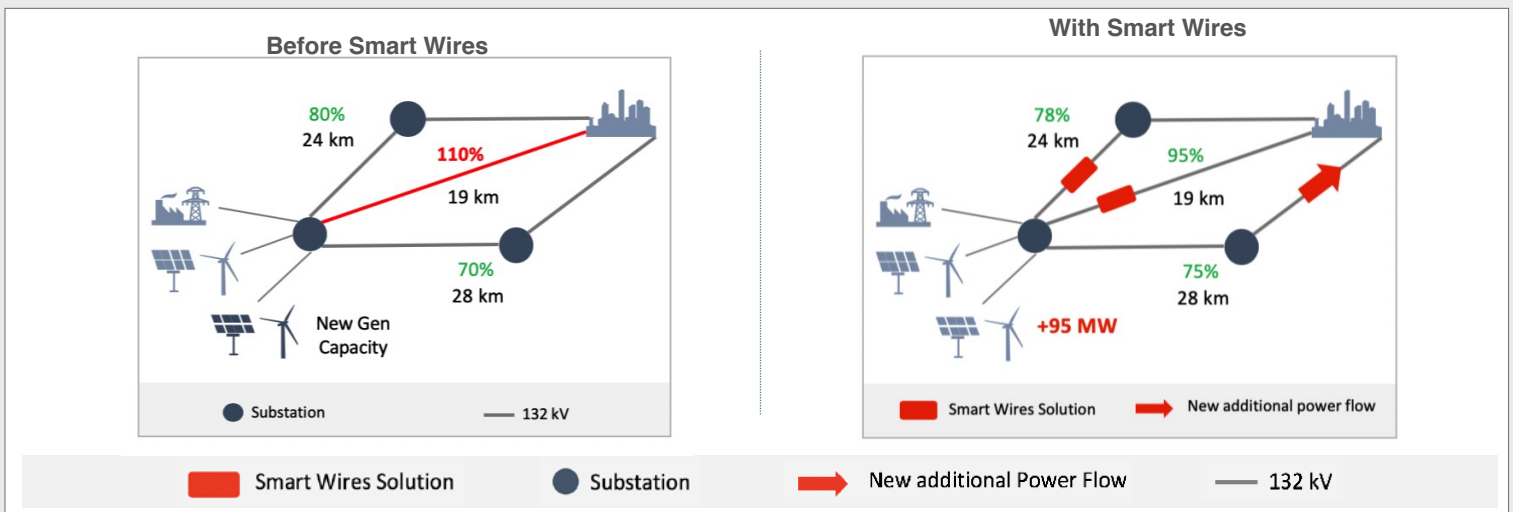


# ENABLE AND ACCELERATE RENEWABLE CONNECTIONS

The existing grid infrastructure is often insufficient to handle power flows from new large-scale renewable generation connecting at new sites. To avoid generation curtailment, utilities would traditionally build new lines or upgrade existing lines. However, this can be expensive and take several years to complete. With Smart Wires solutions, network owners can incorporate new generation by utilizing the spare capacity that exists on today's network. In addition, Smart Wires' innovative power flow technology enables operators to effectively manage the intermittent flows associated with renewable resources.



## CHALLENGE

- A UK utility wants to allow more renewable generation to connect in high capacity factor areas.
- Unequal line lengths mean that the shortest line overloads while there is still spare capacity left on the network.
- Unbalanced power flows limit renewable connections.

## SOLUTION

- Smart Wires Guardian™ technology balances power on parallel paths and allows the DSO to add new generation capacity.
- Two deployments alleviate feasibility constraints and provide granular, real-time power flow control, responding to the intermittent output of wind and solar generation.
- The solution can be scaled up or down as required to accommodate additional renewable connections.

## IMPACT

- The project allows 95 MW of incremental renewable generation to connect using the DSO's existing network – enough to power more than 45,000 homes.
- Choosing Smart Wires saves £8 million for customers and avoids significant reinforcements in an urban environment.
- With this solution, the utility quickly addresses system constraints and meets near-term needs of its network.