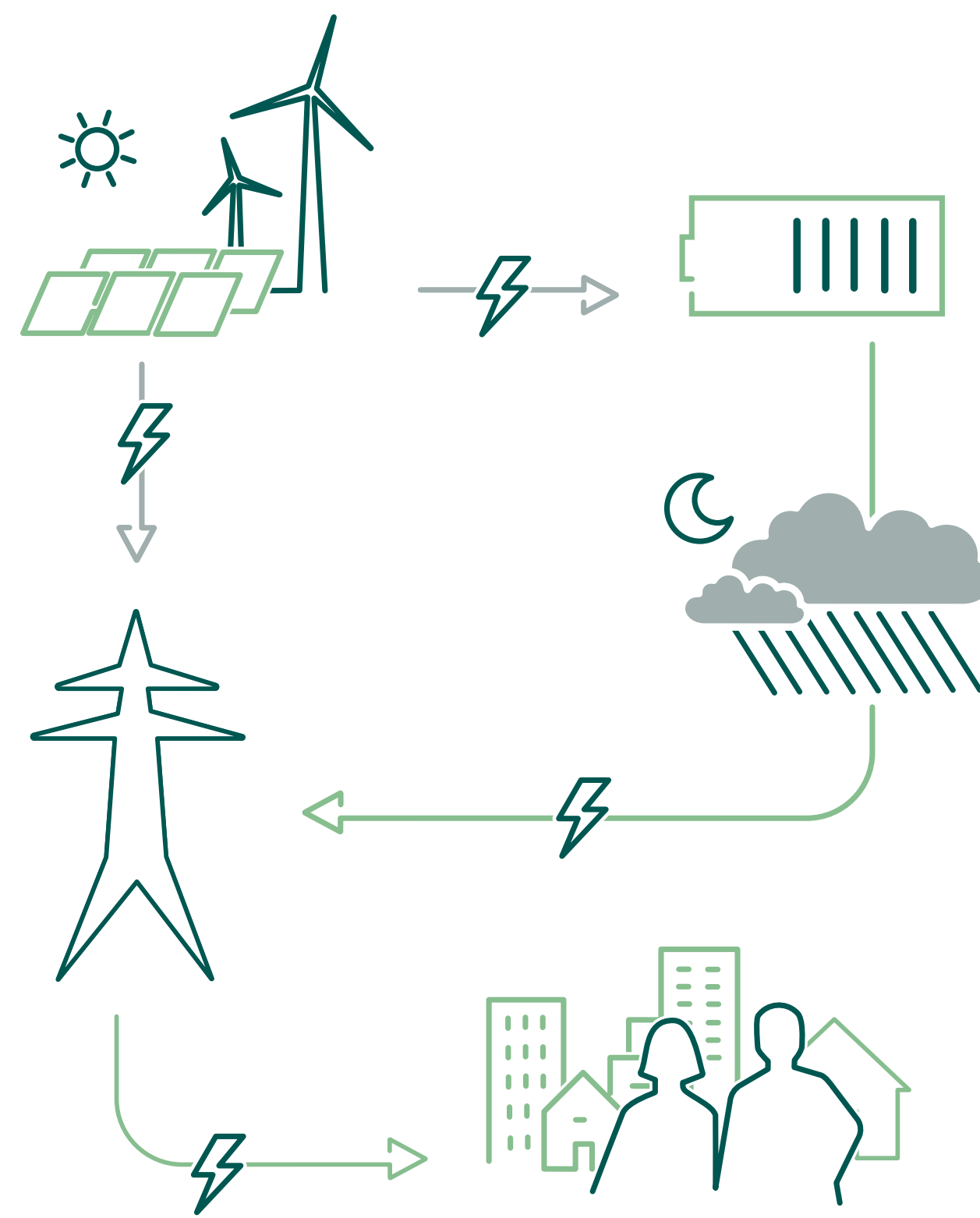


The need for battery energy storage

What is battery energy storage and why is it needed?

Battery Energy Storage Systems (BESS) store electricity and release it when needed. They work by charging during periods of low demand or high renewable generation—such as windy or sunny days or nights—and discharging when demand is high or renewable output is low. This helps balance supply and demand on the electricity grid in real time.

As Northern Ireland transitions to cleaner energy sources like wind and solar, the electricity system faces new challenges. Renewables are variable—they produce power when conditions are right. Battery storage provides a flexible solution to ensure supply aligns with demand by storing excess renewable energy and making it available when required, ensuring a stable and reliable electricity supply.



Supporting Northern Ireland's renewable energy goals

The Climate Change Act (Northern Ireland) 2022 has set an ambitious target that Northern Ireland must meet at least 80% of its electricity consumption from renewable sources located in NI by 2030. Achieving this will require not only more renewable generation, but also smarter ways to manage energy. Battery storage plays a critical role in this transition by:

- Reducing curtailment: Northern Ireland is currently not taking full advantage of the renewable energy generated due to grid constraints. Batteries can capture surplus energy generated and use it later.
- Enhancing grid stability: Batteries respond instantly to fluctuations in supply and demand, helping to maintain a consistent flow of electricity.
- Supporting decarbonisation: By reducing reliance on fossil fuel-based backup power, battery storage helps lower carbon emissions.

Local benefits

In addition to supporting national energy goals, battery storage projects can bring local benefits. These include improved grid resilience, potential investment opportunities, and support for local jobs during construction and operation.