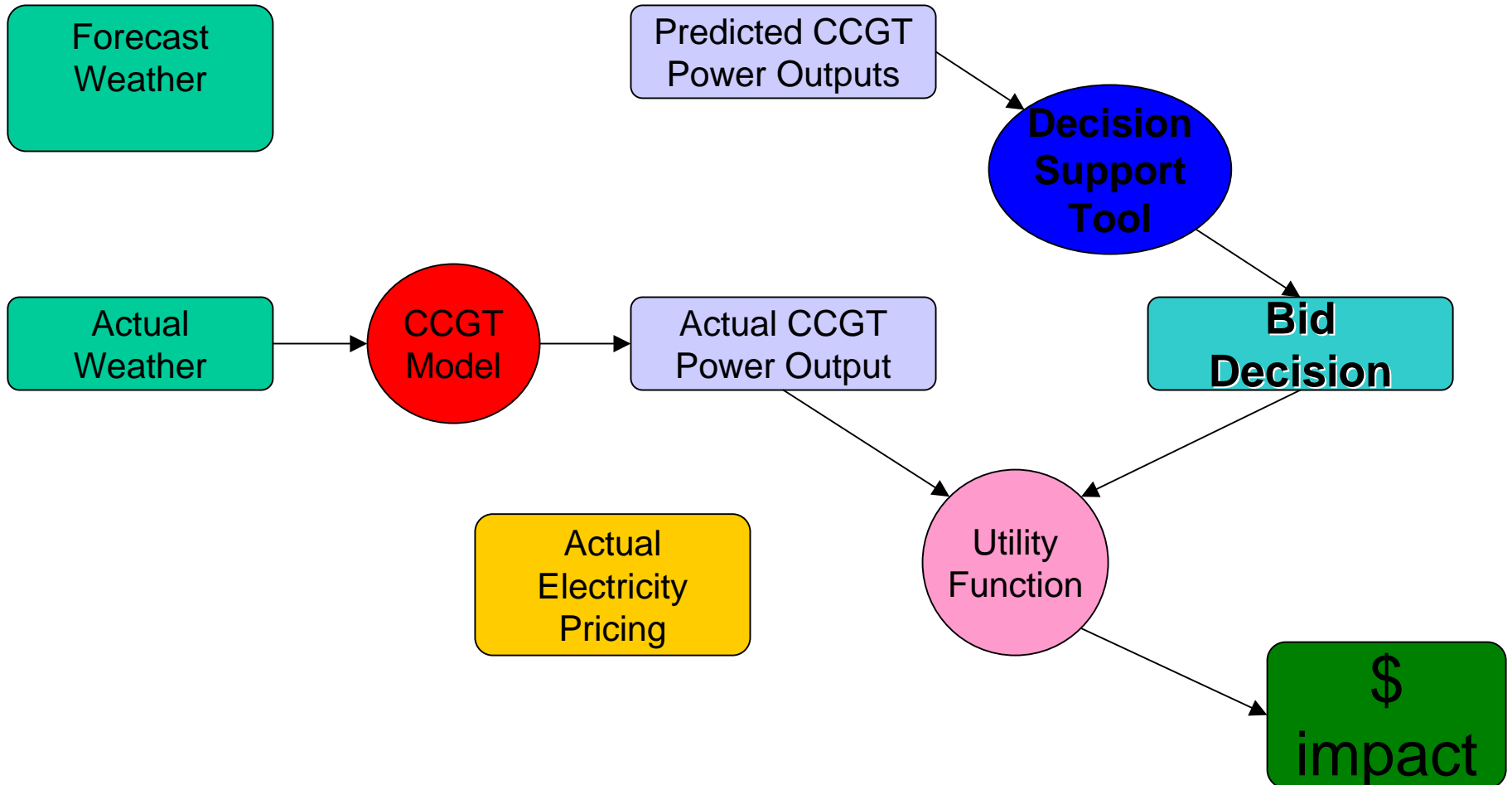
<http://www.wmo.int/thorpep/about.html>

(4) Improve and demonstrate decision support tools, which utilise advanced forecasting products, in the most representative social and economic sectors.

CCGT Decision Making

- i 300 gW of CCGT plants worldwide
- i Burn natural gas to make electric power
- i Maximum power output depends on temperature, pressure and humidity

Decision Support Tool Application



Simple Example

- i Day ahead forecasts (36h) valid at noon tomorrow
- i Two models ... global and mesoscale
- i Interpolated to Heathrow
not a real CCGT site
- i Validation period May 2003 to Sep 2004
- i Use actual electricity prices
but not known at time of bid
- i Compare average revenue/h with that for perfect weather forecast
- i Equivalent annual impact (£) for that one hour.

