

# A day in the Life of a DSO

**We have explored a typical day in the life of a domestic prosumer in the low carbon future.**  
We now consider how a DSO must operate on a daily basis to accommodate variable power flows and utilise flexible DER to efficiently manage the distribution network as well as the wider system.



9:00am

In the offices of the Distributed System Operator, the network control team begin their morning review of last night's network operation. Wind speeds were high and there was a large volume of power generated by embedded wind in the network.

10:15am

Impressively, no curtailment of generating DER was required in order to manage the network constraints caused by the export of excess power. Instead, flexible demand on the network procured through the local balancing platform, including EVs and battery storage, was dispatched to decrease the imbalance between local supply and demand.

12:00pm



**Local Balancing Platform**  
The market through which the DSO facilitates the access of flexible DER to local and whole system balancing services.

After the meeting, the ANM system shows that demand is increasing on the network but flexibility is being removed as EVs are unplugged and used for the morning commutes and school runs. The ANM system is also projecting that with a forecasted increase in solar irradiance, and subsequently increased generation by distributed solar PV, there is likely to be an export constraint on the network. To prevent safe network operating limits being breached, the ANM system accepts bids made in the local balancing platform, including the bid made by the new community energy scheme.

4:52pm



Subsequently an instruction for voltage support services from National Grid is made through the TSO DSO interface. The ANM system receives National Grid's request and, through the local balancing platform, automatically accepts the most economic bids which will not conflict with other system actions.

3:25pm



Later that day, the local balancing market shows there is likely to be a surplus of flexibility in the distribution network that evening. The DSO submits a bid to the national market platform to provide balancing services to the national system.



**Export Constraint**  
When the distributed generation is greater than the demand on the distribution network reverse power flows can quickly reach thermal limits.