July 2026
Version 1

Distribution Future Energy Scenarios

Local Authority Guidance

nationalgrid DSO

Contents

1. Introduction to our Distribution Future Energy Scenarios (DFES)

This guide is intended for Local Authority Officers and other stakeholders involved in planning for future energy needs. It sets out how to engage with, and inform, National Grid DSO's Distribution Future Energy Scenarios (DFES), which underpin our strategic approach to network investment. DFES engagement is particularly relevant to a wide range of Local Authority officer roles, including but not limited to those working in planning, climate change, energy, and economic development.

Local Authorities provide critical intelligence on future development, decarbonisation priorities, and place based delivery. Effective collaboration is essential to ensure local plans are supported by appropriate network capacity, and that National Grid DSO's investment planning reflects local ambitions and constraints.

Further context for officers

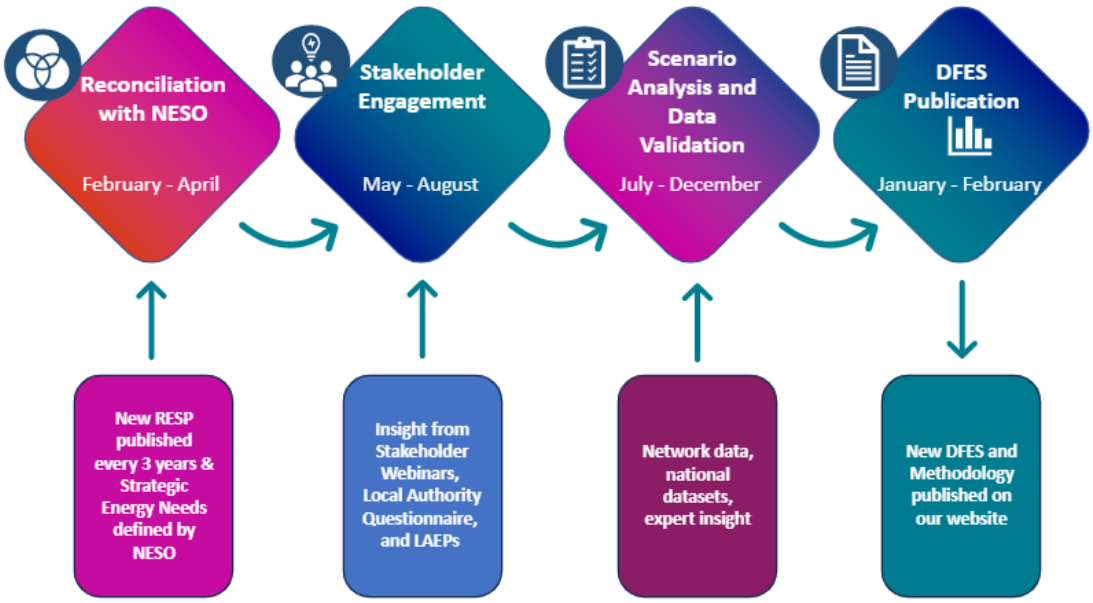
Planning policy and development officers play a key role in shaping DFES by providing insight into future housing and employment land needs, as well as how development is phased over time. In return, two-way engagement and National Grid DSO's open data platforms can help inform Local Authority plans, including decisions on the most suitable locations for new development.

Climate change and net zero officers can draw on a Strategic Engagement Officer to support the delivery of Local Area Energy Plans (LAEPs), explore decarbonisation pathways, and plan for anticipated uptake of Low Carbon Technology (LCT), including electric vehicles and heat pumps.

For energy and infrastructure officers, DFES feeds into Network Development Plans to provide greater visibility of grid constraints, likely reinforcement timescales, and opportunities for infrastructure enablement. DFES is also relevant for economic development and transport officers, helping to inform decisions around industrial growth, fleet and depot requirements, and the strategic electrification of transport networks.

Why DFES matters

Our Distribution Future Energy Scenarios (DFES) outline the range of credible futures for the growth of the distribution network, broadly aligning with the National Energy System Operator's (NESO's) Future Energy Scenarios (FES). It is the first stage of our network investment planning process that will ensure our network is ready for a decarbonised future. The scenarios, also known as Pathways, capture projected growth in demand, storage, and distributed generation, including low carbon technologies such as electric vehicles and heat pumps.



The DFES Yearly Process

We use our DFES data to create our Network Development Plans, ensuring it informs our future investment in our network. We will also be using our DFES data as our basis for our ED3 business plan which will inform our investment from April 2028 to March 2033.

To read more about DFES, view our current assumptions for your area via our interactive map or to read in depth regional information, technology summaries and behavioural assumptions please visit our website:

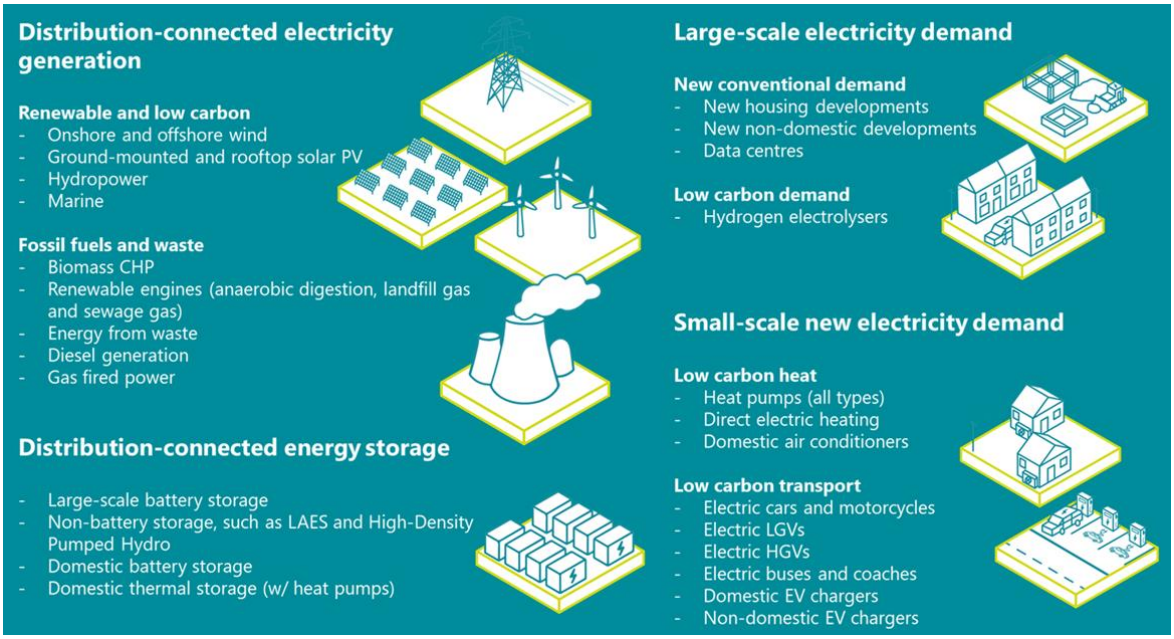
https://dso.nationalgrid.co.uk/planning-our-future-network/forecasting-for-future-need

We have a dedicated engagement team to offer bespoke support and guidance to regional stakeholders in the development of local area energy plans, growth and decarbonisation plans. Each of our licence areas has a Strategic Engagement Officer who works collaboratively with Local Authorities.

If you would like to get in touch with your local Strategic Engagement Officer, please email nged.energyplanning@nationalgrid.co.uk or see the Stakeholder Engagement section, for individual officer contact details.

2. DFES Methodology at a glance

87 unique technologies and sub-technologies, both for demand and generation connections are considered when calculating future energy needs. There is a 4-step process for creating the DFES and this starts with creating the baseline to work from. This looks at known technologies, connected already for small- and large-scale electricity assets.

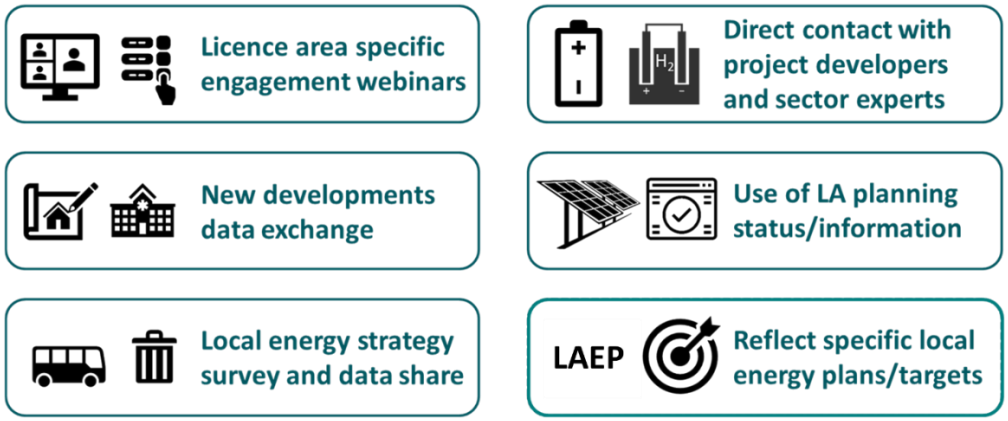


The DFES process will be fed into by a local authority mostly in the Pipeline, Projections and Spatial Distribution steps.

3. How Local Authorities influence each DFES Process

We understand that Local Authorities play an important role in decarbonisation, with many exploring how they can achieve their ambitions, including through local area energy planning. We are committed to supporting the development of local area energy plans (LAEPS) and reflecting the ambitions of Local Authorities in our long-term forecasts and this page will give an overview of how we are doing just that.

National Grid DSO reaches out annually to all Local Authorities through our DFES Data Gathering Survey. Through our partners at Regen, this survey collects & collates your future energy aspirations. This data then feeds directly into National Grid DSO's DFES (Distribution Future Energy Scenarios) modelling, allowing them to assess & plan where & when the Electricity Distribution Network requires reinforcement & investment.



Baseline

Most of the baseline information is drawn from a combination of National Grid Electricity Distribution's connections data, EPC data, MCS (Microgeneration Certification Scheme) data, Department for Transport data and other sources The majority of the baseline is derived from measured data so the level of input required from a local authority at this stage is typically minimal.

However, a Local Authority might have more detailed consumption data that we could use to inform our planning, for example an authority owned vehicle depot, along with charging profile data for a year would be more accurate than using a common planning assumption. Data such at this helps us more accurately calculate your connection needs now and for the future. Your Strategic Engagement Officer will be on hand for conversations and assistance to ingest this information into our planning process.

Pipeline

National Grid Electricity Distribution will provide connections queue data including what, where and when projects are looking to connect, the local authority planning portals are vital to pipeline research on these provided sites, for example checking location, planning status and assessing confidence of particular projects.

A local authority can input their new developments and sites into the Regen hosted SharePoint, which is the basis for the new development pipeline and the questionnaire for that year will confirm assumptions for Low Carbon Technology deployment.

Published Local Area Energy Plans are carefully reviewed for technology targets/projects and compared to DFES analysis for equivalent areas. Local Area Energy Plans add extra confidence and granularity to future connection projections and can be plugged into the DFES process alongside information, including but not limited to, Local Plans and Energy Strategy, Infrastructure Delivery Plans and general project knowledge from a local authority.

Licence Area Projections

Local authority housing targets and historic build outs help drive different pathways for domestic new developments. Local Area Energy Plan targets, where viable, are reconciliated against DFES project and engagement at the licence area webinars help inform Regen's overall modelling approach.

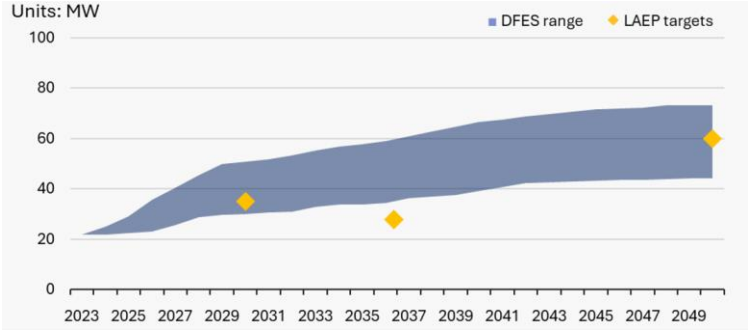
Spatial Distribution

Future need is assigned to a relevant Electricity Supply Area (ESA) at primary or distribution level by assessing locational data provided with new development information and other relevant input like Energy Strategy, Local Plans or Local Area Energy Plans (LAEPs). LAEP reconciliation is used to endorse or uplift spatial distribution for relevant ESAs, where viable.

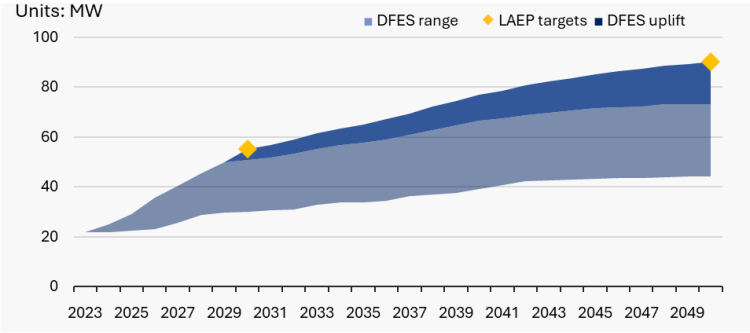
4. Incorporating LAEP data

The DFES, as a bottom-up, local evidence-driven analysis of future electricity load growth, aims to reflect, reconcile and (where possible) align with Local Area Energy Plans. There are four potential outcomes:

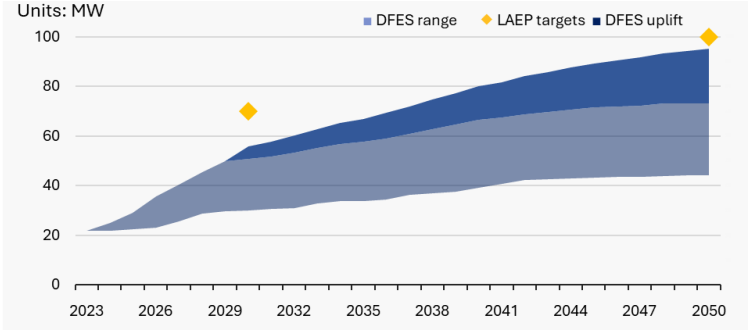
- **LAEP target is within DFES scenario projection 'range'**
  - no action
- **LAEP target is below the least ambitious scenario**
  - no action
- **LAEP target is credibly above the initial DFES 'range'**
  - the most ambitious scenario is uplifted to directly reflect the target
- **LAEP target is substantially above the DFES 'range', outside a credible range**
  - Regen coordinate with National Grid DSO to agree on the best approach to adapt scenario or re-engage with local authority team



Illustrative example: LAEP ambition is within or below DFES range



Illustrative example: DFES Scenario uplifted to reflect LAEP targets



Illustrative example: LAEP targets not credible within DFES or FES pathways

The impact of a LAEP on the DFES will be continually reviewed and refined based on our stakeholder feedback.

5. Data Submission: What does ‘good’ look like?

County vs District

We’re able to take data submissions from Local Authorities at either county or district level. Some areas provide these separately, while others coordinate them centrally. We understand that resources are often tight, so we’re happy to work with whichever approach is easiest for you. Your Strategic Engagement Officer will be on hand to help you throughout the process.

New Developments

One of the main pieces of data we ask you for is the new developments for domestic and non-domestic builds, along with as much information as possible so that we can assess the location, size, build out timeline and confidence of it going ahead.

The more data you can share with us, the more accurately we can develop our projections. Regen is keen to keep the workload for Local Authorities as light as possible, so please don’t feel you need to carry out any additional conversions or searches. In many cases, it is more helpful for us to receive the data you already have, rather than for you to spend time locating information that is available through online portals that we can access directly.

DNO	Licence area	Last updated	Site name	Local authority	Easting	Northing	Number of homes	Notes	Development stage	Land type (Brownfield/	Source	Source year	Source link	2023	2024	2025
NGED	Crownsland	05/07/2024	Red Keep	King's Landing	392743	808807	69		Pre-planning - avaliable for development		Local Plan	2023	https://gar	0	0	23
NGED	Crownsland	05/07/2024	Dragonsto	King's Landing	393424	807065	49		Pre-planning - avaliable for development		Local Plan	2023	https://gar	7	7	7
NGED	Crownsland	05/07/2024	Dun Fort	King's Landing	391089	804185	820		Pre-planning - avaliable for development		Local Plan	2023	https://gar	205	205	205
NGED	Crownsland	05/07/2024	Aegonfort	King's Landing	389627	812162	160		In planning		Primary data	2024		0	40	40
NGED	Crownsland	05/07/2024	High Tide	King's Landing	389547	803092	48		In planning	Brownfield	Primary data	2024		0	48	0

SharePoint Process

At the Start of the data submission window, Regen will send an email to your designated contacts with a link to your unique SharePoint link. Your link will only be able to be seen, in confidence, by your local authority and National Grid DSO / Regen. You will be able to see previous submissions as these documents are live and can be updated at any point, even after the DFES submission window, after which they will be captured in the next submission window.

Best practice is to review and confirm that all current planned domestic developments of **over 20 dwellings** and non-domestic developments of **over 1000 sqm** are captured in the data. Remove any developments that are now fully built out and ensure the ‘last updated’ field is amended as you make any changes.

The link you are sent is unique to your Local Authority and can only be viewed by you, Regen and National Grid DSO. This means you can share your data, including potentially sensitive data, with confidence it won’t be used for any other purpose or shared wider.

Locational Data

One of the most important pieces of information to include is the locational data, this is because it is important for mapping developments into the relevant Electricity Substation Area. Co-ordinates with easting / northing are ideal but if they are unavailable a postcode or a planning application number can help here.

Additionally Shape Files or other GIS compatible files are ideal in allowing us to accurately add to the right ESA and understand the growth of an area, you can upload these directly into your provided SharePoint folder.

Build Out Rate

A build out rate for a new housing development allows us to calculate year-on-year the expected electrical demand for a site and how this will likely impact the distribution network. In the spreadsheet you will be able to add the number of houses built per year, per development up to 2050. For non-domestic builds we will require floorspace in metre-squared instead. If you only have a total site size or a figure in hectares, please provide what you have.

Further Data Sources

Where possible please provide us with your other relevant documents such as:

- Local Development Plans / Infrastructure Development Plans
- 5 Year Housing Supply Data
- Planning Database Data
- Annual Monitoring Report
- Local Area Energy Plans / LAEP Style Plans

Even if sites included in this data don't yet have planning permission, we can still use them to look at future demand need based on where the homes and businesses might be placed up to 2050.

Local Authority Survey

Each year alongside the DFES data ask, each local authority also receives a survey from Regen to capture projections for Low Carbon Technologies (LCTs). This survey will be tailored each time due to influences such as previous years submissions, NESO work like Future Energy Scenarios / Regional Energy Strategic Plans and national policy.

Check and Challenge

Our DFES outputs are freely available, and we offer multiple ways to check and challenge our projections against yours. The DFES interactive map and Local Authority Workbook are two different ways to easily visualise and compare this data.

Meeting and raising any questions or differences with your Strategic Engagement Officer ensures we can assess properly and continue to ensure our projections for future electricity need are as accurate as possible.

DFES Interactive Map
https://dso.nationalgrid.co.uk/planning-our-future-network/forecasting-for-future-need/dfes-interactive-map

DFES Volumes: Licence area and engagement reports
https://dso.nationalgrid.co.uk/planning-our-future-network/forecasting-for-future-need/dfes-volumes

Connected Data Portal: DFES data and Local Authority Workbook.
https://connecteddata.nationalgrid.co.uk/dataset/dfes

6. Stakeholder Engagement

The Stakeholder Engagement Team at National Grid DSO are on hand to support your growth and strategic energy needs.

Licence Area	Strategic Engagement Officer
Strategic Engagement Manager	Will Nightingale wnightingale@nationalgrid.co.uk
East Midlands	Elizabeth Hanger ehanger@nationalgrid.co.uk
West Midlands	Steven Roberts sroberts4@nationalgrid.co.uk
South / Mid Wales	Kathryn Thomas kthomas@nationalgrid.co.uk
South West	Vaughan Pyne vpyne@nationalgrid.co.uk

Engagement for Local Authorities

In engaging with their Stakeholders, a Local Authority can gather data and insight on future developments, including large strategically important projects, in an area and bring valuable information to our strategic planning process. To build this insight, Local Authorities should, where possible, proactively engage a broad range of stakeholders who can influence or inform future energy needs.

This includes housing developers and commercial property developers planning new estates or regeneration schemes; retrofit organisations such as heat-pump installers, EV charging specialists and broader low-carbon technology providers, large energy users across industry (though this may be via a relevant cluster organisation), transport and the public sector and established community energy groups working on local generation or flexibility projects.

Regional Net Zero Hubs and other strategic bodies can also provide valuable intelligence on forthcoming initiatives and funding opportunities.

By opening clear channels of communication with these partners and including your Strategic Engagement Officer in these conversations, Local Authorities and National Grid DSO can develop a deeper understanding of future demand including large strategic projects and growth corridors.

Additionally, the National Energy System Operator (NESO) have set up their Regional Energy Strategic Plan role to work across all energy vectors to develop regional plans. They work closely with National Grid DSO and other stakeholders, such as Local Authorities, and if you are not already in touch you can contact NESO's RESP team at box.RESP@neso.energy.

7. Data Templates and the Common Ask Template

The Local Authority Common Ask is a major step towards a more consistent, joined up approach to planning the energy system with our DSO peers UKPN and SSEN. Local Authorities will no longer have to spend time and money sharing the same local data in many ways to networks. This means LAEP outcomes can be shared and interpreted quickly, helping councils to make decisions on heat, transport, and energy infrastructure planning more easily.

Standardising LAEP outputs also gives DSOs more consistent, higher-quality data to feed into key network planning and investment processes.

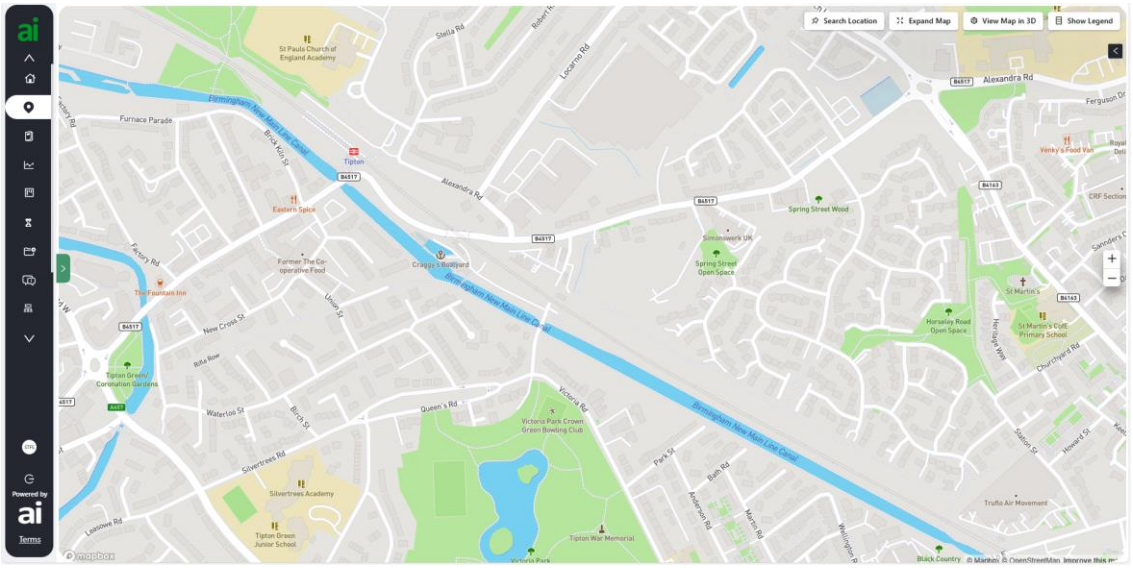
To get the Local Authority Common Ask Template, please contact your Strategic Engagement Officer and they will be happy to send it to you.

8. LAEP-style Plans

A Local Authority may choose to develop a ‘LAEP-style Plan’ as an alternative to creating a full LAEP as per the Energy Systems Catapult methodology guidance. Whether this is developed in house or with a consultant and whatever software solution is chosen, your Strategic Engagement Officer will be able to support the development via engagement and National Grid DSO's open data platform. The outputs of your plans will directly inform our strategic network investment process.

Project PRIDE / LAEP+

Currently in trial with the West Midlands Combined Authority and a limited number of other Local Authorities, LAEP+ is a digital planning tool for Local Authorities, networks and their delivery partners. Using hundreds of datasets, it allows users to create spatial energy plans for whole Local Authority areas or to develop specific localised projects. Local Authorities can easily generate and share data with relevant partners to support energy planning and investment decisions, for example feeding into our DFES data gathering process.



LAEP+ is the digital tool used in the PRIDE project (Planning Regional Infrastructure in a Digital Environment) capable of providing a cost-effective, interactive way for Local Authorities to develop local energy plans which can easily be shared with networks (including National Grid DSO) and other local authority departments. This can support the development of new plans and projects, laying more robust groundwork for investment decisions.

National Grid DSO have asked OFGEM, via a digital reopener, for approval to roll the tool out to every one of their Local Authorities across their four licence areas. A decision is expected in summer 2026.

9. Regional Energy Strategic Plans

The National Energy System Operator (NESO) released the Transitional Regional Energy Strategic Plan (tRESP) in January 2026. It is a national-to-regional planning framework that is designed to guide Distribution Network Operators (DNOs) as we prepare investment plans for the 2028-2033 price control period (RIIO-ED3). The first full RESP is intended to be released by the end of 2028.

For more information, please visit the NESO website:
https://www.neso.energy/what-we-do/strategic-planning/regional-energy-strategic-planning-resp

Common Planning Assumptions

Common Planning Assumptions (CPAs) provide a standardised GB-wide set of assumptions that all DNOs must use for demand and generation forecasting for RIIO-ED3. This ensures that every region forecasts using the same baseline rules, making DNO business plans consistent and aligned with NESO's Future Energy Scenarios (FES).

CPAs include assumptions for Low Carbon Technology (LCT) such as electric vehicles, car chargers, heat pumps and battery storage. It also models the region grown of distributed and large-scale generation such as solar PV, on-and-offshore wind generation and storage projects. Socio-economic and demographic drivers, along with spatial and locational factors, are also incorporated into the modelling.

By aligning DFES 2025 with tRESP, we standardise assumptions and minimise investment risk. For example, National Grid DSO will model LCTs using RESP Grid Supply Point (GSP) level data and disaggregate it to a more detailed local geography based on information from Local Authorities.

Strategic Energy Need

To identify Strategic Energy Needs (SEN), NESO gathers data from stakeholders, customers, and regional plans to determine where energy demand is growing or where new capacity is required to meet local and national ambitions (such as Net Zero or economic growth). It effectively maps out "where" the energy needs are.

These drivers are not always captured in purely bottom-up DFES forecasting but become embedded if SEN highlights them as strategic priorities. tRESP will only identify where there is a strategic demand (the energy need), whilst the DNOs will remain responsible for undertaking network planning and developing their investment plans.

For more information about the Transitional Regional Energy Strategic Plans and Strategic Energy Need please visit the NESO website:
https://www.neso.energy/what-we-do/strategic-planning/regional-energy-strategic-planning-resp/transitional-regional-energy-strategic-plan-tresp

Glossary

Term	Definition
Common Planning Assumptions **(CPAs)**	Common Planning Assumptions (CPAs) provide a standardised GB-wide set of assumptions that all DNOs must use for demand and generation forecasting for RIIO-ED3.
Constraint	Any limit on the ability of the licensee's Distribution System, or any part of it, to transmit the power supplied onto the licensee's Distribution System to the location where the demand for that power is situated.
Demand	The consumption of electrical energy.
Distribution Future Energy Scenarios **(DFES)**	The Distribution Future Energy Scenarios outline the range of credible futures for the growth of the distribution network. It is the first stage of the National Grid DSO investment planning process.
Distribution Network Operator **(DNO)**	A company, licenced by Ofgem, which distributes electricity in the United Kingdom who has a defined Distribution Services Area.
Distribution System Operator **(DSO)**	A directorate within NGED that creates an efficient and more flexible electricity network to meet future energy demands as well as co-ordinating transmission and distribution services at a local level with other network and system operators. Responsible for the DFES, NDP and DNOA processes.
Forecast	A prediction of future events that, in the balance of probabilities, National Grid DSO believes will occur.
Future Energy Scenarios **(FES)**	A set of scenarios developed by the National Energy System Operator (NESO) to represent credible future paths for the energy development of the United Kingdom.
Generation	The production of electrical energy.
Licence Area	The geographic region where a specific company is responsible for running and maintaining the electricity network.
Local Area Energy Plan **(LAEP)**	A local, data-driven plan that brings together stakeholders to map out the most effective way for an area to transition to net zero.
Low Carbon Technology **(LCT)**	A technology solution, such as solar panels, electric vehicles / chargers, or heat pumps. They can help cut emissions and support the transition to cleaner energy.
National Energy System Operator **(NESO)**	The public entity responsible for balancing electricity supply and demand in Great Britain.
National Grid Electricity Distribution **(NGED)**	National Grid Electricity Distribution is a DNO that is licenced by Ofgem to distribute electricity in the East Midlands, West Midlands, South West, and South Wales.
Network Development Plan **(NDP)**	A plan published every two years as required by SLC 25B to provided stakeholders with transparency on network constraints and needs for flexibility.
Pathway	A prescriptive set of growth projections for different technologies that are required in order to meet specific government decarbonisation targets.
Regional Energy Strategic Plan **(RESP / tRESP)**	Plans created by the National Energy System Operator (NESO) to ensure that local areas get the energy infrastructure required to meet local net zero and growth ambitions. Used to inform National Grid DSO's DFES. tRESP is the first, transitional plan, in help inform ED3 investment plans ahead of the publication of the first RESP in 2028.
Revenue = Incentives + Innovation + Outputs / Electricity Distribution 3 **(RIIO-ED3)**	RIIO-ED3 is Ofgem's upcoming electricity distribution price control framework, set to begin in April 2028, guiding the performance and revenue allowances for Distribution Network Operators (DNOs).

	ED3 is the upcoming 5-year regulatory framework for DNOs, running from April 2028 to March 2033. It determines investment allowances, performance obligations and customer outcomes.
Scenario	A hypothesis of future events that would or could occur given certain political, economic, social, technological and environmental conditions.