

Received by email

Dear Olivia,

I believe the product we (Resatech Ltd) are about to bring to the market is entirely pertinent to solving the "grid problems" and your request for comments.

The product – a "Grid Interactive Smart Inverter" for want of a better term - offers a different solution to that which any other company can provide as far as we can determine.

We believe it is a game changer which has already attracted the attention of a number of DNO's and energy companies.

NB: Whilst originally developed to interface with Solar PV systems, the architecture of the product allows virtually any source of renewable energy to be safely grid connected.

Reasons for product development

The export of electricity to the grid by distributed generation units (Solar / Wind etc) - especially those above a certain size - is a relatively new phenomenon, and grid infrastructure is not yet equipped to deal with their current level of proliferation. Constraints within distribution networks are common as a result of increase in the penetration of embedded generation *

* National Grid – Solar PV. Assessing the Impact at Minimum Demand

The UK is committed to legally binding targets for renewable energy and carbon reduction.

However, the amount of electricity generated by renewables varies depending on factors such as weather conditions.

Such intermittency has the potential to affect the resilience of the system (national grid) *

* HOUSE OF LORDS Science and Technology Select Committee - The Resilience of the Electricity System

In summary, the main difficulties in grid connection of renewable energy as we see them are:

- the intermittency of renewable generation
- the capacity of the network to accept potentially high levels of generation
- the capacity of the network to accept "non controlled" levels of renewable electricity at times dictated by weather conditions

How the ResaTech VoltLogic™ product the product addresses these issues

VoltLogic™ provides the interface between renewable generation and the grid just as any normal grid tie inverter would. However, VoltLogic™ can control the amount of electricity that is exported between 0 and 100%.

In this way any strain on the grid is eliminated. As the amount of exported electricity (if any) can be adjusted, as and when network reinforcement take place this amount of energy can be adjusted as required or necessary.

VoltLogic™ can also source or sink any combination of real & reactive power, monitoring the grid millisecond by millisecond, and reacting accordingly.

VoltLogic™ can also divert energy to a storage medium (i.e. batteries) providing power locally when it is required or exporting to the grid as needed.

All of these functions keep grid stress low (or zero) while using renewables more effectively.

It means that the need for grid reinforcement is reduced or removed (or delayed as necessary) and connections can be implemented straight away.

The burden of paying for reinforcement can also be entirely removed if necessary.

As the product is modular and scale able the installation is future proofed.

Future product development includes for example, fast charging of multiple electric vehicles.

The product has recently been certified to G83 and the first showcase systems will be installed within the next 2 months or so.

We would be keen to receive your feedback and of course if you would like further please don't hesitate.

Kind regards,

Marc

Marc Asker