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FORTUM’S CONTRIBUTION TO THE ELECTRIFICATION ACTION PLAN

1 KEY MESSAGES

⇒ **Create stable demand signals to unlock investment**. Clear and ambitious electrification and climate targets - such as increasing the economy-wide electrification rate from 21.3% today to 32% by 2030, and achieving a 90% emissions reduction by 2040 - are essential to give developers confidence that demand will be there when projects come online.

⇒ **Build lead markets for low-carbon industrial products**. Public procurement, product standards and labelling should reward verified low-carbon materials—starting with steel, aluminium, chemicals and batteries—to anchor clean industry and power demand in Europe.

⇒ **Enable affordable, predictable and clean electricity for industry and consumers**. Member States, with the support of the European Commission, and the EIB should provide credit guarantees to extend long-term price visibility to SMEs and mid-caps, helping them to commit to electrification with confidence.

⇒ **Make flexibility market-based and bankable**. Transparent multi-year auctions for demand response, storage and fast-ramping capacity will create stable revenues for flexibility providers, turning system balancing into a market opportunity rather than a cost.

⇒ **Invest ahead of demand—in grids, skills and local value chains.** Transmission and distribution operators should be allowed to expand proactively where credible industrial plans exist, while Member States should develop fast-track training programmes and cross-border certification for installers and technicians.

2 TURNING ELECTRIFICATION INTO EUROPE’S NEXT INDUSTRIAL ADVANTAGE

Electrification is Europe’s most obvious path to competitiveness, resilience and climate neutrality—and Fortum is fully engaged in making it happen. The company’s project pipeline shows that the system can deliver more fossil-free power fast, with 800 MW of ready-to-build wind and solar by 2026 and around 8 GW in permitting across the Nordics. Fortum is already supplying industrial customers with long-term, carbon-free power purchase agreements that provide stable prices and lower emissions—demonstrating that electrification makes commercial sense.[1] Flexibility, too, is emerging as a business opportunity: new solutions in demand response and smart heating are helping customers reduce costs while earning revenues from balancing markets.[2] Beyond supplying electricity, Fortum co-develops low-carbon industrial concepts and ready-to-connect sites that align clean power capacity with industrial demand clusters across the region.[3]

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[1] *See: Baseload nuclear power helps Swedish industry reduce carbon emissions at a competitive price and Fortum and Stegra co-operation.*

[2] https://www.fortum.com/media/2024/07/extra-revenue-greenhouse-through-demand-response-heating-system

[3] https://www.fortum.com/media/2024/12/fortum-energy-partner-support-feasibility-study-low-carbon-aluminium-production-finland

As part of this broader effort to accelerate electrification, Fortum's CEO Markus Rauramo, in his role as President of Eurelectric, is championing a shared industry agenda to make electrification Europe's next growth engine. This includes calls to establish a permanent Decarbonisation Bank, promote electrification acceleration areas with faster grid connection and permitting, enable social leasing for electrification, integrate electrification monitoring into the EU governance framework, and develop information hubs on available solutions and funding opportunities.

3 BARRIERS SLOWING EUROPE'S ELECTRIFICATION

Electrification is advancing, but progress is constrained by a web of frictions. Demand remains too weak to unlock large-scale investment. Developers hesitate to reach final decisions when industrial offtake is delayed or when long-term price visibility is uncertain. Projects are ready, yet confidence remains fragile. **The result is a self-reinforcing loop: the system stands ready to deliver more fossil-free power, but demand is not picking up—and because demand is not there, investment are delayed or even cancelled.**

Taxes and levies add weight to the bill and slow progress. They still treat power as a source of fiscal revenue rather than a decarbonisation tool, inflating end-user prices and distorting competition with fossil fuels. This burden is particularly heavy for households and small businesses with limited margins. At the same time, short-term price volatility complicates planning and weakens confidence, even when electrification offers lower lifetime costs. Without accessible ways to hedge risk or reward flexibility, many choose to postpone the switch.

Hydrogen could become the engine of industrial decarbonisation, yet policy holds it back. The current regulatory framework is rigid and fails e.g. to recognise nuclear-backed PPAs, limiting the supply of low-carbon electricity to electrolytic production. Nordic TSO outlooks suggest that electricity demand could more than double by 2050—from roughly 400 TWh to close to 1,000 TWh—driven by electrolysis that could represent a quarter of total consumption. Europe will need to let this market develop if it wants the next industrial wave to materialise.

Grid bottlenecks, permitting and local acceptance also slow progress. Transmission expansion often lags behind the geography of new loads and renewable generation. Distribution operators face long connection queues and cannot always invest ahead of demand. Projects are delayed by process rather than physics. At the same time, local opposition grows when communities see too few direct benefits from energy infrastructure.

Finally, **supply chains and skills remain tight**. Certified installers, transformers, cables and key components are in short supply, lengthening delivery times for heat pumps, charging networks and flexibility assets. Fragmented bidding zones compound regional inequities and blur investment signals. The technology is proven, the projects are ready, but Europe's electrification still wrestles with its own constraints—financial, regulatory and procedural—before it can reach full speed.

4 ACCELERATING ELECTRIFICATION: FORTUM’S ROADMAP FOR ACTION

4.1 Unlock electricity demand

⇒ **Clear signals drive investment**. Stable climate and electrification targets give developers confidence that the market will be there when projects come online. It is therefore essential to stay the course: a 90% reduction in emissions by 2040 and climate neutrality by 2050.

⇒ **Create lead markets for green products**. Industry will only invest at scale when it can sell low-carbon goods into a predictable market with secured demand. Public procurement, product standards and labelling should reward materials and components with verified low-carbon footprints—starting with steel, aluminium, chemicals and batteries. The upcoming revision of the EU public procurement rules should explicitly reflect this objective, ensuring that sustainability and carbon performance are systematically valued in tender criteria. By creating clear demand for green products, Europe can give investors the confidence to electrify production lines and anchor clean industry at home.

⇒ **Industry electrifies only when it can budget.** Many processes run continuously for decades, so developers and offtakers need visibility over at least 7–15 years. Governments, with the support of the European Commission, or the EIB should offer credit guarantees for long-term power purchase agreements (PPAs) so both offtakers and developers can commit, and allow utilities and aggregators to pool demand so that mid-caps and SMEs can access stable prices. The recently announced €500 million pilot programme by the European Commission and the EIB to counter-guarantee corporate PPAs is a welcome first step in this direction. It shows how public financial institutions can help de-risk long-term clean power purchases and expand access beyond large corporates—precisely the kind of mechanism that should be scaled up to accelerate industrial electrification across Europe.

⇒ **Scale up energy efficient district heating and cooling**. Electrification technologies in DHC sector offer scalable solutions to divert from fossil fuels, to reuse waste heat and to act as demand side flexibility source with electric boilers and thermal storages. More flexibility in turn will enable wind and solar electricity growth. Transition to DHC sector electrification will require long-term low carbon heat planning, both regulatory accuracy and predictability, and financing ability to deploy substantial CAPEX commitments.

⇒ **Phase out fossil boilers and electrify buildings.** Households and businesses should be supported to replace oil and gas boilers with Electrical heaters (e.g. heat pumps) that deliver two to four times as much heat as the electricity they consume. Upfront grants and on-bill finance can overcome the initial cost, but there must also be a clear date after which the sale of new fossil fuel heating systems is prohibited. Smart controls should automatically shift heating to low-price, low-carbon hours to ease the burden on the grid.

4.2 Deliver the power supply

⇒ **Make flexibility market-based and bankable**. As variable renewables grow, the system needs resources that can shift, shave peaks and respond quickly. Grid operators should run transparent auctions for demand response, storage and fast-ramping services, awarding multi-year availability contracts that give investors a stable revenue stream. Pumped hydro plants can store and release energy for hours or days, while conventional hydropower already balances short-term fluctuations. Distribution system operators must not compete with market players: if they use storage or other flexible resources to optimise grid investments, they should procure them openly from the market, not own or operate them directly. The Affordable Energy Action Plan rightly calls for better market rewards for flexibility and storage - an approach that should now be accelerated and implemented across Member States. Delivering on this pillar of the Clean Industrial Deal would make Europe's power system more resilient and cost-efficient, turning flexibility from a cost into a genuine industrial opportunity.

⇒ **Use demand-side and storage solutions where they deliver better value than new grid investments.** Before building new lines, network operators should quantify whether demand response, onsite storage or thermal storage can relieve congestion or hedge extreme prices at lower cost and with less environmental impact. Digital control, behind-the-meter batteries and waste heat utilisation can often defer or avoid expensive copper and concrete, speeding up decarbonisation. This reflects the Affordable Energy Action Plan's call to modernise grid planning and prioritise smart, digital and flexible solutions, as well as the Clean Industrial Deal's goal of integrating storage and digitalisation into the backbone of Europe's clean power system.

⇒ **Build a grid fit for the transition**. The power system can only expand if the grid keeps pace. Transmission and distribution operators should be allowed to invest ahead of confirmed load when credible industrial and electrification plans justify it. Clear connection standards, firm milestones and "use-it-or-lose-it" capacity rules will keep projects moving, while transparent location guidance will help steer new demand to where the grid can deliver fastest.

⇒ **People make electrification possible.** Europe will need tens of thousands of installers, planners and technicians. Governments should fast-track training programmes, make certifications transferable across borders and establish bulk procurement frameworks to secure key equipment at fair prices. The Clean Industrial Deal rightly identifies skills as a cornerstone of Europe's industrial competitiveness, with initiatives such as the Net-Zero Industry Academies supporting workforce development and cross-border mobility. Embedding this focus on skills within national electrification plans will be essential to make Europe's energy transition deliverable in practice.