

# Powering Up Dublin

## Frequently Asked Questions

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# 1 General Questions

## 1.1 Who is EirGrid and what do we do?

EirGrid is operator and developer of Ireland's electricity grid, making sure communities, homes and businesses across the country have access to electricity when and where they need it.

We are also playing a leading role in transitioning to a renewable-led electricity system, to help us meet the Government's Climate Action targets for 80% of our electricity to come from renewable sources.

## 1.2 What is the Powering Up Dublin Project?

With our partners, we are installing over 50km of underground electricity cables connecting substations across the city. These cable routes are:

- Finglas substation to Poolbeg substation (via North Wall)
- Carrickmines substation to Poolbeg substation
- Two circuits connecting Inchicore substation to Poolbeg substation

Upgrades will also take place to a number of electricity substations to support Dublin's electricity grid, with two new substations being built at Poolbeg and in central Dublin.

## 1.3 Why is the Powering Up Dublin project needed?

Dublin's electricity infrastructure is ageing and reaching its end of life. Work must be done now to transform and modernise the city's infrastructure so Dublin can continue to develop and thrive, while increasing the power from renewable sources.

- Meeting electricity needs:
  - As part of operating the electricity transmission grid, EirGrid measures the strength and reliability of our electricity network on a regular basis.
  - We work to ensure our electricity needs can be met minute-by-minute, as well as making plans for future electricity requirements. In doing this, we have identified the parts of Dublin's network that are working the hardest and need additional support or need to be replaced.
- Building a reliable, renewable energy system:
  - Based on our analysis, we are delivering solutions to ensure Dublin's electricity network will continue to operate as needed and ensure the city's power system is equipped to facilitate renewable energy.

## 1.4 How has EirGrid engaged with the public on Powering Up Dublin?

EirGrid published 12 cable route options for 4 circuits for public consultation in 2023. In 2024, EirGrid published the Best Performing Options for three of the cable routes - Finglas to North Wall, North Wall to Poolbeg and Carrickmines to Poolbeg. Feedback received during the consultation, along with engagement with local schools, public representatives, community groups, environmental groups, business groups, utilities providers, individuals and other stakeholders helped significantly to determine these routes.

Three options for the two cables required to connect the Inchicore substation with the Poolbeg substation were presented for feedback as part of the public consultation. In 2024, we discounted one of the options due to the discovery of several significant technical, environmental and historical constraints.

## 1.5 What is happening now?

EirGrid has been undertaking a series of assessments and site investigations on the other two proposed routes. These surveys identified areas on the routes that are not practically passable without major disruption to existing utilities, services and the local community.

EirGrid has determined that the best performing technical solution for the two cables required to connect the Inchicore substation to the Poolbeg substation is to build a microtunnel that can accommodate both circuits. The proposed route of the microtunnel is still in development and will be published for consultation in 2026.

## 1.6 Will there be a Community Benefit Fund associated with Powering Up Dublin?

As part of Powering Up Dublin, we will work to give back to communities as part of our Community Benefit Policy. Our support will focus on the themes of community, sustainability and biodiversity. We will be led by local stakeholders on the best ways to use the community benefit funds set aside for these projects, so that those organisations, clubs and groups who have the most positive impact in these communities are supported.

The community benefit scheme becomes live once a project receives planning permission. EirGrid will soon appoint an independent fund administrator to manage the Powering Up Dublin Community Benefit Fund.

## 1.7 How is the Community Benefit Fund amount calculated?

The funding we will provide is directly related to the type of project we are carrying out. The funding we will provide is spread equally across the three streams of sustainability, biodiversity and community. Please visit [www.EirGrid.ie/community](http://www.EirGrid.ie/community) to find out more about our community benefit policy.

# 2 Inchicore to Poolbeg Microtunnel

## 2.1 What is a microtunnel?

A microtunnel is a tunnel that is built deep underground that has a diameter of up to four metres. It can be used to host utilities such as high-voltage cables safely below the surface. The diameter of the tunnel for Inchicore to Poolbeg is expected to be approximately three metres, however this will be confirmed following further assessment and design.

This method avoids digging up roads and causing disruption to traffic and communities. The microtunnel is created using specialist machines that work with minimal noise and dust, making it ideal for busy areas or places where open excavation isn't practical.

## 2.2 Why has a microtunnel been chosen as the solution for this route?

EirGrid follows a six-step process for grid development, which includes rigorous surveys and feasibility studies, along with public and stakeholder engagement, to determine the best way to build grid infrastructure. Unlike the other two cable routes in the Powering Up Dublin programme, a trenched solution for the two circuits required was determined not to be feasible due to the density of existing utilities, such as gas and water, already in the roads between the two substations. A microtunnel option removes disruption to the city's streets, eliminating the need for 30km of street work.

## 2.3 What are the benefits of a microtunnel?

- **Reduced Surface Disruption**
  - Microtunneling avoids extensive open-cut excavation on local roads. This is beneficial for the city as these roads are already very congested with utilities, but also beneficial as it will minimize impact on roads, businesses, and communities along the route.
- **Future-Proof Design**
  - Microtunnels allow easier access for maintenance or upgrades without repeated surface disruption. The microtunnel will be designed to allow for

at least 100 years of operation, ensuring long-term reliability with minimal maintenance needs. Secure access points at shaft locations will allow for inspections and any necessary works. This is beneficial for this route, as surface disruption down the line could be complicated due to the constraints within the local road network.

- **Noise and Dust Reduction**

- Most activity occurs below ground, limiting nuisance for residents and businesses in this densely populated area between the two substations. Through our environmental assessments, we will be looking at all potential impacts on noise and dust activities.

## 2.4 What route will the microtunnel take?

The microtunnel will facilitate two cables connecting the Inchicore Substation to the Poolbeg Substation. The exact route of the tunnel is still to be determined, but it is envisioned that the route will travel mostly under the Grand Canal. EirGrid will continue to engage with stakeholders to determine a feasible route and will publish that route, along with shaft locations during 2026.

## 2.5 How will the microtunnel route be chosen?

The exact microtunnel route will be determined through a rigorous process that combines technical analysis, environmental assessment, and public consultation. Route options and shaft locations are being compared using criteria such as technical, deliverability, economic, environmental and socio-economic. It is envisioned that the final route will travel mostly under the Grand Canal and green spaces, where possible, and uses trenchless tunnelling to minimise disruption to homes, businesses, and the environment.

## 2.6 What are tunnel shafts? How disruptive will their construction be?

Tunnel shafts are vertical access points used to launch and retrieve the tunnel boring machine and install cables. They will be located in open or public spaces where possible to minimise impact. Construction will cause temporary, localised disruption such as noise and traffic, but we will use mitigation measures such as traffic management. All sites will be fully reinstated after works, with opportunities for environmental enhancement.

While this work will be disruptive at times, EirGrid seeks to minimise any potential disruption during construction by collaborating with local communities, local authorities, and businesses in Dublin.

## 2.7 Will all future EirGrid cable routes be microtunnels?

No. EirGrid approaches all projects by carrying out a comprehensive assessment of route and technology options available.

In this case, a trenched solution was determined not to be feasible due to the density of existing utilities already in the roads, and a microtunnel was found to be the most appropriate solution.

All options are put through a rigorous process assessing criteria such as technical, deliverability, economic, environmental and Socio-economic. A decision is then made on individual projects depending on the findings of this process.

## 2.8 How deep will the microtunnel be?

The microtunnel will be constructed at depths ranging from 15 to 60 metres below ground level, depending on the local geology and route alignment.

This depth ensures:

- No interference with building foundations or utilities
- Minimal surface disruption
- Safe and stable tunnelling conditions

Micro tunnelling at these depths is a well-established method designed to operate safely beneath urban environments.

## 2.9 How will the tunnel shaft locations be determined?

Tunnel shaft locations will be selected based on a combination of technical, environmental, and community considerations, as well as their availability and resulting deliverability. Specifically:

- Strategic Placement: Shafts will be located in open land to avoid disruption to roads, buildings, and private property, where possible.
- Geotechnical Suitability: Locations are chosen based on ground conditions suitable for tunnelling, such as clay or gravel strata.
- Minimised Impact: Sites are assessed to ensure minimal impact on traffic, utilities, and local communities.
- Space Requirements: Each site must accommodate the necessary equipment and safety zones, typically within a compact compound footprint.

This approach ensures that shaft locations are safe, efficient, and considerate of the surrounding environment and community.

## 2.10 How many tunnel shafts will there be?

The exact number of tunnel shafts and their location will depend on the exact technology used to build the microtunnel. EirGrid will engage with stakeholders and the public on these tunnel locations when the detailed route design is available.

## 2.11 What will tunnel shafts look like at ground level during construction?

Tunnel shafts will be located in public or open land, where possible, and will appear as temporary construction compounds. Each site will include:

- A circular reinforced concrete shaft (approx. 10-13m diameter).
- Secure fencing, safety signage, and controlled access.
- Machinery, storage areas, and welfare units for workers.
- Dust and noise mitigation measures.

The number of shafts required is yet to be determined. Once the microtunnel and any associated headhouses are complete, all sites will be fully reinstated, with opportunities for biodiversity enhancement.

## 2.12 What will tunnel shafts look like at ground level once constructed?

After construction, each tunnel shaft site will be fully reinstated.

Some permanent surface structures, known as headhouses, will remain at some shaft locations to support ventilation and long-term access to the tunnel for maintenance or electrical access.

What to Expect:

- Above-ground access covers or chambers may be visible, typically flush with the ground or discreetly housed.
- Landscaping will be carried out to blend the structures into the surrounding environment, especially in green spaces.
- All permanent features will be designed to minimise impact, safe, and visually unobtrusive.

## 3 Local impact

### 3.1 How disruptive will the works be?

As the Inchicore to Poolbeg cables will be placed in an underground microtunnel, there will be considerably less disruption to businesses and communities when compared with the previous proposal, which involved a 30km-long trenching solution in public roads. There will be works associated with building microtunnel shafts that will facilitate access to the microtunnels for future access. The number of microtunnel shafts required and their locations will be determined following further design works and engagement.

### 3.2 Will the microtunnel works have an impact on homes?

The works are designed to minimise the impact on homes. The preferred solution is a microtunnel, which avoids road-level construction along residential streets. While there will be some localised disruption near tunnel shaft sites (e.g., noise and construction traffic), the majority of homes will not be directly affected. Trenchless tunnelling was chosen over traditional trenching because it significantly reduces traffic disruption, utility diversions, and community impacts while providing greater programme certainty.

### 3.3 Will the route travel under residential or commercial buildings?

The microtunnel route will be designed to mostly avoid passing directly beneath residential or commercial buildings. It is expected to primarily follow the Grand Canal and nearby green spaces at significant depth (15-60 m), with shafts located in open areas. This approach minimises risk to properties and ensures negligible ground settlement impact.

Advanced tunnelling methods, continuous monitoring, and strict safety standards will be applied throughout construction to maintain structural integrity and protect surrounding communities.

Microtunnelling is a proven method designed to be safe, precise, and non-disruptive to homes and buildings above. A detailed route will be published for consultation in 2026.

### 3.4 What is ground settlement and how will it affect my property?

Ground settlement is a small, temporary movement of soil that can occur during tunnelling. With microtunnelling, this movement is extremely minimal and carefully controlled. Predicted settlement directly above the tunnel is expected to be less than 5 mm, which is negligible, and continuous monitoring will ensure safety throughout the works.

### **3.5 What is the ecological impact of a microtunnel?**

The ecological impact of the tunnel is significantly lower than traditional open-cut methods. We will also use low-carbon materials and sustainable construction practices to minimise the project's environmental footprint. Tunnelling avoids large-scale excavation, reducing disturbance to habitats, trees, and waterways. Localised impacts at shaft sites will be carefully managed through environmental controls, and all areas will be reinstated with opportunities for biodiversity enhancement.

### **3.6 Will there be a noise impact from the works?**

Noise from tunnelling itself will not be noticeable at the surface because the microtunnel boring machine operates deep underground. Any noise will be localised to shaft construction sites and will be temporary. We will minimise this impact by continuously monitoring noise levels to ensure compliance with standards.

### **3.7 Will I feel the vibrations if you tunnel under my property?**

Where possible, the microtunnel will travel below the Grand Canal and green spaces. However, in the rare case that there will be works below homes or businesses, you are highly unlikely to feel vibrations during tunnelling. The microtunnel boring machine operates deep underground, far below building foundations, and uses advanced technology to minimise ground movement.

### **3.8 Will there be a noise impact from the shaft works?**

Yes, there will be some noise during shaft construction, mainly from excavation, piling, and material handling. These works will be temporary and localised to shaft sites, which are planned in open areas where possible. We will minimise noise by continuously monitoring noise levels to ensure compliance with environmental standards.