



The Grid West Project



Landowner Information Brochure - overhead route corridor option Summer 2014





The Grid West project

What is the Grid West project?

The Grid West project will deliver 21st century energy infrastructure to the West of Ireland. Grid25 is EirGrid's strategy to develop and upgrade the electricity transmission network. By connecting the electricity generated by the region's huge renewable energy resources, the Grid West project will facilitate significant job creation and investment. It will contribute to national recovery and growth while at the same time allowing the region to attract inward investment that requires a strong reliable source of power. The Grid West project consists of a new high-capacity power connection, linking the north Mayo area to a strong point on the national grid.

Where are we now?

EirGrid launched the Grid West project in May 2012. Since then we have completed four rounds of public consultation, hosted 22 open days and engaged with members of the public and stakeholders through various fora. In October 2013, EirGrid announced details of an emerging preferred overhead route corridor option (overhead route corridor) for the Grid West project running from north Mayo to Flagford, Co. Roscommon.

EirGrid has been listening to all of the feedback received to date and will continue to do so. In response to this feedback in January of this year, EirGrid announced a commitment to undertake a comprehensive analysis of an underground option for the Grid West project.

Since then, we have, in consultation with local authorities in Mayo, Roscommon and Galway, as well as the National

Roads Authority and other relevant agencies, identified a number of possible underground options from north Mayo to both Flagford, Co. Roscommon and Cashla, Co. Galway, including an emerging preferred underground option (underground option) which runs from north Mayo to Flagford, Co. Roscommon.

Feedback on the underground option and the overhead route corridor option, and the work we have conducted on both, will be combined to form a single report. This report, expected to be finalised towards the end of this year, will then be submitted to the Government-appointed Independent Expert Panel, who will review it to assess that both options are considered in a fair, objective and comparable way, in line with the terms of reference set out by the panel. Subject to their approval, the report will then be published for public consultation.

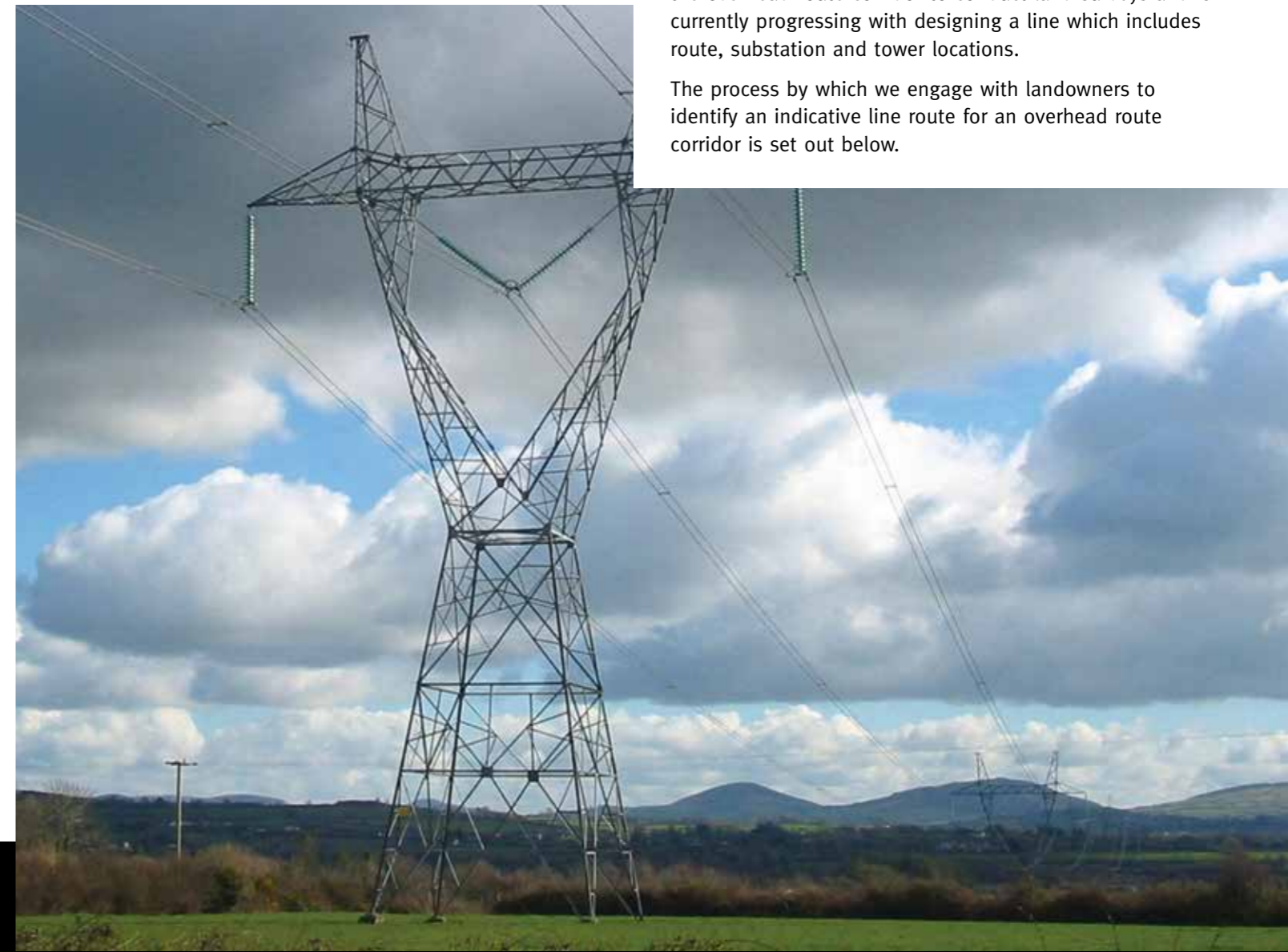
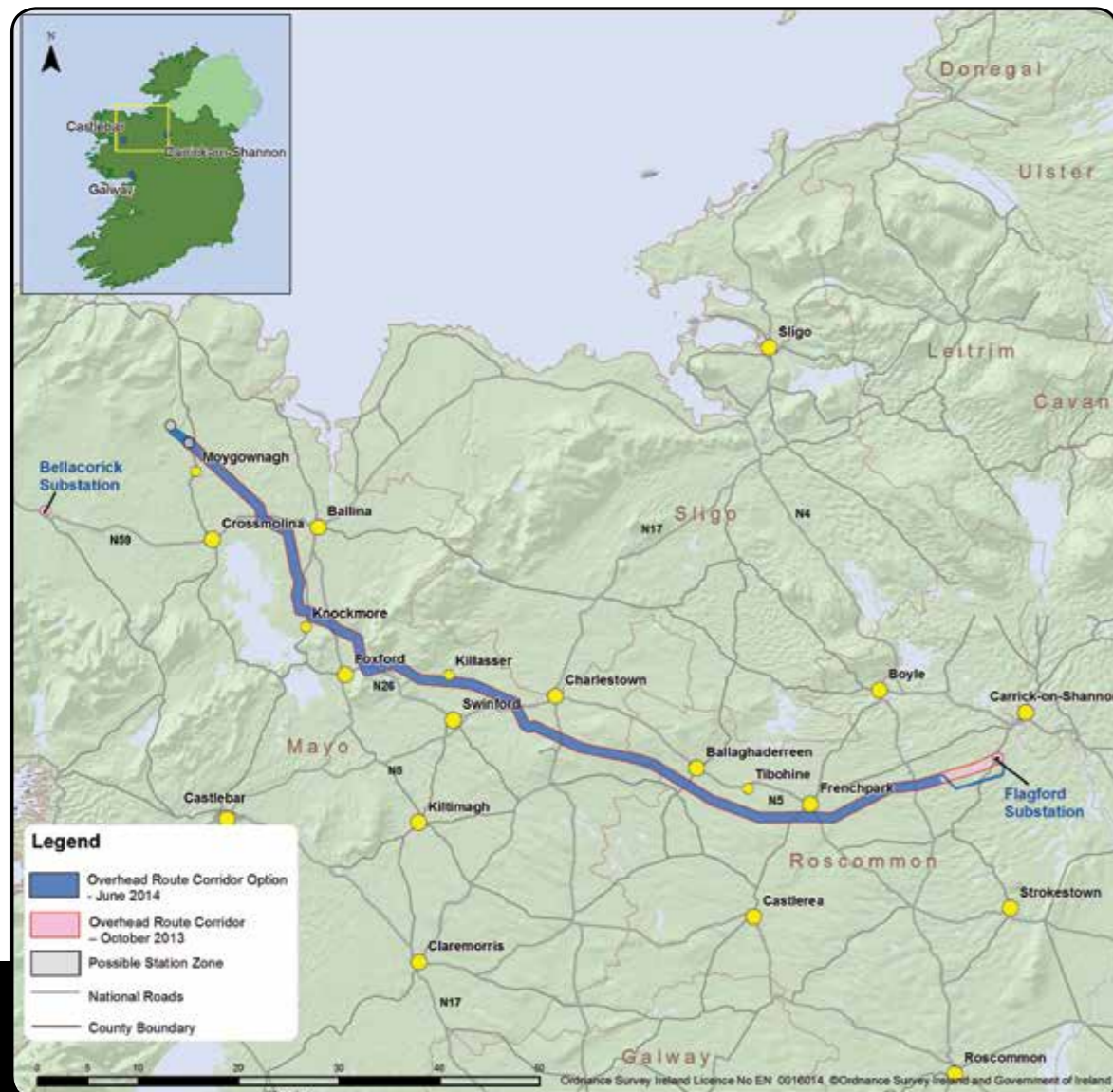
Work to date on an overhead indicative line route option

In March 2013, the Grid West project published the Stage 1 Report identifying 16 potential overhead route corridors for the Grid West project. It also identified a least constrained corridor, which was considered to be the corridor which best avoided environmental and other constraints.

In October 2013, the overhead route corridor was published and following this, further public consultation and technical studies were conducted. A comprehensive analysis of all studies and submissions received was undertaken by the project team. This work identified further refinements to the overhead route corridor (figure 1), which is broadly the same as the least constrained corridor identified in the Stage 1 Report with some modifications. EirGrid is engaging with landowners within the overhead route corridor to conduct land surveys and is currently progressing with designing a line which includes route, substation and tower locations.

The process by which we engage with landowners to identify an indicative line route for an overhead route corridor is set out below.

FIGURE 1 - EMERGING PREFERRED OVERHEAD ROUTE CORRIDOR OPTION



Project Development & Consultation Roadmap

Steps in landowner engagement

1: Landowner Consultation (Current Phase)

The **initial landowner package** of documents from EirGrid, including a letter outlining the process and maps, showing the initial indicative line route envisaged on their property for discussion, was issued in November 2013.

EirGrid's agents, Tobin Consulting Engineers (TOBIN), has sought to meet with each landowner to confirm ownership and to discuss the indicative line route and concerns or suggestions that the landowner may have regarding the project.

As mentioned, this process is continuing in order to progress the overhead route corridor and underground options in parallel.

As part of this ongoing work, the **second landowner package** has now been issued, which includes a letter and a map showing the current indicative line route and indicative tower locations on their property for discussion with landowners. EirGrid will be conducting a second round of consultation and EirGrid's agents will again be seeking to meet with landowners. In addition to reviewing any suggestions landowners may have in relation to this route, they may also look to arrange access to lands for environmental and/or technical surveys.

2. Publication and consultation on the report to the Independent Expert Panel

Feedback on the underground option and the overhead route corridor option, and the work conducted on both options, will be combined to form a single report. This report is expected to be finalised towards the end of this year and will then be submitted to the Government-appointed Independent Expert Panel, which will review it to assess that both options are considered in a fair, objective and comparable way, in line with the terms of reference set out by the panel.

Subject to its approval, the report will then be published for public consultation.

The report will present all information in relation to an overhead indicative line route; including details of substations, tower types and locations. It will also present all information in relation to an underground option including substations and converter stations.

3. Confirm the design

All public, community and stakeholder input with respect to both options will be considered as part of the ongoing work to find the best solution for the Grid West project. Following public consultation on the report, a decision, guided by government and regulatory policy, will be made on the final design of the Grid West project.

At this stage, the **third landowner package** will be issued to landowners, with a map showing the final route passing through their land, and this will form part of EirGrid's planning application to An Bord Pleanála. It is worth noting that this package will only issue to landowners, should an overhead route corridor be confirmed as the preferred option for the Grid West project and should the final route design cross lands within their ownership.

A similar process will apply to landowners impacted by an underground route, should that be the preferred option.

4. Prepare the planning application to An Bord Pleanála

All directly affected landowners will receive notification of the date of planning application when submitted to An Bord Pleanála (expected Q3 2015).

You are Here



Overhead Line Design

If the preferred option for Grid West is an overhead line, the project will then take the form of a single circuit 400kV overhead line. An overhead transmission line is made up of a number of elements, including conductors (wires), shield wires, insulators and supporting structures.

Generally there are two types of towers used, intermediate and angle towers. Intermediate towers support the wires on straight sections of the line while angle towers are used where the route changes direction. The height and footprint of each tower is dependent upon the tower type and the terrain over which the line passes.

At 400kV a limited number of steel lattice designs are currently deemed suitable for use on the Irish transmission system. Details of typical 400kV tower design are shown in Figure 2.

At 400kV, the conductors are required to be a minimum of 9 metres above ground. The distance between towers is known as the “span”, and the length of the span is dependent on the terrain over which the line is to cross and the type of tower used. For EirGrid’s current 400kV tower, the average span is about 350 metres.

However, in line with EirGrid’s Grid25 strategy we regularly review and assess available technologies, including developments in tower designs.

A range of feasible tower types are shown on the EirGrid website at the following location: www.eirgridprojects.com/projects/gridwest/towerdesign. EirGrid will examine options as the project progresses, review the available technology at that time and continue to consult with the public and all interested people throughout the process as we confirm our design.

Guidelines for overhead line design and tower positioning

The current indicative line route is developed in accordance with national and international standards and best practice.

When designing the preferred line route, landowner considerations, as well as technical and environmental constraints, will be taken into consideration. The considerations for the positioning of towers (if selected) are outlined below. As part of this phase of landowner consultation, EirGrid is seeking your feedback on the indicative line route and tower locations.

Landowner considerations

- Minimise disturbance to current land use, farm and land management practices.

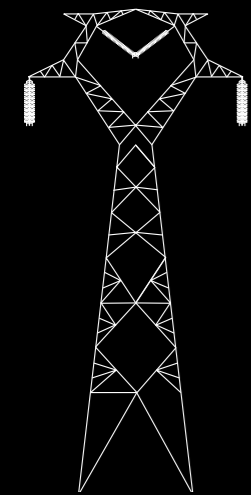
Technical considerations

- Meet the line design requirements and technical limits of towers, such as span length and clearance height.
- Avoid sharp changes in direction in the line and minimise the number of angle towers required where possible.

Environmental considerations

- Avoid known ecologically sensitive areas, where possible (e.g. Special Areas of Conservation (SACs)/ potential Natural Heritage Areas (pNHAs)/ Natural Heritage Areas (NHAs) and Special Protection Areas (SPAs).
- Cause the least amount of disturbance and minimise impacts to natural heritage interests (including watercourses) and cultural heritage interests.
- Avoid sites of potential ecological importance, e.g. hedgerows and wetlands. Only site towers on hedgerows if the impact can be assessed by survey and appropriate mitigation measures identified.
- Integrate the line into the landscape where possible.

On the grounds of general amenity, where possible, EirGrid will avoid routing overhead transmission lines close to residential areas. With respect to individual dwellings, the aim at route selection stage will be to achieve the maximum separating distance between existing dwellings and a planned line route whilst also seeking to avoid, or minimise impact upon, other identified technical and environmental constraints. In this context, EirGrid will seek, where possible, to achieve a lateral clearance of at least 50m from the centre of the line to the nearest wall of a dwelling.

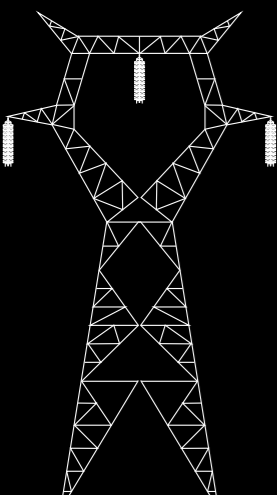


Intermediate or Suspension Tower

These support the conductors (wires) on straight sections of the line route.

Typical Height: 27 - 43m

Footprint Range: 6.4 x 6.4m to 11 x 11m



Angle/Tension Tower

These are used when the line route changes direction.

Typical Height: 24 - 37m

Footprint Range: 7.4 x 7.4m to 12 x 12m



Figure 2 – 400kV Single Circuit Towers including Typical Dimensions

Guidelines for identifying construction access routes

When identifying construction access routes, EirGrid seeks to minimise the environmental impact and the impact on farm and land management practices. These indicative temporary access routes will be approximately four metres in width to cater for the construction vehicles. Where possible, landowner preferences will be accommodated and existing access routes will be utilised.

Landowner considerations

- Minimise disturbance to current land use and farm and land management practices.
- Take appropriate precautions to protect animal welfare and crop fertility by avoiding the spreading of diseases and noxious and invasive plants between farms.

Technical considerations

- Maximise use of existing farm entrances, farm tracks/roads and bridges, where possible.
- The use of private accesses to residential properties should be avoided wherever possible for safety and amenity reasons.

Environmental considerations

- Avoid sensitive areas where possible (e.g. SAC/pNHA/NHA/SPAs).
- Cause least disturbance and minimise impacts to natural heritage interests (including watercourses) and cultural heritage interests.
- Minimise the number of new temporary entrances and access tracks/roads, where possible.
- Minimise intrusion and disturbance to the surrounding area and local communities.

How you can influence the line design

If an overhead line is the preferred solution, EirGrid will seek to minimise disturbance to current land use and farm management practices and is looking for your feedback. You can provide feedback to your designated landowner agent or contact our dedicated project information service.

In addition, if you would like an agricultural advisor to meet with you in order to carry out an assessment of the impact that the proposal may have on your farming practice, please get in contact with us through one of the communication channels as listed at the back of this brochure.

In order for your proposed modification to be adopted it must:

- Meet general line design requirements;
- Not create greater undue impact for adjoining dwellings/sensitive receptors; and
- Tower and line movements should be confined to the landowner property, where possible, unless otherwise agreed with adjoining landowners.

All reasonable line route and tower movement requests will be considered and assessed. A balanced judgment will be made, based on technical and environmental considerations and the results of this assessment will be communicated to you.

Only if the preferred solution for Grid West is an overhead line will the approved changes be incorporated into the final proposed development and submitted for planning approval to An Bord Pleanála.

Please be assured that engaging in the consultation process to help identify the best solution for the line does not indicate your support for the project and will not affect any submission you may wish to make to An Bord Pleanála if an application for planning approval is submitted.

Community gain

The Government policy statement published in July 2012 underlined the appropriateness of incorporating community gain considerations into major infrastructure projects. In recognition of the visual impact of transmission infrastructure, EirGrid is proposing a community gain mechanism with two elements.

Local Community Fund

- A fund to which EirGrid will contribute €40,000 per kilometre for communities in proximity to new 400kV lines, pylons and stations.

EirGrid's preferred approach envisages the fund being managed in association with the local authority on a ring-fenced basis on behalf of local communities, with applications for funding local initiatives assessed and approved by the local authority and community representatives on behalf of the local community.

EirGrid will engage with the local authority to ensure a practical implementation of the local community fund element.

Proximity Allowance

- A one-off payment to occupied residential properties within 200 metres from the centre of a new 400kV line or from the compound fence of a new 400kV rural station.
- For 400kV there would be a payment of €30,000 for residences at 50m from a line, pylon or substation decreasing (on a sliding scale) to €5,000 at 200m.
- EirGrid seeks to locate new lines at least 50m from homes. In exceptional cases where this is not achievable, EirGrid will deal with the affected property owners on an individual basis.

These community gain payments are in addition to compensation paid to landowners if a transmission line goes through private land. All directly affected landowners are entitled to compensation as a result of the

construction of transmission infrastructure, in accordance with a statutory compensation scheme. Currently an agreement is in place for the construction of new 110kV transmission lines where landowners currently receive a payment of €22,000 per steel tower, paid in three stages during the construction phase. We envisage a similar arrangement for the proposed 400kV lines however at present payments for these lines have not been finalised.

EMF

There has been significant research into possible health effects from electrical power systems. Independent and authoritative international and national review panels of scientific experts have reviewed studies on possible health effects and have concluded that EMF in normal living and working conditions do not cause adverse health effects in humans.

None of the authoritative bodies responsible for the development of the international recommendations on EMF exposure considered it necessary or appropriate to limit the construction of AC or DC electricity infrastructure. Having reviewed the authoritative opinions, EirGrid will continue its policy of complying to the most up-to-date international and national standards and guidelines with which the entire network adheres.

Please see www.eirgridprojects.com/yourhealth/ for further information on health.



Construction

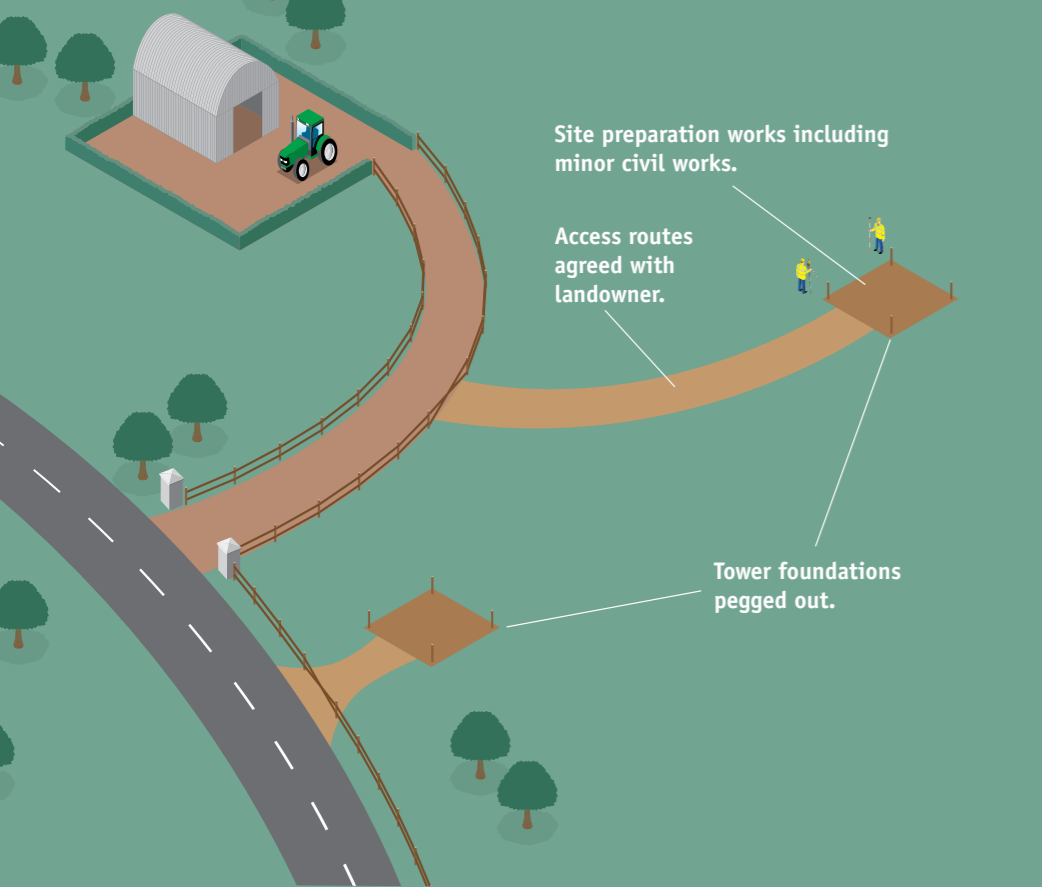
(For illustrative purposes only)

It should be noted that the construction methodology outlined below is indicative only and is based on EirGrid's and ESB's experience of similar transmission line projects. Where there are site specific issues, for example poor ground conditions or unique planning conditions, then alternative methodologies are likely to be required.

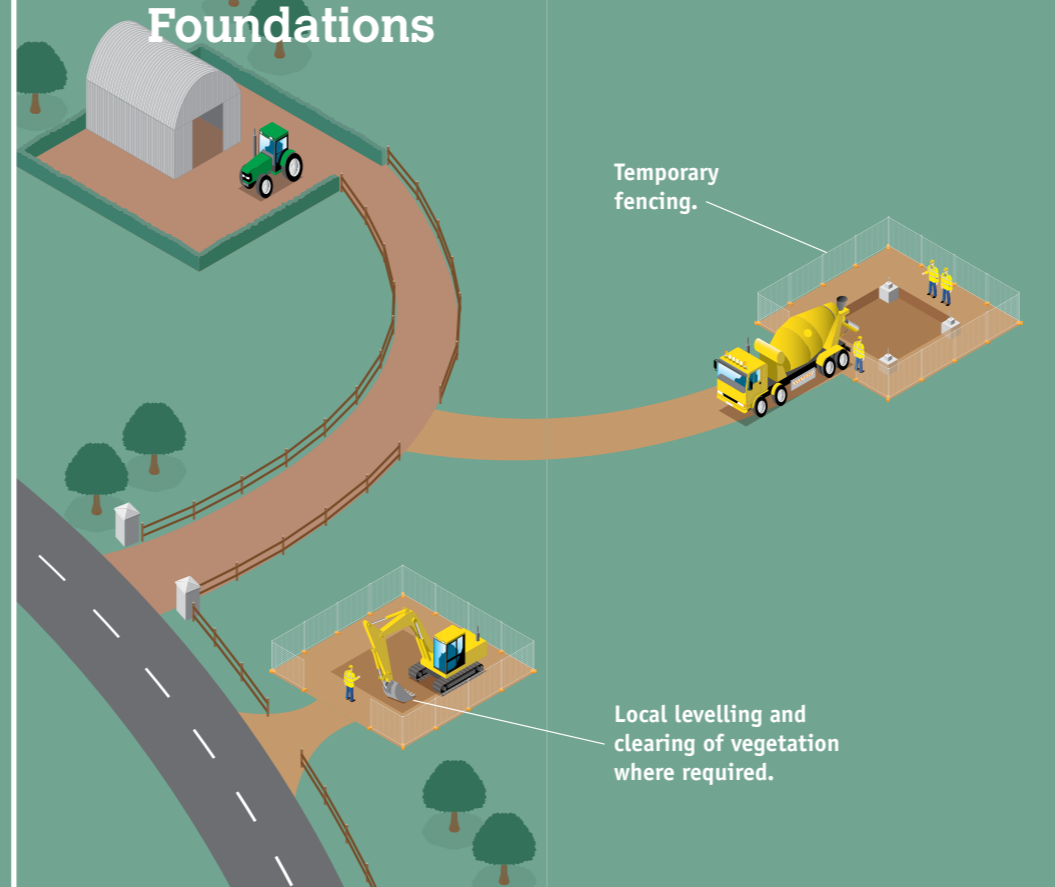
In all cases, EirGrid will work with landowners to agree access routes and to minimise disruption.

Individual tower sites will be separated by an average of 350m and access to the sites will be required for short periods during each phase of construction.

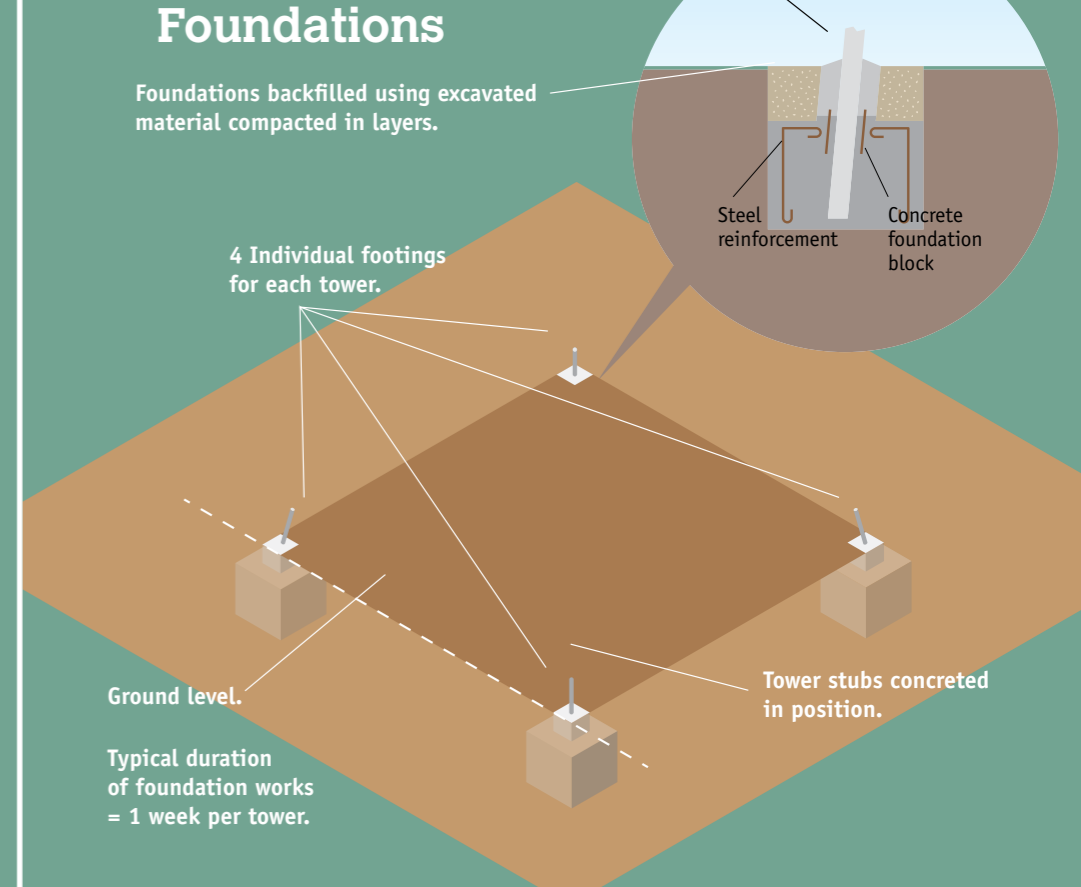
1 Setting Out/Access Routes



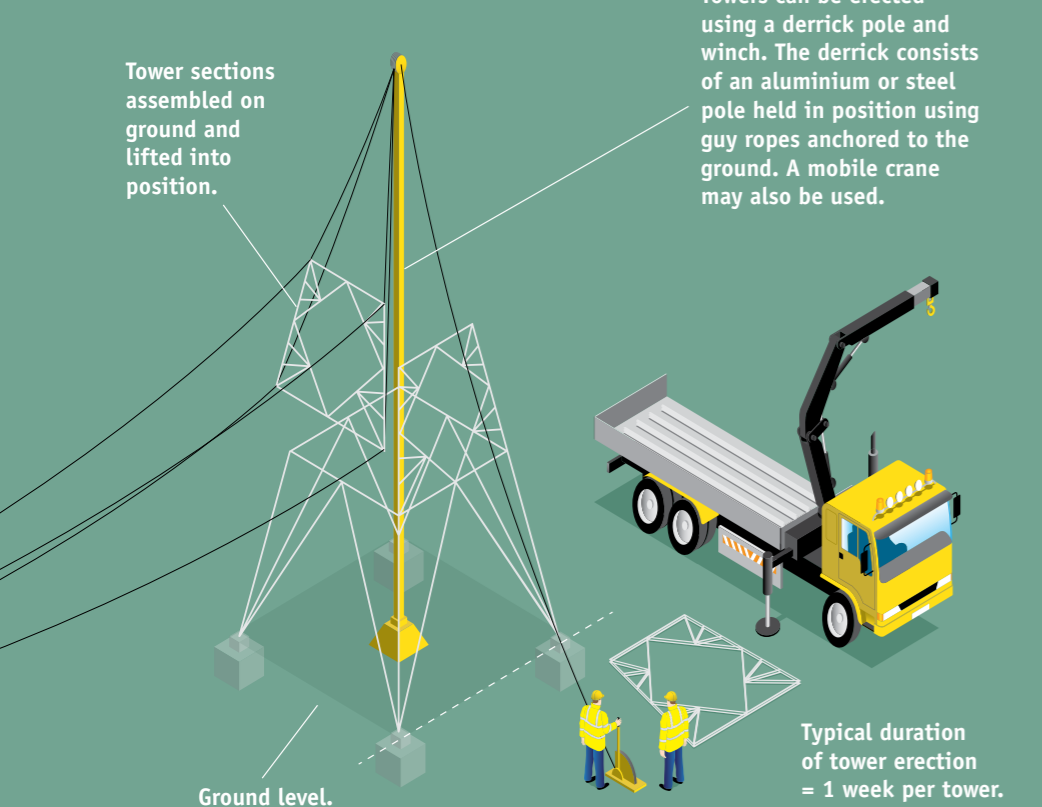
2 Tower Foundations



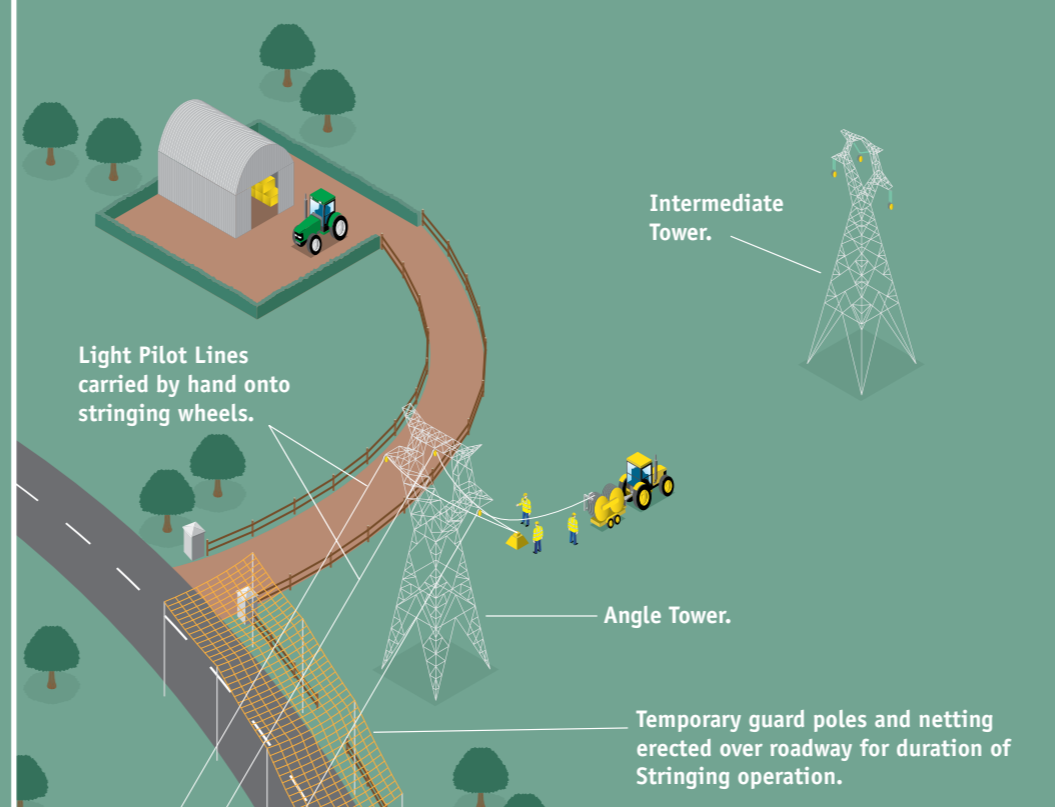
3 Typical Tower Foundations



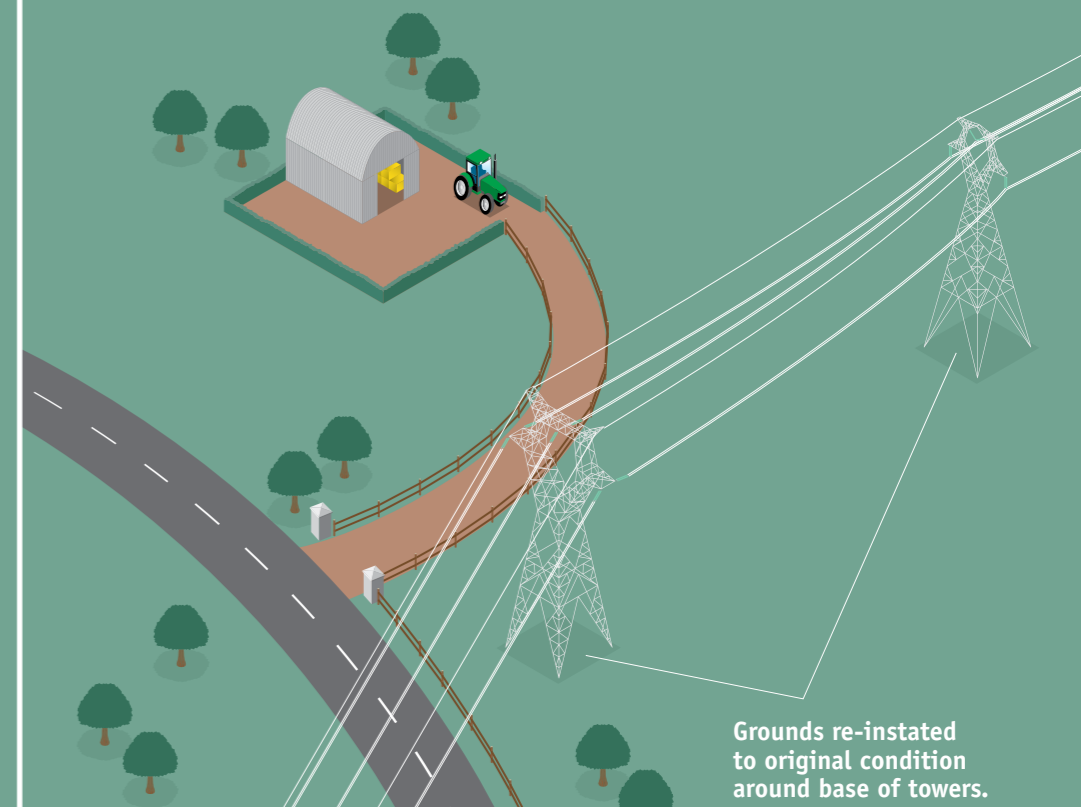
4 Tower Erection



5 Stringing



6 Re-Instatement & Completion



About EirGrid

EirGrid is a state-owned company and is the national operator of the electricity grid. The national grid is an interconnected network of high voltage power lines and cables, comparable to the motorways, dual carriageways and main roads of the national road network. It is operated at three voltage levels; 400kV, 220kV and 110kV and is approximately 6,400km in overall length. It is the backbone of Ireland's power system and is vital to ensuring that all customers - industrial, commercial and residential from both rural and urban areas have a safe, secure, reliable, affordable and efficient electricity supply.

What is Grid25?

Grid25 is a major initiative to put in place a safe, secure and affordable electricity supply throughout Ireland, supporting economic growth and utilising our renewable energy resource to its maximum potential. Development of the grid is essential to provide a platform for renewed economic growth and regional development, and is vital if we are to effectively tap into our abundant renewable energy resources.

Grid25 will involve upgrading the high voltage system and an overall investment of approximately €3.2 billion in the period up to 2025. This new infrastructure is every bit as essential to the future growth of the country as any investment in road, rail and broadband.

How do I find out more/ provide feedback?

EirGrid encourages you to participate in the consultation process. You can contact the project team or provide feedback through the following channels:

- **Telephone:** Lo-call 1890 94 08 02
- **Email:** gridwest@eirgrid.com
- **Website:** www.eirgridprojects.com/projects/gridwest
- **Letter:** Grid West project office, EirGrid, PO Box 12226, Dublin 4
- **Visit a Grid West Information Centre in:**

Ballina, Bury Central, Bury Street, Ballina, Co. Mayo. (open Monday and Tuesday – 10 am to 6pm – except bank holidays)

Ballaghaderreen, The Square, Ballaghaderreen, Co. Roscommon. (open Wednesday and Thursday – 10 am to 6pm – except bank holidays)

Castlebar, EirGrid office, Linenhall Street, Castlebar Co. Mayo. (by appointment – call 1890 940 802)

You can also contact the Grid West project Community Liaison Officer through any of the above channels.

If you wish to receive text updates on the Grid West project generally text GridWest to 51444. For county specific updates (i.e. Mayo, Galway, Sligo, Roscommon or Leitrim) text the county name (e.g. Mayo) to 51444 (standard SMS rates apply).

