

Energy

- **A stable environment for investment** is however crucial to making this work, and should allow for more energy supply making balancing supply and demand less critical.
- Additionally, **incentives should be available to large energy users** to offset some of the costs of peak energy usage. It is not economic for some large users to “switch off” during peak periods, and therefore these businesses suffer significant cost penalties. The costs of switching off far exceed the incentives currently offered. Some reliefs are currently available through the Electricity Intensive Scheme, but this is based upon a very high threshold.
- **Investment in the development of new energy storage systems, and better connections between private vehicles, the electricity grid, renewable energy generation and buildings’ energy management systems.** Nissan’s Vehicle-to-Grid (V2G) technology allows electric vehicles to be fully integrated into the electricity grid by improving grid capability to handle renewable power, and will make renewable sources even more widely available and affordable. V2G charging infrastructure and V2G-enabled electric vehicles give EV owners, and businesses with large EV fleets, the opportunity to create mobile energy hubs by integrating their vehicles with the grid. Technologies like Vehicle to Grid have the potential to transform energy systems. The integration of energy balancing mechanisms with electric vehicles is a cornerstone of the future of the electric system; with vehicles now much far more than mobility solutions. With increased pressure on the grid and an overreliance on fossil fuels, Vehicle-to-Grid implementation gives EV owners the ability to store and release green energy back into the grid.

In the UK for example, where there are 37 million vehicles and where the current electricity generation capacity is 85 GW, a future where all vehicles on the road are EVs/PHEV, the grid integration of the vehicles could generate a virtual power plant of up to 370 GW (more than 4 times the national generation capacity). V2G is one of the innovations that can improve our life and make the world a better place for all people now and for the generations to come.

Electrical power supply capacity would clearly need to increase as well to charge all of these vehicles, but managing supply and demand should become more economic.