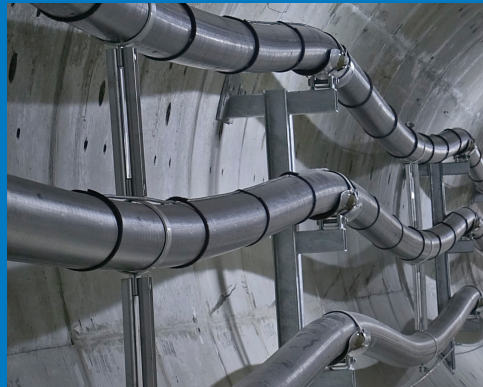
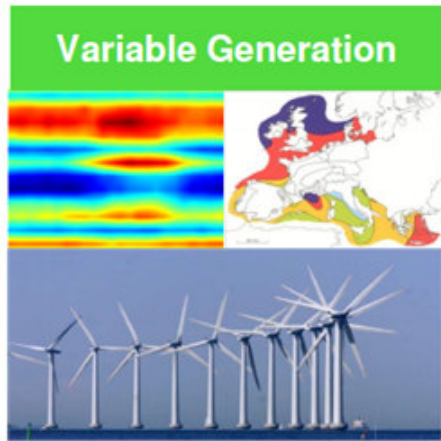


Future System Operation

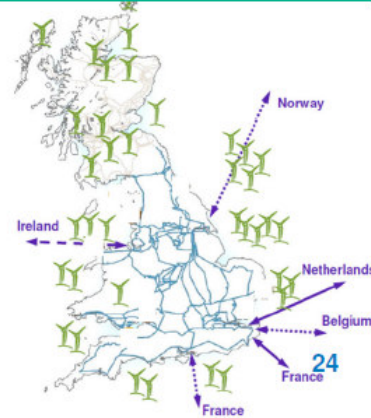


Craig Dyke
Strategy Development Manager
National Grid

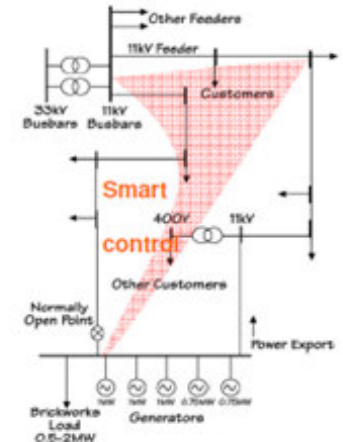
Operating in 2020 and beyond...



Greater Interconnection



Active Distribution



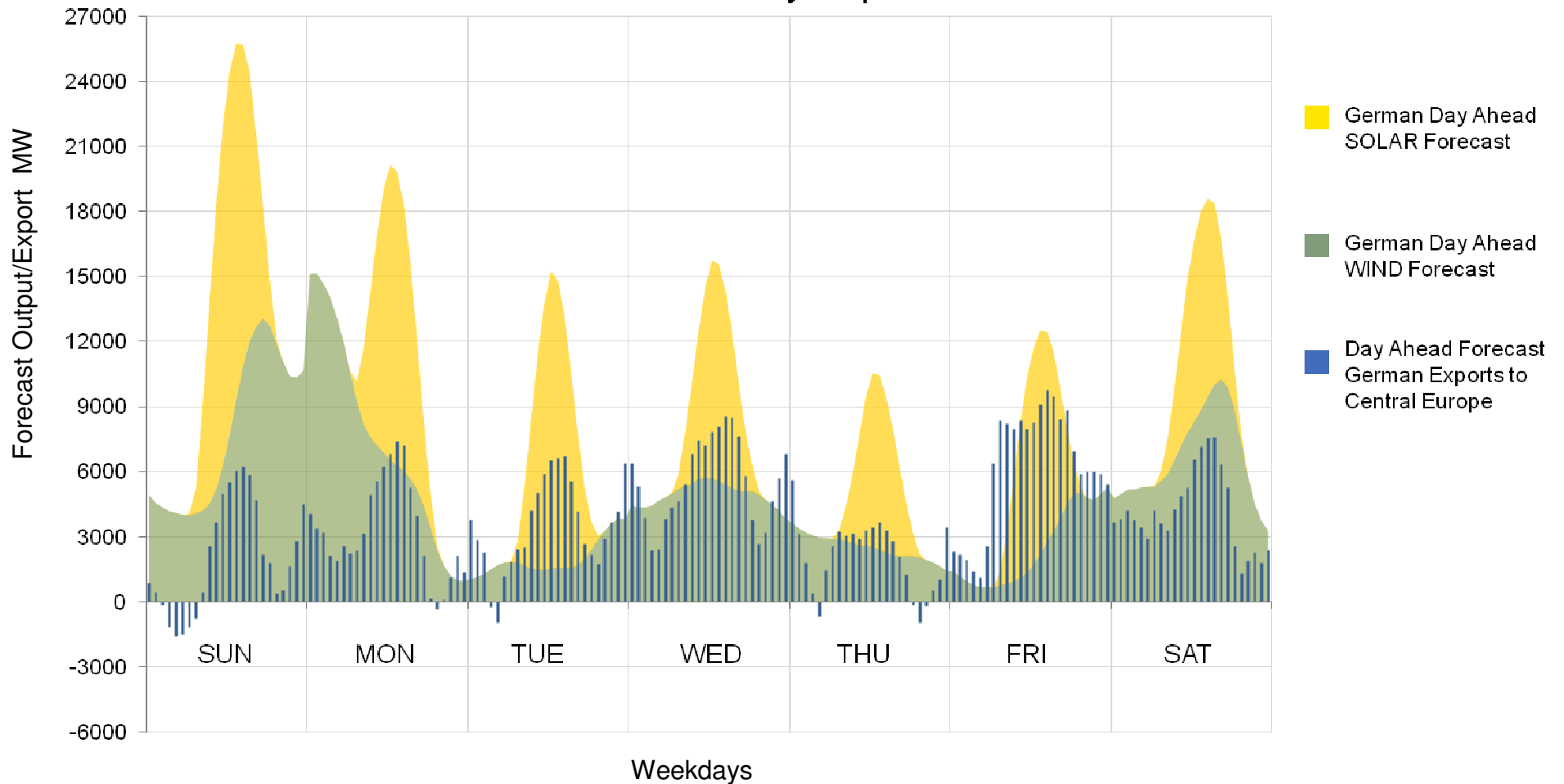
Active Demand



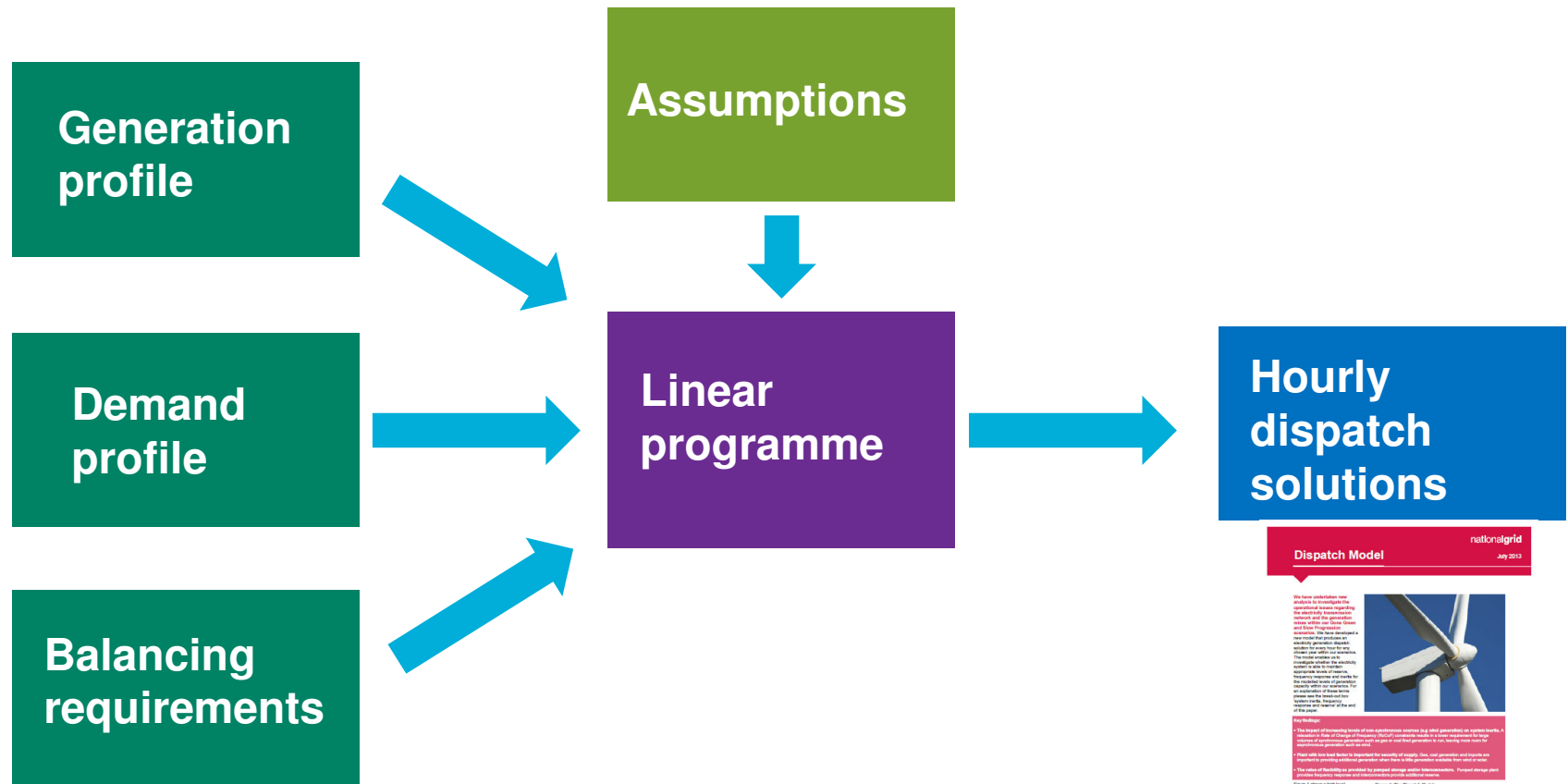
...the German experience

April 2012 - German Renewables Forecasts versus Exports

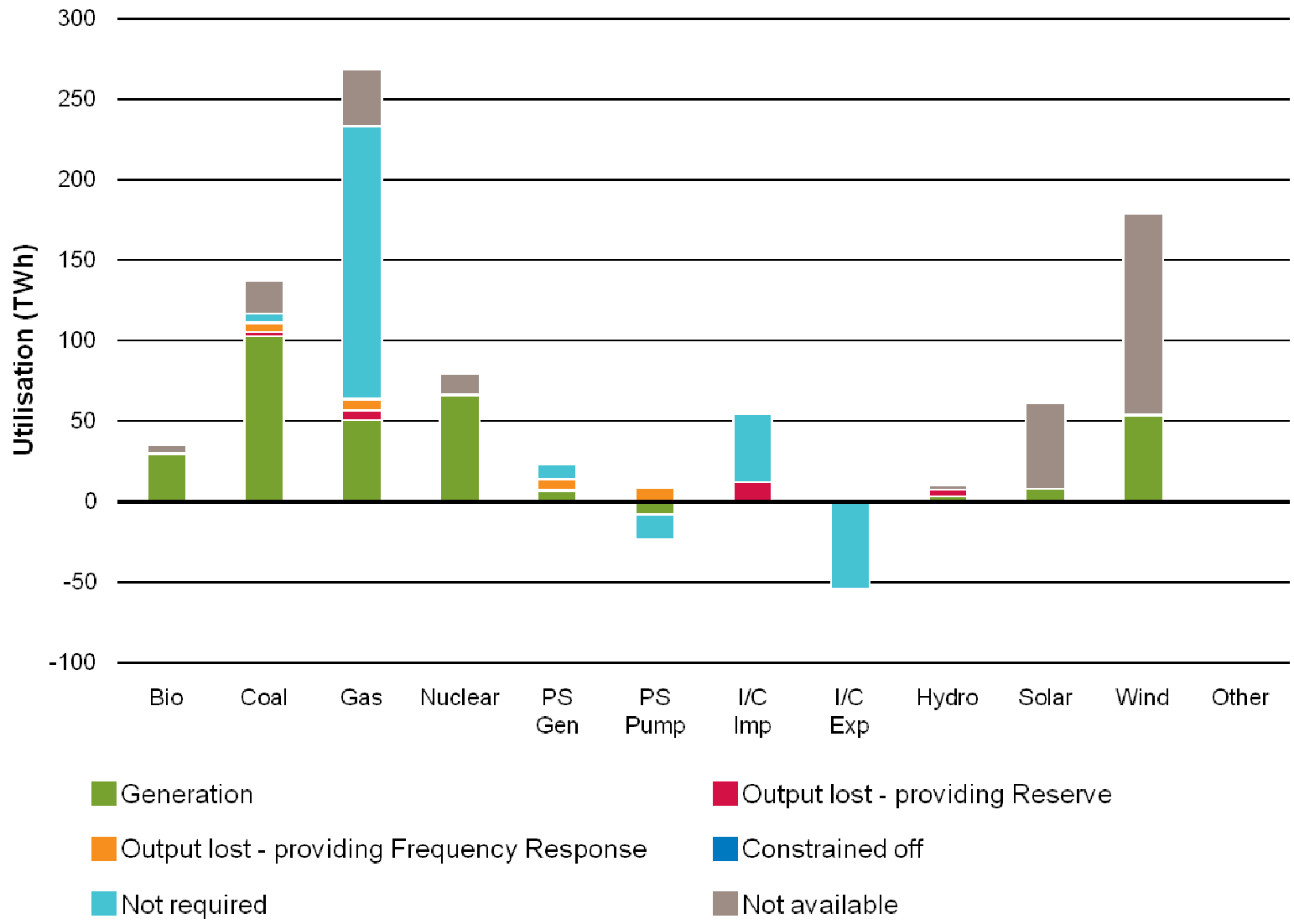
7 day sample



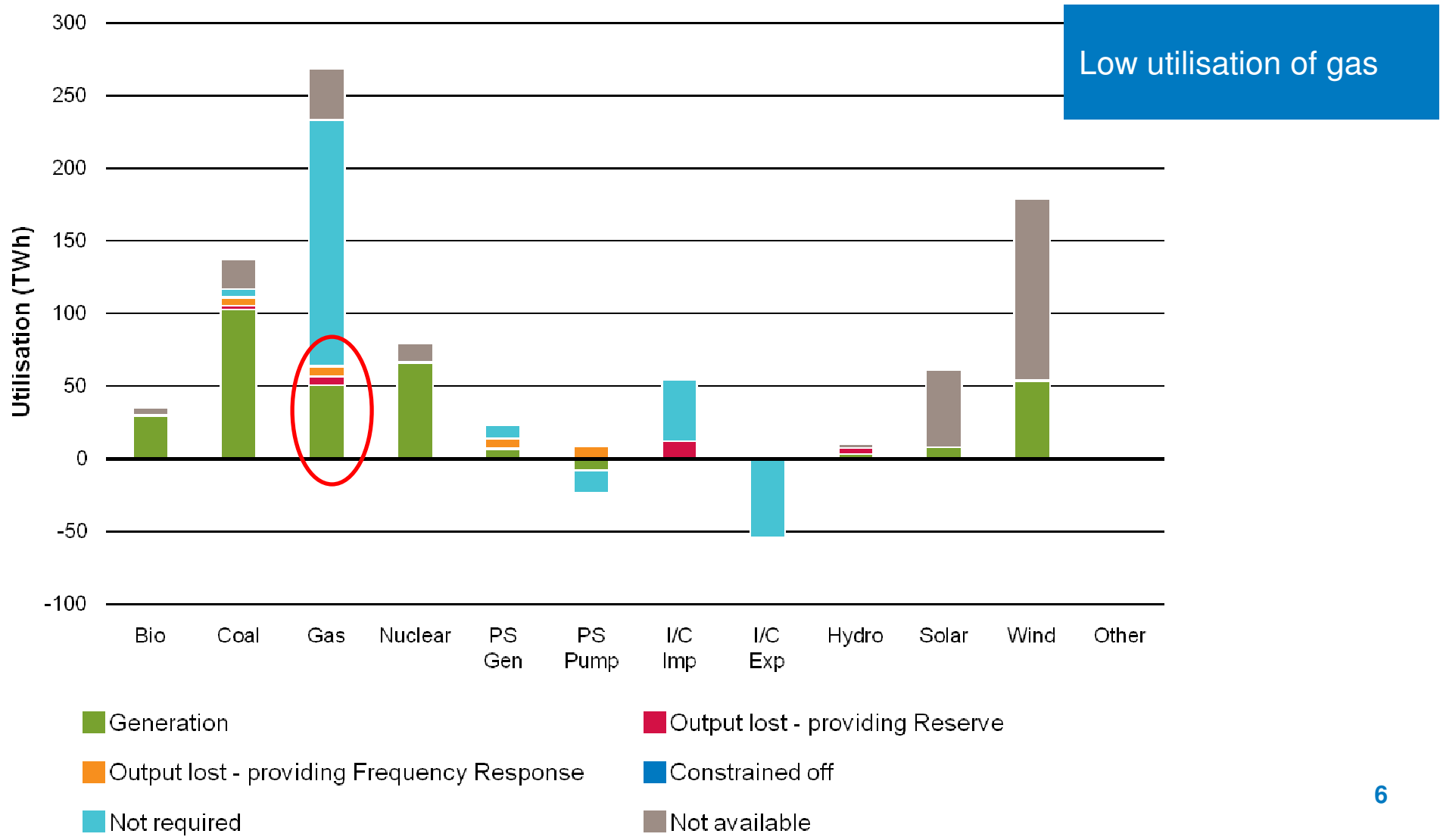
The Dispatch Model



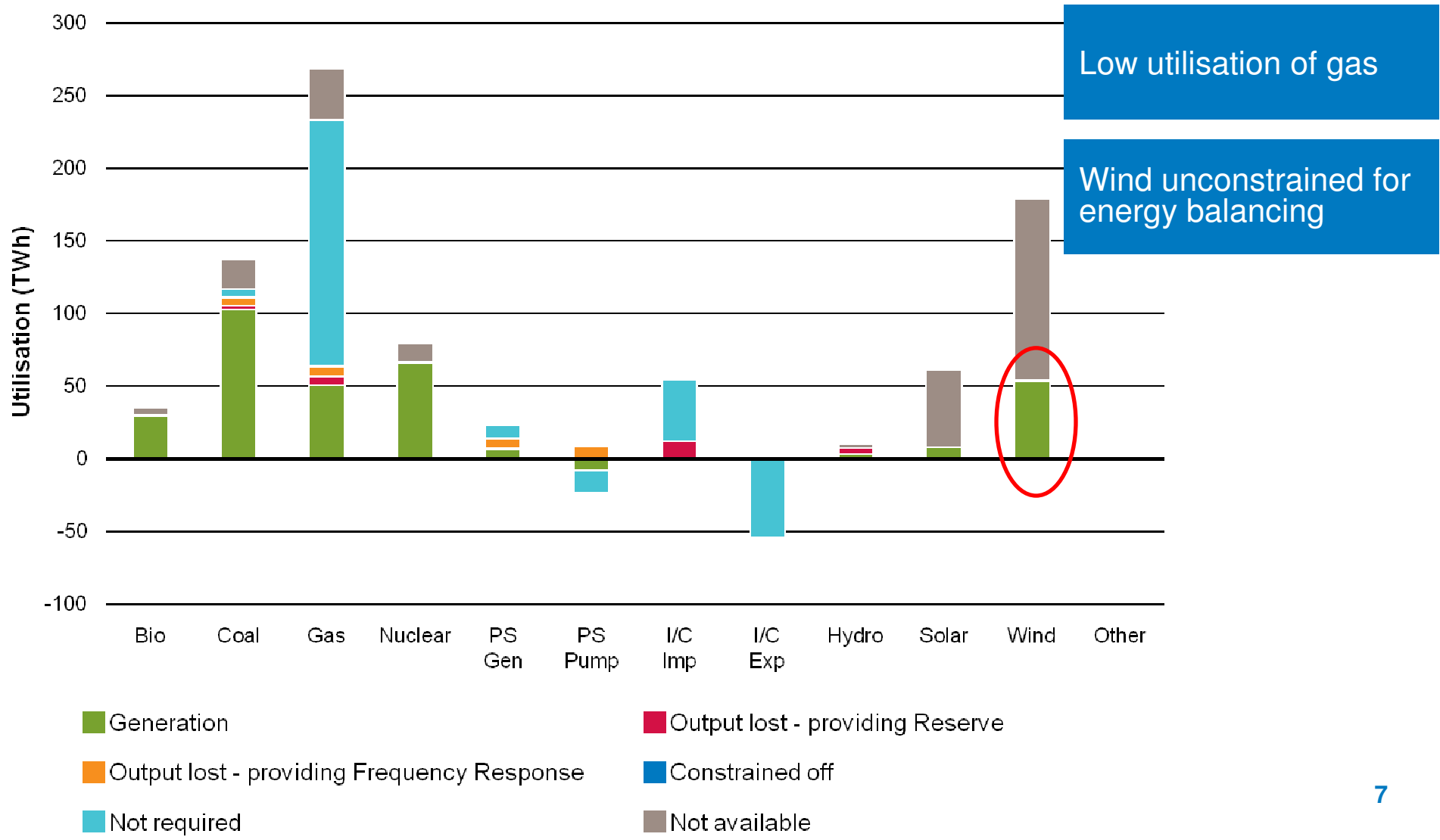
Base Case Output – GG 2020



Base Case Output – GG 2020

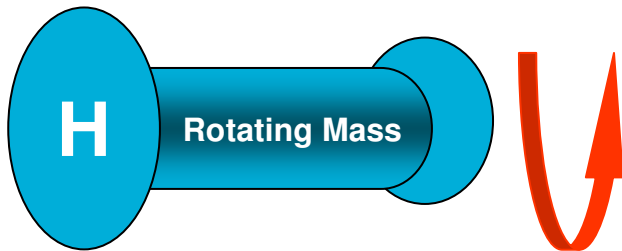


Base Case Output – GG 2020

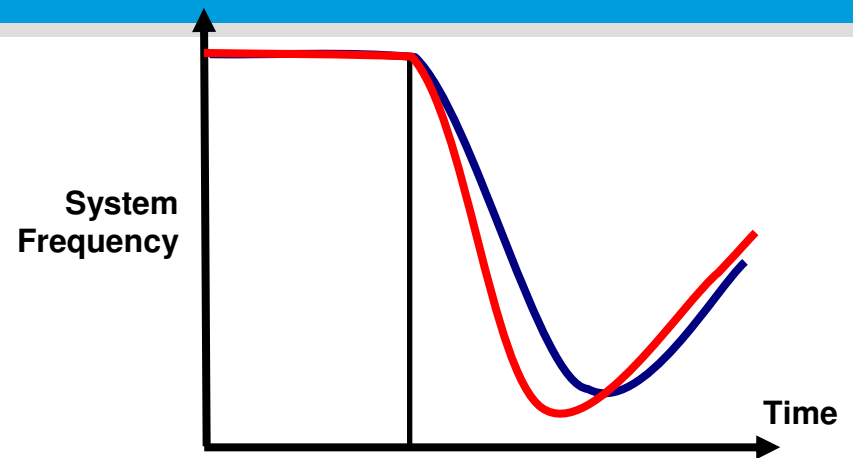


System Inertia

What is it?



Why is it important?

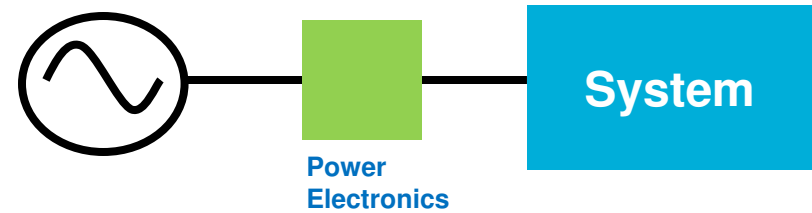


What's the challenge?

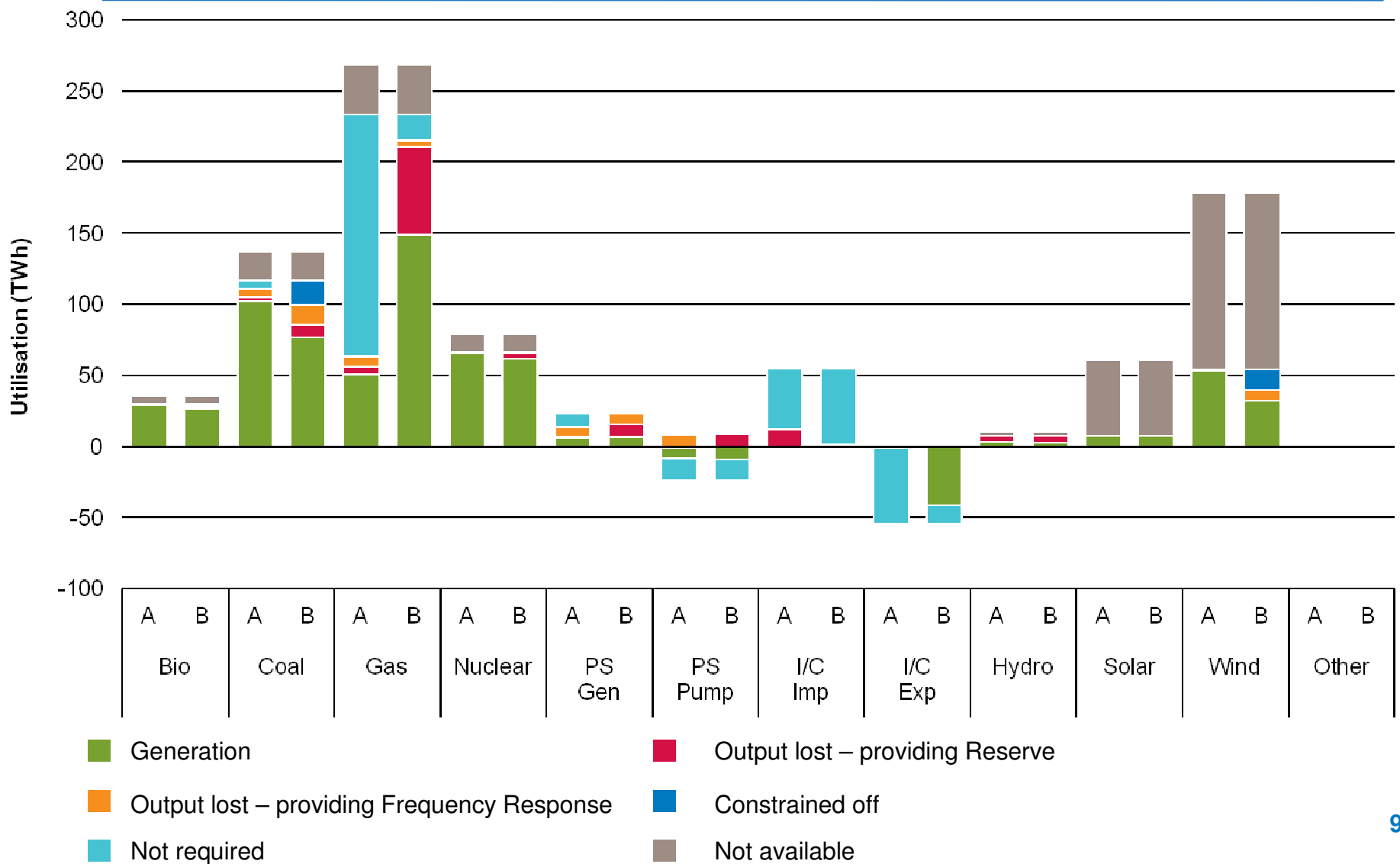
Synchronous



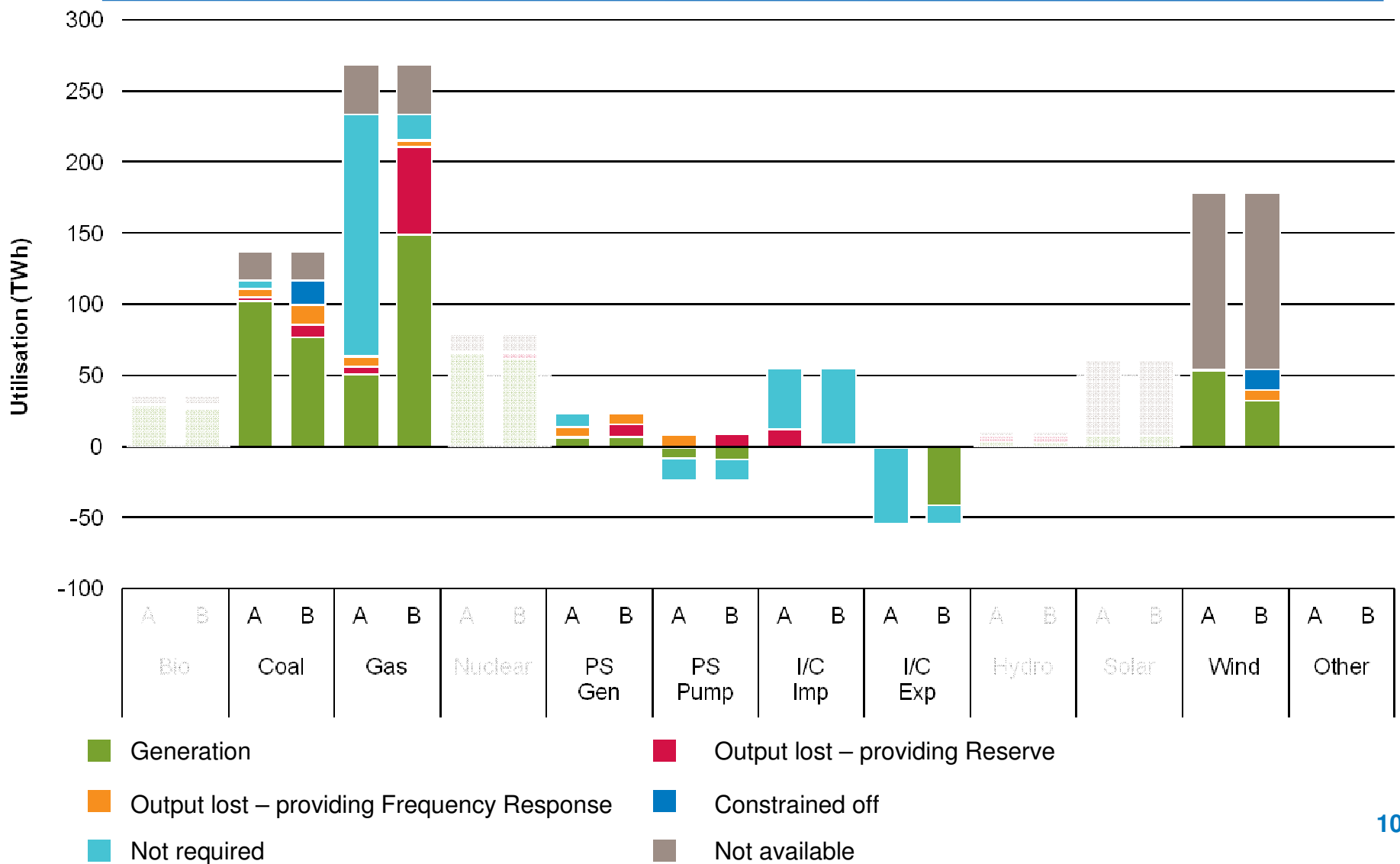
Asynchronous



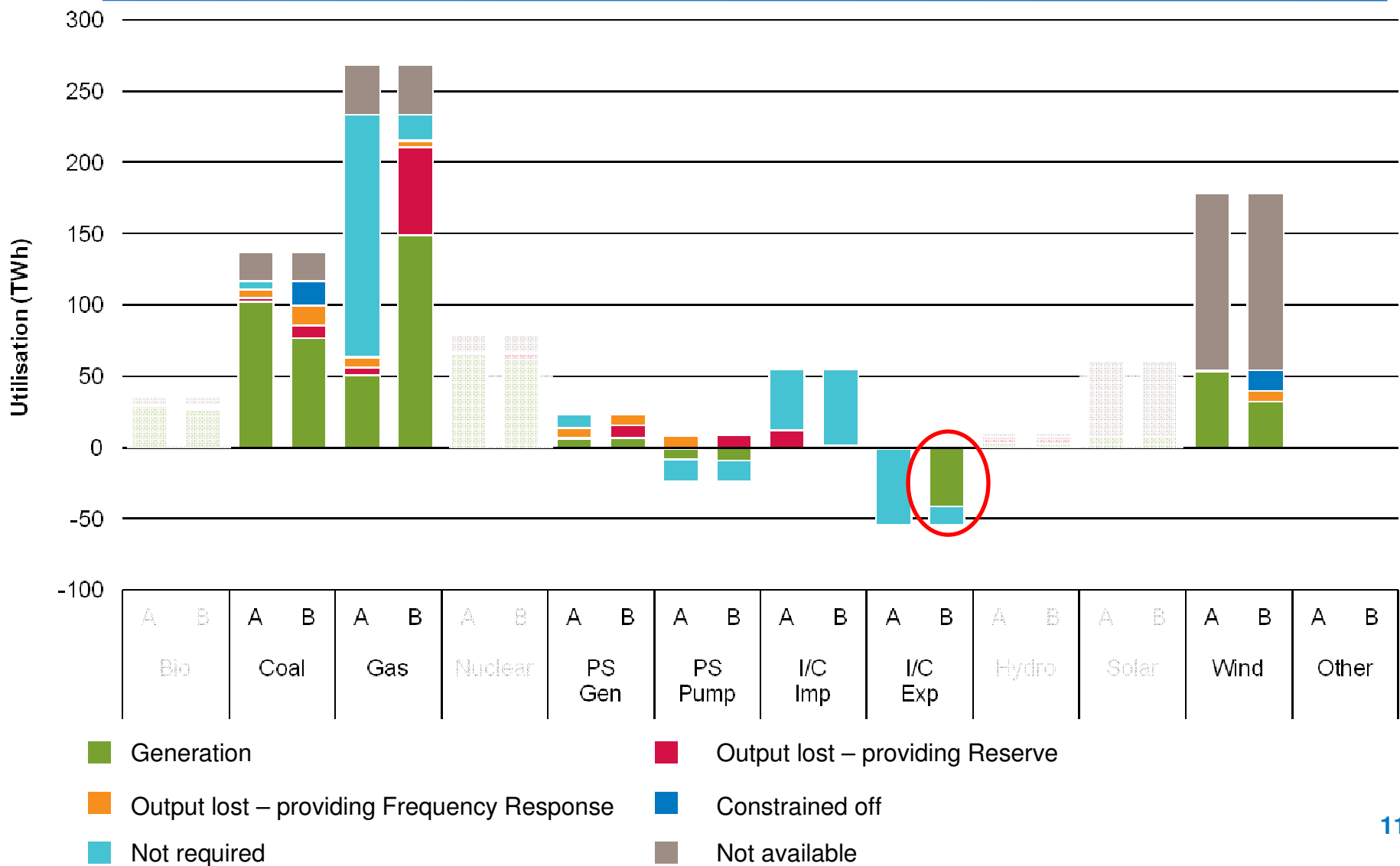
Run A: Base Run B: Inertia challenge



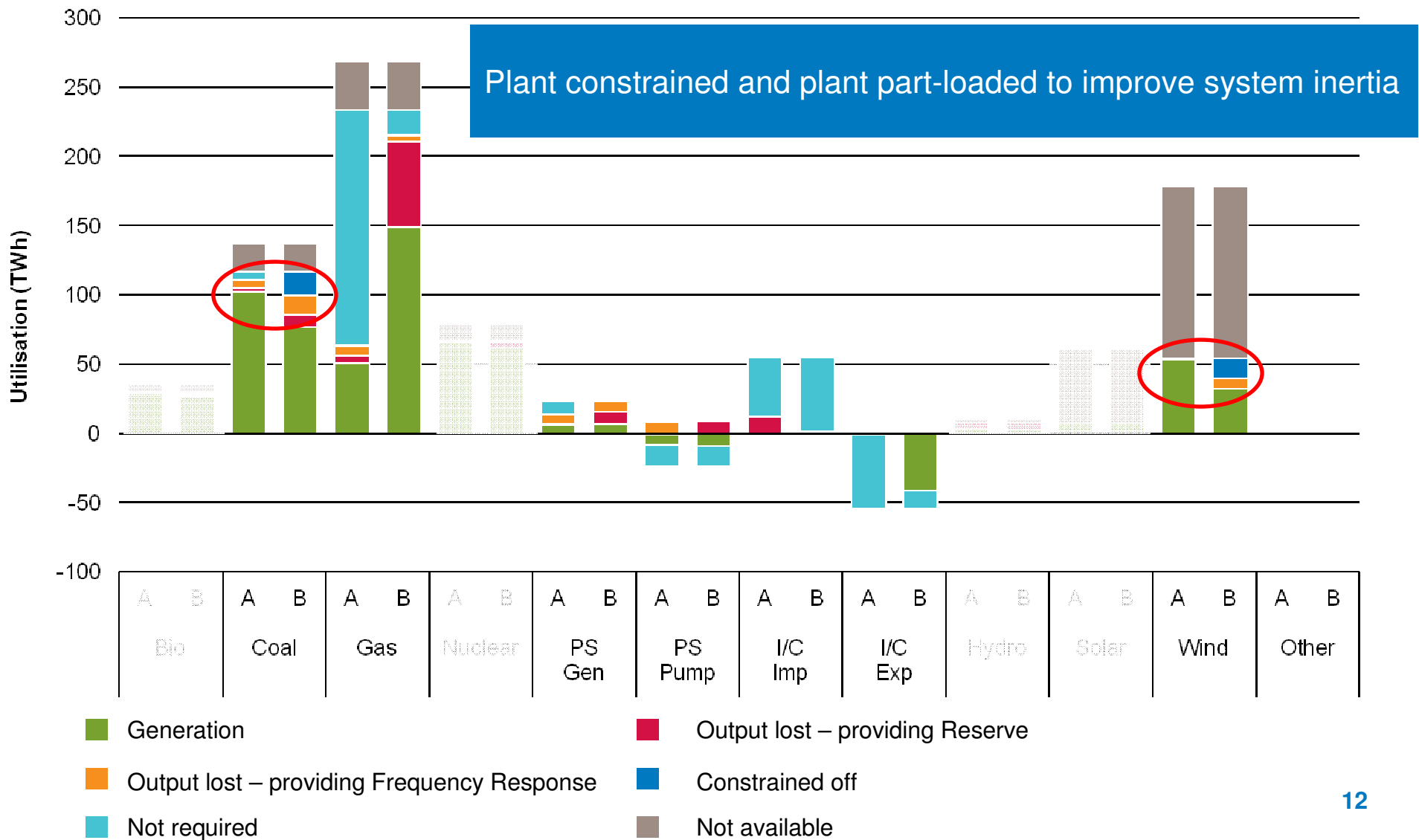
Run A: Base Run B: Inertia challenge



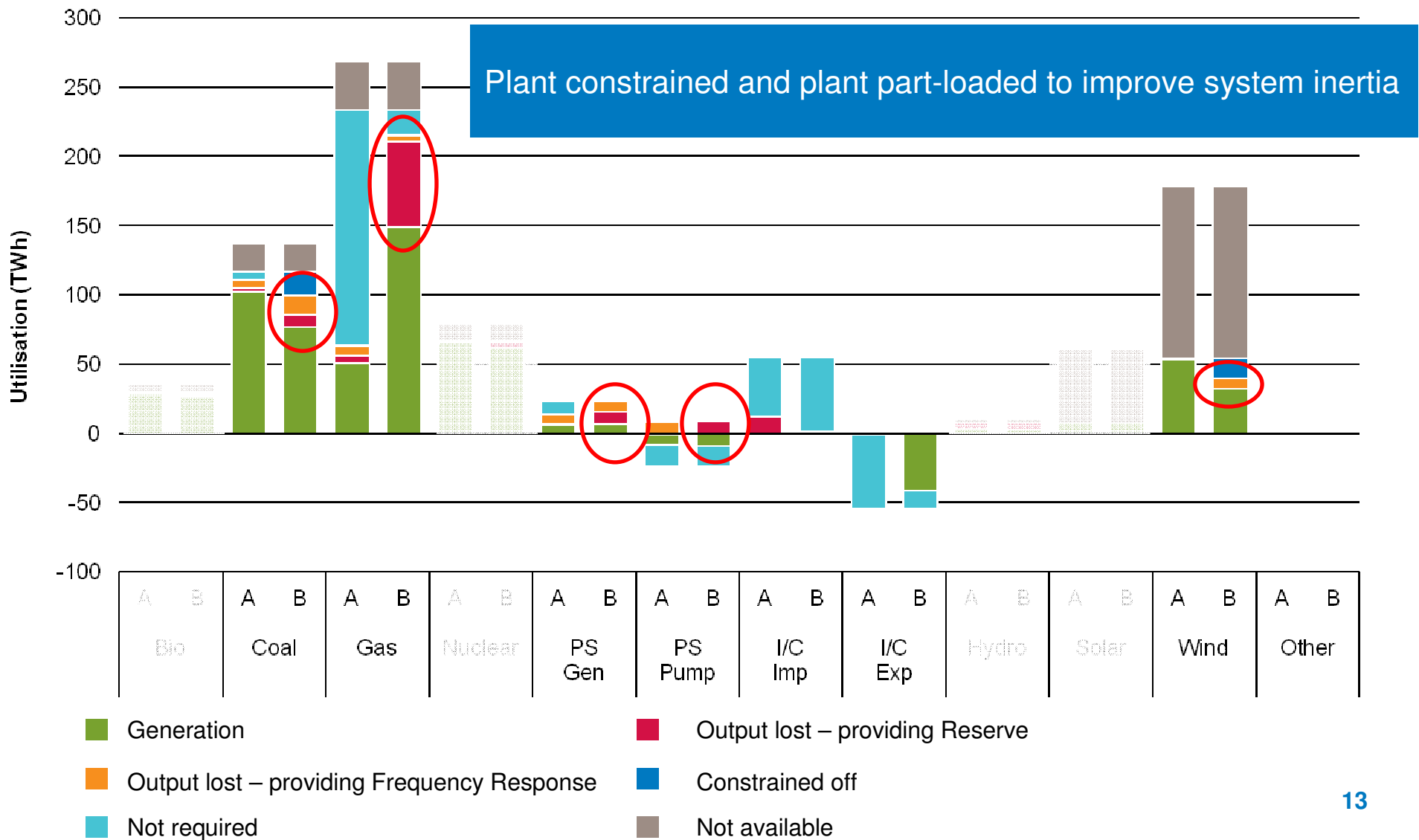
Run A: Base Run B: Inertia challenge



Run A: Base Run B: Inertia challenge



Run A: Base Run B: Inertia challenge



Summary



Balancing is going to get more challenging

Understand emerging issues and we are offering solutions

Building a programme to ensure the system is safe, secure and reliable