

# Stakeholder Engagement in DSO Network Development

Drafted by DSO Entity's Task Force Network Planning

---

May 2026

## Table of Contents

<b>1. Scope and Purpose of this Report .....</b>	<b>3</b>
<b>2. What is Stakeholder Engagement.....</b>	<b>4</b>
<b>3. DNDPs as a Part of Stakeholder Engagement .....</b>	<b>6</b>
<b>4. Good Practices in DSO Stakeholder Engagement.....</b>	<b>7</b>
<b>5. DSO Stakeholder Engagement Practices: .....</b>	<b>8</b>
5.1 Large-scale, scenario-oriented public consultation for Distribution Network Development Planning (Helen, Finland) .....	8
5.2 DNDP consultation embedded in environmental and spatial planning frameworks (E-REDES, Portugal) .....	9
5.4 Bilateral exchanges with Industry (HEDNO, Greece) .....	11
5.5 Structured cooperation with regional installer associations to aggregate customer and technology insights (LEW Verteilnetz GmbH, Germany) .....	12

## 1. Scope and Purpose of this Report

Stakeholder engagement spans the full lifecycle of distribution network development, from long-term scenario building to medium-term investment planning, and through to permitting, connection and operation. Distribution Network Development Plans (DNDPs) represent a key and visible component of this broader framework, providing a structured interface for transparency, consultation and coordination, often under legal requirements. However, stakeholder engagement extends well beyond DNDP processes alone.

Across Europe, Distribution System Operators (DSOs) engage continuously with a wide range of stakeholders through multiple format and information channels. These engagements aim to capture local and sector-specific insights, align expectations, manage uncertainty, foster commitment and ultimately support efficient and timely network development. This report therefore addresses stakeholder engagement in distribution network planning in its entirety, while recognising DNDPs as a key, but not exclusive, engagement instrument within a wider framework.

The report is developed in response to the conclusions of the Copenhagen Forum, which invited the EU DSO Entity to enhance knowledge sharing among DSOs and to reflect on effective stakeholder engagement practices related to network planning. Against this background, the purpose of the report is to share experiences, perspectives, and practical approaches to stakeholder engagement used by DSOs across Europe.

### The report aims to:

- Improve mutual understanding among DSOs regarding stakeholder engagement practices
- Highlight common patterns, differences, and the underlying drivers behind them; and
- Support constructive dialogue between DSOs, regulators, customers, and other relevant stakeholders.

The scope of the report is limited to stakeholder engagement related to distribution network planning and DNDPs. It does not address project-level permitting or construction activities beyond their planning-related interfaces, nor does it constitute an assessment of compliance with regulatory requirements. The content is based on practical DSO experience and is intended as a knowledge-sharing contribution rather than a prescriptive or regulatory document. The practices described reflect a wide range of national regulatory frameworks, network topologies, and institutional contexts, and should be read accordingly. What constitutes effective engagement in one setting may require significant adaptation in another

## 2. What is Stakeholder Engagement

Stakeholder engagement is the systematic, transparent, and non-discriminatory process through which DSOs identify, inform, consult, and co-create with stakeholders who affect, or are affected by, distribution grids. While the energy transition spans the entire electricity system, distribution networks play a central role in enabling its practical implementation at the local level. Within this context, DSOs engage throughout the network planning process with a broad range of stakeholders, including other system operators, NRAs, authorities at all levels, customers and their representatives, and civil society. Engagement improves scenario quality, supports targeted investment, accelerates permitting and delivery, and sustains trust.

Stakeholder engagement is not a single activity but takes place across different stages of network planning and under varying conditions. Stakeholder engagement varies in particular across time horizons, scales, and geographies. It spans long-term scenarios, medium-term Distribution Network Development Plans (DNDPs), and near-term connection and operational processes. It also operates across EU, national, regional, and local levels.

While EU and national processes set the overall framework, local and regional engagement remains critical to capture granular spatial and temporal signals that inform DNDPs and investment planning. DSOs therefore tailor engagement to the specific context, topic, geography, and time horizon, with stakeholders contributing according to their role and expertise. Formats include consultations, bilateral workshops, forums of exchange, data exchanges, and where DNDPs exist, engagement is often legally required with defined practices.

In practice, this engagement takes place across several key stakeholder interfaces. DSOs serve parties from various sectors, including businesses, prosumers, and Distributed Energy Resources, as well as data centres, producers, and flexibility providers, particularly in relation to connection options. They also engage with system operators, namely TSOs and neighbouring DSOs, to coordinate scenarios, align on key projects, and manage operational interfaces.

DSO engagement takes place within a diverse stakeholder environment, where different priorities and interests coexist. Renewable energy developers, local communities and industrial customers each bring perspectives that shape the transition. In this context, DSOs go beyond gathering of input and play a central coordination role: facilitating constructive dialogue, aligning expectations transparently and ensuring that network development decisions remain non-discriminatory while serving the broader societal interest.”

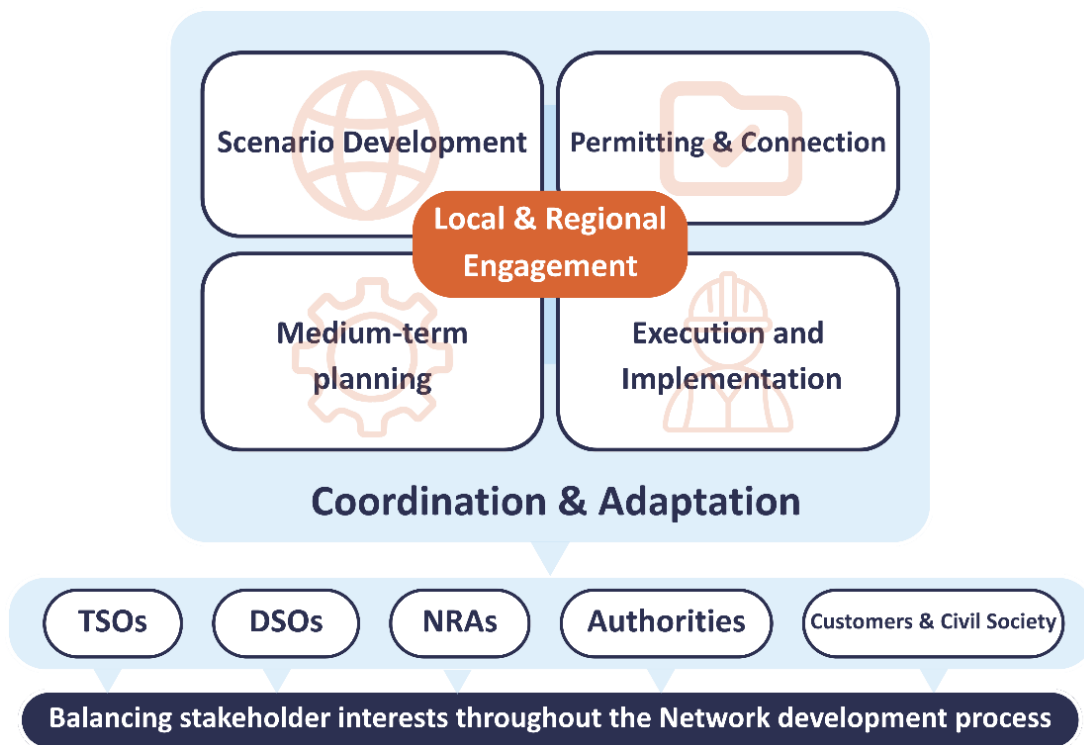
Engagement further extends to local authorities varying from municipalities, industrial areas, up to regions, national authorities, ministries and NRAs. In addition, DSOs engage with, when necessary, supply chain actors and contractors, particularly regarding delivery capacity, education and skills partners, and other network operators including telecoms, water, and road infrastructure. Finally, market participants, including suppliers, aggregators, and other flexibility and retail actors, form a distinct interface within the broader system.

Across the network development lifecycle, stakeholder engagement takes place at multiple stages. During scenario building, DSOs integrate local insights with overarching policy objectives, while cooperating with TSOs on boundary conditions. Early and transparent engagement improves scenario quality and supports anticipatory investment decisions. At this stage, discussions should remain strategic rather than asset-specific, given the inherent uncertainty between aggregated forecasts and future concrete connection requests.

During needs assessment and drafting, stakeholders contribute to validating constraints, exploring non-wire alternatives, and refining phasing, with coordination required across voltage levels and regions. In the prioritisation and decision phase, earlier and clearer commitments enhance visibility and planning reliability, although inclusion in a scenario rather signals a potential long-term development pathway.

At the permitting and delivery stage, engagement becomes more locally grounded, with low- and medium-voltage projects typically involving fewer stakeholders, while high-voltage projects tend to require broader and more complex engagement. Finally, during connection and operations, DSOs ensure transparent choices, including flexible or non-firm options, communicate milestones and outages, and integrate feedback into subsequent planning cycles.

Throughout these stages, role clarity remains essential: DSOs are responsible for evaluating stakeholder needs in a neutral and non-discriminatory manner. In practice, they often also help bridge coordination gaps, convening or participating in processes where local planning and energy system considerations intersect, even where no formal mandate exists.



**Figure 1: Stakeholder Engagement in DSO Network Development**

To remain effective, stakeholder engagement must also be conducted in a targeted and efficient manner. Effective engagement is purpose-led and proportionate to the decision at hand, meaning that DSOs align engagement efforts with specific planning needs. This includes clearly linking engagement to concrete decisions, as well as maintaining structured stakeholder mapping to prioritise efforts.

Effective and efficient stakeholder engagement should not increase administrative burden or extend project timelines. When engagement is purposeful and aligned with concrete planning decisions, it helps reduce permitting risks, late-stage objections and revisions in later stages. Early clarification of expectations, constraints and other alternatives can streamline following phases and often in practice shorten delivery times rather than extending them.

Similarly, engagement should take place at the right time and level, with broader input gathered early in scenario development and more localised interaction closer to permitting and delivery. Finally, clear governance and coordination mechanisms are needed across stakeholders and within DSO organisations, ensuring consistency while avoiding unnecessary complexity.

Effective stakeholder engagement also requires dedicated internal capacity within DSO organisations. Engagement must be intended as a planning input tends to produce high-quality outcomes and fosters stakeholder trust over time. This internal dimension is often underestimated in discussions of good engagement practices.

### **3. DNDPs as a Part of Stakeholder Engagement**

Stakeholder engagement plays a central role in DSO network planning, particularly through the development and refinement of DNDPs. DNDPs should be understood as an integral component of broader stakeholder engagement mechanisms that already exist within the planning framework. Maintaining this integration is essential to ensure consistency, avoid duplication, and reinforce trust in the planning process.

At their core, DNDPs are primarily scenario-driven. Their function is to consolidate and aggregate data, ranging from demand forecasts to distributed energy resource uptake, into coherent future outlooks. In doing so, DNDPs narrow the breadth of stakeholder input into structured, representative scenarios. This channels stakeholder involvement effectively and efficiently. By identifying and engaging the most relevant stakeholders, such as local authorities, interest groups and large customers, flexibility providers, DSOs can ensure that the scenarios reflect realistic assumptions and credible pathways.

A critical aspect of stakeholder engagement in this context is transparency and accessibility. The methodologies underpinning DNDPs must be communicated in a way that is understandable to non-technical stakeholders. This includes clearly explaining how scenarios are constructed, what assumptions are used, and how decisions are derived from them. Opening up these processes fosters confidence among stakeholders that the resulting network plans are technically sound, economically efficient, reliable, and future-proof. DSOs expect stakeholder engagement to be a means of providing inputs towards network planning.

The role of stakeholder engagement also differs across voltage levels, reflecting the distinct nature of planning at each level. Medium- and low-voltage (MV/LV) networks are characterized by their scale and granularity, serving altogether a large and diverse customer base, yet for each asset a small and specific area with high uncertainty. Planning at these levels is therefore inherently aggregated and scenario-based, aligning closely with the DNDP approach. Stakeholder engagement here focuses on capturing broad trends, such as electrification, distributed generation, and translating them into representative scenarios that inform network development needs.

In contrast, high-voltage (HV) network planning is inherently more asset-specific than medium- and low-voltage (MV/LV) planning, leading to more targeted stakeholder engagement focused on direct interactions with specific project developers, industrial customers, and transmission system operators in addition to aggregated needs of underlining MV and LV networks. This reflects a granular approach in which decisions are tied to defined assets and timelines, while still being informed by aggregated MV/LV scenarios. Recognizing this distinction highlights the need to maintain a conceptual separation between HV and MV/LV planning processes within DNDPs and broader network strategies, with engagement approaches tailored accordingly. At the same time, this separation exists alongside strong

practical interdependence: aggregated low-voltage demand signals inform HV investment needs, while HV capacity constraints shape the boundaries within which MV/LV scenarios are developed. Effective stakeholder engagement must therefore ensure coherence across both levels, so that broad MV/LV insights are consistently integrated into asset-specific HV decisions, and vice versa.

Effective stakeholder engagement enhances the credibility, robustness, and acceptability of DSO network plans. By embedding DNDPs within existing engagement frameworks, ensuring transparency in methodologies, and differentiating approaches across voltage levels, DSOs can better align their planning processes with stakeholder needs and system realities.

## 4. Good Practices in DSO Stakeholder Engagement

Effective stakeholder consultation and engagement are essential to forward-looking network planning, particularly in a context of accelerated electrification, decentralised energy resources and increasing uncertainty. While DNDPs remain a key mechanism for consultation, experience across DSOs shows that meaningful engagement cannot be limited to DNDP processes alone. Effective stakeholder involvement can take many forms and should be understood as a continuous, structured dialogue that supports better planning outcomes over time.

Across Europe, a variety of engagement practices have emerged. These include large-scale public consultations, and secure data-sharing environments enabling confidential inputs into planning. In addition, recurring bilateral exchanges with key stakeholders, rather than one-off consultations, have proven effective in building trust, improving mutual understanding and reducing time, effort and resources required over time.

At the same time, effective engagement requires a targeted and lean approach, ensuring that consultation efforts are proportionate, focused on relevant stakeholders, and designed to deliver meaningful input without creating unnecessary process burden for either system operators or participants.

Promising practices demonstrate a shift away from discussions centred on fixed network plans towards scenario-based engagement. This approach allows system operators to capture a wider range of expectations and constraints at an earlier stage and supports more robust and adaptable planning decisions. Targeted workshops and consultations further contribute to generating relevant and actionable input, particularly when the purpose of engagement is clearly defined. Their impact is greatest when stakeholders understand how their contributions are assessed and translated into planning decisions, allowing DNDP consultations to function as a transparent process in which inputs contribute to network planning choices in a manner coherent with the grid needs.

Overall, existing stakeholder engagement practices outline what works well, but also where further improvement is needed. Key lessons emerging from these experiences include the importance of engaging relevant stakeholders early and iteratively, framing discussions around scenarios and choices rather than final plans and investing in trust-based relationships. These lessons are particularly relevant given that DNDP processes vary across countries and system contexts; while good practices can be identified and shared, effective stakeholder engagement does not lend itself to a one-size-fits-all approach. Therefore, the identified practices below outline DSO approaches to stakeholder engagement, considering their specific national contexts and frameworks, whilst showcasing practices that touch upon public consultations to developed DNDPs, bilateral interactions with industry, as well as the broad practices in which DSOs engage with their stakeholders.

## 5. DSO Stakeholder Engagement Practices:

### 5.1 Large-scale, scenario-oriented public consultation for Distribution Network Development Planning (Helen, Finland)

#### Description of Practice:

Helen Electricity Network conducted a large-scale public consultation as part of its 2024 Distribution Network Development Plan (DNDP), following the national regulatory requirement to consult customers and stakeholders. The consultation was open from 30 April to 31 May 2024 and was implemented through both a public online platform and a dedicated consultation application.

The primary objective was to achieve broad coverage and societal acceptance of network development choices while collecting insights relevant for long-term scenario development. To support this, Helen developed a dynamic questionnaire tool that first classified respondents (e.g. residents, housing companies, businesses, public entities) and then tailored questions accordingly. Key explanatory messages on the operating environment, electrification drivers, investment needs, and constraints were presented before soliciting feedback.

The consultation reached 12,666 respondents, the vast majority being residents of Helsinki, complemented by targeted statements from neighbouring DSOs and the national TSO. In addition to structured responses, over 1,200 respondents provided free-form feedback, enabling qualitative insights into expectations related to security of supply, green transition, pricing, flexibility, and future consumption patterns.

The results were not treated as a vote on specific network assets. Instead, the input was used to inform and refine strategic grid development scenarios, including assumptions on electrification, flexibility potential, customer priorities, and risk perception. The DNDP submitted to the national regulator was subsequently updated to reflect consultation outcomes.

#### Lessons learned:

- Despite the very high total number of responses, participation was strongly skewed toward residential customers, with relatively limited input from large industrial, commercial, or system-level stakeholders.
- A significant share of qualitative feedback addressed topics outside the formal scope of distribution network planning, such as retail pricing, generation policy, or broader energy system concerns.
- While respondents expressed strong willingness toward flexibility, understanding of practical implications and mechanisms remained limited, indicating a gap between strategic planning concepts and customer comprehension.
- Large-scale public consultations require substantial effort to translate non-technical feedback into actionable planning assumptions, which can be resource-intensive.
- Scenario-based framing is critical: Presenting future drivers, uncertainties, and choices before soliciting feedback improves the relevance of stakeholder input and avoids asset-by-asset expectations.
- Dynamic, targeted questionnaires enhance data quality, allowing broad participation while still collecting differentiated insights from distinct stakeholder groups.
- High participation strengthens legitimacy and transparency, even when not all feedback can be directly reflected in network plans.
- Public consultations are valuable not only for regulatory compliance but as a tool to build long-term trust and societal understanding of network investment needs and constraints.
- Follow-up communication and education are essential to bridge the gap between expressed willingness (e.g. flexibility) and realistic implementation pathways.

## 5.2 DNDP consultation embedded in environmental and spatial planning frameworks (E-REDES, Portugal)

### Description of Practice:

In Portugal, legislation requires DSOs to prepare and submit an initial DNDP, which is subsequently subject to three distinct consultation processes involving different authorities and stakeholders. This structure reflects the fact that in Portugal the DNDP is subject to a Strategic Environmental Assessment and is also embedded in the national system of spatial and land-use planning instruments, requiring consultation at different stages and levels.

The first consultation is launched by the Government and targets entities with territorial responsibilities, focusing on the spatial and land-use expression of the plan. The second consultation is launched by the National Regulatory Authority (ERSE) and focuses on the DNDP itself, supported by a regulatory framing document and a set of guiding questions that respondents may choose whether or not to address. The third consultation concerns the Strategic Environmental Assessment of the plan and is launched by the DSO. In the plan that E-REDES presented in 2024, the first consultation received 32 formal responses, the second generated 41 responses and the third received 20 responses.

Across all consultations, the vast majority of submissions came from entities linked to the government (central and local) or the energy sector, with four comments submitted by individual citizens. This distribution reflects both the technical nature of the DNDP and the institutional scope of the consultation processes.

Throughout the consultation period, the DSO organised several presentations and clarification sessions aimed at different stakeholder groups, with the objective of explaining the plan's content in a more accessible manner and addressing questions directly. In addition, three dedicated pre-DNDP sessions were held, involving a wide range of invited entities. These sessions focused on discussing the topics with the greatest impact on the plan and played a key role in improving stakeholder understanding, acceptance, and overall perception of the DNDP. Following the conclusion of the consultation processes, the DSO prepared the final version of the DNDP, taking into account the contributions received and integrating them where relevant within the planning framework.

### Lessons learned:

- Stakeholder participation is heavily concentrated in institutional actors, particularly municipalities and energy-related entities.
- The technical complexity creates barriers to wider public engagement and understanding.
- Public contributions tend to focus on local or immediate concerns, which may not always align with the systemic and long-term nature of network planning.
- Translating heterogeneous consultation inputs from multiple formal processes into coherent planning adjustments requires significant coordination and internal effort.
- Segmented and phased consultation processes ensure that the different dimensions of the Portuguese DNDP (territorial, technical, environmental) are adequately addressed.
- Framing documents and guiding questions help structure stakeholder input, even when responses are optional.
- Presentations and clarification sessions are critical to improving understanding of complex network plans and increasing the quality of feedback.
- Early engagement with key stakeholders on high-impact topics contributes to better consultation outcomes.
- While broad public participation remains challenging for highly technical plans, consultations play an essential role in transparency, institutional alignment, and long-term trust in distribution network investment decisions.

### 5.3 Broad panorama of targeted frameworks to engage stakeholders (ENEDIS, France)

**Description of Practice:**

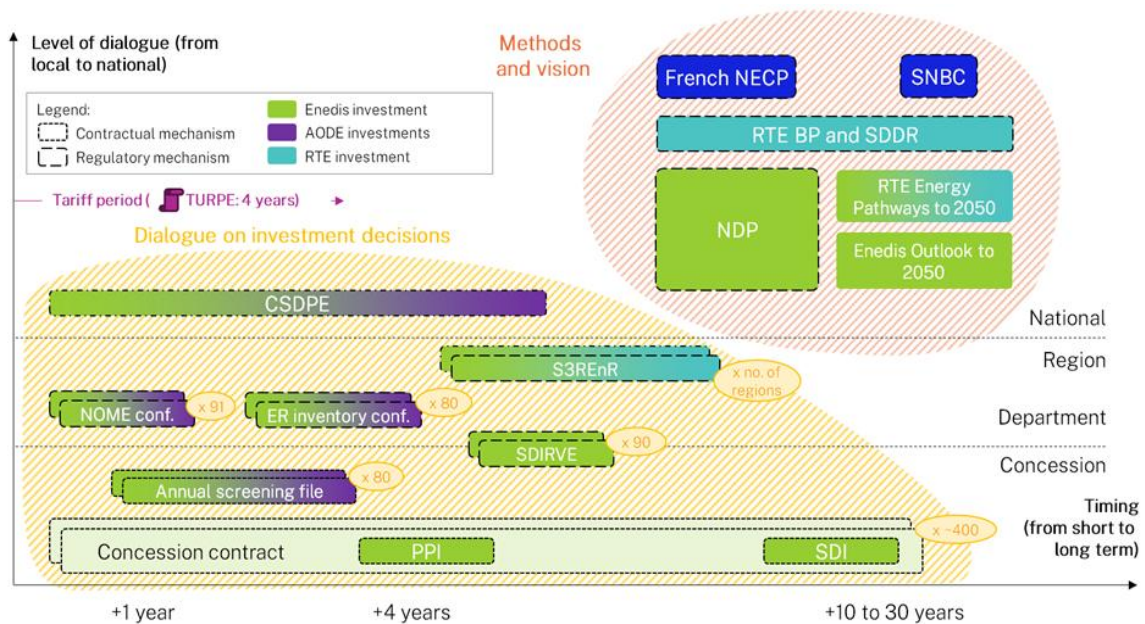
Enedis has a broad panorama of venues to engage with stakeholders concerning network development. Frameworks depend on the time horizon, geographical scale and topics.

Stakeholder engagement on medium to long term address methods and vision. DNDP addresses investments and flexibility on the distribution network in an aggregated manner over the next 5 to 10 years. For further time horizons, Enedis also developed within its 2050 outlook 4 prospective scenarios in close association with “Le Conseil des Parties Prenantes d’Enedis” (a body of external experts covering a broad variety of fields) to identify the impact of possible shifts in society, economy, technology ... and in fine in the electricity system. Enedis closely works with RTE regarding its Ten-Year Transmission Network Development Plan (“Schéma Décennal de Développement du Réseau”, SDDR) as well as the National Resource Adequacy Assessment (“Bilan Prévisionnel”, BP) and RTE Energy pathways to 2050 (“Futurs Energétiques”).

Many frameworks address specific investment decisions and many address issues beyond Enedis and distribution. For example, some frameworks are coordinated with RTE or with local authorities in charge of organizing distribution of energy (“Autorités Organisatrices de la Distribution d’Energie”, AODE) as depicted in the following picture. They may address specific topics such as E-mobility through master plans on EV charging (“Schéma Directeur pour les Infrastructures de Recharge de Véhicule Electrique” SDIRVE), Renewable (“Schéma Régionaux de Raccordement au Réseau des Energies Renouvelables” S3RENr).

Some frameworks are defined in regulation, while some address the specific contract related to the right awarded to Enedis to develop and operate its network.

Finally, national policies such as National Energy Climate Plan, or “Stratégie Nationale Bas Carbone” (national low carbon strategy) are input for DNDP and network development.



**Lessons Learned:**

- Targeted frameworks, in addition to the scope and focus of DNDP, are efficient because they address specific objectives with relevant stakeholders.
- A “one size fits all” does not enable a focused discussion and would lead to disappointment of stakeholders, thus would reduce their involvement.

## 5.4 Bilateral exchanges with Industry (HEDNO, Greece)

**Description of Practice:**

The cooperation between the Greek Distribution System Operator (HEDNO) and ETVA VI.PE., the entity responsible for the development and management of organised industrial zones in Greece, represents a long-standing and increasingly structured form of stakeholder engagement in distribution network planning.

This cooperation builds on a historical framework agreement concluded in 1979 between the former vertically integrated utility (PPC) and ETVA, which established common principles for the electrification of industrial zones, including the communication of energy needs, the determination of agreed capacity levels, asset ownership arrangements, and cost allocation methodologies for shared infrastructure. The framework created an institutionalised interface between the network operator and an organised industrial stakeholder.

In recent years, the cooperation has been further strengthened in response to accelerating electrification and industrial demand. HEDNO and ETVA have established continuous collaboration for the systematic mapping of the energy footprint of industrial zones, the identification of current and future load requirements, and the prioritisation of reinforcement needs. ETVA acts as an intermediary stakeholder, aggregating information from individual industrial customers and communicating structured, consolidated inputs to the DSO.

This engagement enables the integration of industrial development plans into network planning and Distribution Network Development Plans (DNDPs), supports targeted reinforcement measures across medium- and high-voltage infrastructure, and includes forward-looking coordination on the siting of new substations within industrial zones through dedicated technical and commercial working groups.

**Lessons Learned:**

- Engagement is primarily structured around organised industrial zones and does not directly capture the needs of dispersed large consumers located outside these zones.
- The framework relies on the capacity of the intermediary stakeholder to aggregate and validate information, which may limit the granularity of individual customer commitment at early planning stages.
- Engagement with organised intermediary stakeholders enables efficient aggregation of demand signals and reduces uncertainty in distribution network planning.
- Long-term, institutionalised cooperation provides planning visibility and supports anticipatory investment decisions while preserving non-discriminatory access.
- Continuous and structured engagement beyond formal DNDP consultations improves alignment between industrial development strategies and network reinforcement planning.

Clear governance, data exchange processes and regular technical coordination are critical to translating stakeholder input into timely and deliverable network investments.

## 5.5 Structured cooperation with regional installer associations to aggregate customer and technology insights (LEW Verteilnetz GmbH, Germany)

### Description of Practice:

The Energie-Gemeinschaft LEW e. V. (EG) is a long-standing cooperation platform established by Lechwerke together with qualified craft and installer companies active in the electricity, sanitation, heating, ventilation and air-conditioning (SHVAC) sectors. The association brings together regional electrical and SHVAC master craft businesses, planners and related industry partners operating in the supply and network area of LEW Verteilnetz GmbH (LVN).

The primary purpose of the EG is to coordinate and consolidate the technical knowledge and practical experience of its members in order to promote the efficient, economical and environmentally oriented use of energy. Through structured collaboration, the EG acts as an intermediary between the DSO and a broad group of market actors who are closely connected to end customers and decentralised energy solutions, such as photovoltaic systems, heat pumps, electromobility infrastructure and energy efficiency technologies.

Stakeholder engagement within this framework takes place through regular technical events, training formats, information exchanges and thematic workshops organised by the EG. These formats enable the LVN to share information on network conditions, technical standards and future developments, while EG members provide aggregated feedback on customer trends, technology deployment, connection challenges and anticipated demand developments across the region.

Rather than engaging directly with a very large number of individual customers at early planning stages, the practice relies on organised professional intermediaries who consolidate inputs across many projects and customers. This allows the DSO to capture structured, practice-oriented insights relevant for medium- and long-term network planning and scenario building, while maintaining a clear separation between strategic planning and individual connection procedures.

### Lessons Learned:

- Engagement through professional and regional associations enables efficient aggregation of customer-related insights without requiring direct interaction with a large number of individual end users.
- Installers and craft businesses provide early, practice-based signals on technology uptake, customer expectations and implementation constraints that are relevant for scenario-based network planning.
- An intermediary engagement model supports proportionality and efficiency, allowing stakeholder input to focus on overarching trends rather than asset-by-asset discussions on a local level.
- Regular, recurring exchange formats strengthen mutual understanding and trust, improving the quality and usability of stakeholder input over time.
- Such cooperation frameworks complement formal DNDP consultations by providing continuous, application-oriented feedback while avoiding additional procedural burden for connection processes.