COP31 BUSINESS FORUM

Electrification & Energy Transition Working Group Paper

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The COP31 Business Forum, established by the Turkish COP31 Presidency, aims to turn climate commitments into investment and implementation, so that climate action, economic growth and shared prosperity advance together.

It works through thematic Working Groups that bring together business representatives from around the world.

This paper is one of seven working group papers of the COP31 Business Forum. Their policy recommendations are summarised and compiled in the COP31 Business Forum Statement, available in full at http://copbusiness.org/. The paper reflects the work undertaken within the relevant Working Group and is intended to inform the development of policy support recommendations for COP31. Unless otherwise stated, the contents should not be construed as the official positions of the Co-chairs, Knowledge Partner or of any individual participating organization. References within the document to existing initiatives, included solely as practical illustrations of what is possible should not to be interpreted as evidence that these recommendations have been implemented, adopted or formally endorsed.

The Business Forum, led by COP31 Presidency's Private Sector Envoy TOBB (Union of Chambers and Commodity Exchanges of Türkiye) consists of the Advisory Council and 7 Working Groups, covering topics such as Electrification, Industrial Decarbonization, Climate Resilient Cities, and Climate Finance & Investment. Advisory Council provided high-level direction in setting the course of the Business Forum, and provided feedback on the focus areas of Working Groups. Each Working Group has held multiple meetings to **develop high-level Policy recommendations that will enable progress in each Working Group's domain. Working Groups also identified the core initiatives working on their domains, and highlighted illustrative case studies in addressing the core challenges in each topic.**

In the Electrification & Energy Transition Working Group, business representatives worked together with experts and partner initiatives over three meetings to select priority policy areas, shape and validate the policy recommendations, and identify the private sector initiatives and illustrative case studies most relevant to implementation, drawing on member surveys and consultations throughout. This paper sets out the recommendations of the Electrification & Energy Transition Working Group, together with the evidence and initiatives that support them, and its key messages are reflected in the COP31 Business Forum Policy Recommendations.

Working Groups members offered significant support to the initiatives endorsed on the Policy Paper. Around 20 firms expressed they would support the listed initiatives in +160 different ways in total, including but not limited to providing know-how, utilizing their network to mobilize more firms to join as members, and advocate for the policy output developed by the initiatives.

Electrification can play a critical role in reducing greenhouse gas emissions, and in increasing access to affordable and efficient energy supply for all end-users. In addition, Electrification is essential for improving energy security and resilience throughout the economy, by reducing exposure to global energy price volatility and unstable supply chains. **However, the pace of electrification today lags significantly behind, with the share of electricity in final energy consumption standing around 21%,[1] against 35% required by 2035** for the Electrification pledge of the COP31 Presidency and the Net Zero Emissions scenario of IEA.[2] The key enablers for Electrification will be increasing annual grid investments from USD 0.5 trillion per annum to 1 trillion, renewable capacity more than tripling against current capacity of 5.1 TW worldwide,[3] and storage reaching 2.5k GW by 2035.[4]

To make progress with the key enablers for Electrification, new policy frameworks are necessary, which should be technology-neutral, cost-effective and market-based. Governments should also prioritize predictability and certainty for investors, avoiding sudden and frequent regulatory or taxation changes that undermine long-term investments in clean electricity generation, networks and electricity-consuming industries.

Business has concentrated its position on the three areas where government action would change investment decisions directly:

01 **Incentivize end-use electrification by ensuring electricity is reliably cheaper than fossil fuels such as diesel and lowering the cost of transitioning to equipment and infrastructure[5] needed for electrifying energy consumption**

02 **Improve the regulatory framework addressing grid investments**

03 **Scale concessional, blended finance solutions to lower the cost of capital, and provide de-risking & guarantee tools for Electrification investments**

All three priorities are needed to support a complete transformation of our energy consumption. Incentivizing the adoption of end-use electrification will ensure households and businesses alike will fully realize the advantages of electrifying consumption, and thus will be more willing to install the necessary equipment to switch to electricity. Improving the regulatory framework on the grid will ensure affordable and consistent supply of electricity will actually reach final users, and will enable even further investments in renewable generation by reducing barriers in connecting to the network. Finally, scaling concessional & blended financing will serve as an enabler for all, reducing the cost of capital for all investors.

COP31 marks the start of this agenda, and the Business Forum should continue its work beyond the conference to see it delivered. Over the coming year, it should broaden endorsement of these recommendations among companies, associations and governments, support the endorsed and newly proposed initiatives, and most importantly, advocate at the national level for implementation of the recommended policies and track their progress. The ambition is to present early progress in implementation at COP32, alongside a wider base of endorsers and initial results from the newly proposed initiative.

01

Electrifying end-use energy consumption

Electrification of end-use energy consumption can be supported with direct measures increasing the incentives for the adoption of electrified transport, heating & cooking, and industry. Electrification of these sectors requires making electricity reliably cheaper and establishing the necessary infrastructure for the deployment of end-use technologies.

Road transport, buildings and many industrial processes remain largely dependent on fossil fuels, and each need both infrastructure and a closing of the cost gap for consumers to switch. Heating and cooking account for more than 70% of buildings energy use, yet less than 10% of those uses are electrified.

The Working Group suggests governments should incentivize end-use electrification by ensuring electricity is reliably cheaper than fossil fuels such as diesel and lowering the cost of transitioning to equipment and infrastructure needed for electrifying energy consumption in:

- road transportation, including both light and heavy road
- buildings, addressing residential and commercial energy consumption
- in hard-to-abate industrial processes, with operating-cost support and carbon pricing to bridge the cost gap with fuels

In many geographies the taxation regime disproportionately favors fossil fuels through lower VAT and excise rates, and the necessary infrastructure, such as charging stations for EVs, still needs to be created.

Delivery Partners: Proof-of-concept & Policy Guidance Leaders

Electric Advantage provides a platform for collective business and government leadership to accelerate electrification, including work on identifying 10 Policy Principles for advancing electrification and aggregating real-world company case studies to provide the evidence and business case for implementation.[6]

The Working Group intends to mobilize businesses to sign the "Seizing the Electric Advantage" statement and aims to encourage governments to adopt the 10 Policy Principles in national energy & industrial strategy.[7]

Electrify Now works towards one core target: raising electricity's share of global final energy consumption to 35% by 2035. Its government track is a peer exchange between energy ministries comparing policy approaches, writing practical recommendations and tracking progress in electrification, while its business track organizes companies to sign collective statements calling on governments to put electrification at the center of industrial and economic strategy.[8]

Business Forum aims to bring in business leaders to sign statements calling for government commitment and intends to mobilize members to provide their flagship cases to Electrify Now, as proof-of-concept.

Global Green Road Corridors (GGRC) coordinates international action to decarbonize major freight routes with zero-emission trucks. It links independently run corridors worldwide and shares best practice on regulation, public funding, charging infrastructure and corridor governance.[9]

Its coordinating group of 11 organizations aims to pool partners' expertise to support corridor projects, connect financiers, development institutions, governments, and carriers with developers.[10]

Country-level electrification programs initiative has been proposed as a new initiative, which will work with national governments on national electrification roadmaps, by identifying key challenges and the most effective pathways for reaching electrification targets, assisting governments in redesigning the policy framework, creating an execution-ready project pipeline, and determining the resources needed for execution.

Policy Examples from Practice

Belgium VAT Rebalancing cut VAT on electrification assets such as heat pumps, while raising the VAT on fossil fuel boilers, along with increasing the taxes on coal.[11] Applying the changes simultaneously within the same budget, the pairing avoided any extra fiscal burden from subsidizing heat pumps. Governments can adapt the revenue-neutral pairing of the two rate changes within a single budget.

Chinese EV cash rebate & purchase tax exemption: Under the rebate regime, EV dealers offered the cars to consumers at subsidized prices, and then claimed cash rebates from the government. The rebate was determined based on range & energy efficiency, thus subsidizing more heavily the more advanced technologies. In addition, EVs were also exempted from the 10% purchase tax on all automobiles.[12]

U.S. I-10 shipper-led corridor: Six charging plazas were built on 800-mile route from Los Angeles to El Paso, where shippers pooled demand to justify charging investment. Smart Freight Centre coordinates a coalition of five shippers and carriers, and Terawatt runs six charging hubs. Terawatt cites $63.8 million in grant funding alongside New Mexico's transport department, and the corridor is expected to go live in 2027.[13]

02

Improving the regulatory framework on grids

Improving the regulatory framework on grids is an essential lever for accelerating electrification. Grid digitalization, grid-enhancing technologies, demand-side flexibility, and storage are not sufficiently incentivized. Furthermore, grid expansion is hindered by regulatory burden, with extended permitting processes, constraints on anticipatory investments, and very long wait times in connection queues.

Grid optimization, modernization, and expansion investments depend on how operators are remunerated, how quickly permits are issued and whether anticipatory investment is allowed. Connection wait times have lengthened accordingly, reaching 5-10 years in many jurisdictions worldwide. Energy regulators should reward efficiency and resilience, set clear permitting deadlines and enable ahead-of-demand grid investment.

The Working Group suggests governments should improve the regulatory framework addressing grid investments to:

- increase the utilization of grid-enhancing technologies and smart grids, incentivize demand-side flexibility to unlock more capacity with less CAPEX, and support storage & interconnections
- enable anticipatory network planning, accelerate permitting of new capacity when grid enhancements fall short to cover the anticipated demand, and support off-grid solutions in underdeveloped grid markets
- enable resilience investments by strengthening incentive mechanisms & accelerating approvals

Delivery Partners: Technical Assistance & Supply Chain Solution Providers

The Green Grids Initiative coordinates international action on grid development and mobilizes technical expertise and financing, including Climate Finance Principles and planning & permitting training for officials.[14]

The Working Group aims to mobilize the members to provide know-how to GGI's technical hubs, connect significant commercial lenders within WG's network with GGI to embed GGI's criteria for grid finance into their lending schemes, and bring in more firms and governments to utilize GGI's technical assistance hub.

The Utilities for Net Zero Alliance provides guidance on grid equipment demand, unlocks stranded capacity, and mobilizes investment for lighthouse projects.[15] UNEZA's guidance on equipment demand aggregates member investment plans on grids & storage to forecast equipment demand, while also providing data-driven planning assistance to grid operators for unlocking stranded gigawatts.[16]

Working Group intends to mobilize more EMDE utilities to join UNEZA, and bring in large energy consumers to share with UNEZA their experience on grid connection constraints.

Examples from Practice

UK regulatory practice provides two examples of how these grid measures operate. The **smart EV charging framework** shifted demand away from peak hours: the Electric Vehicles Regulations required every new private charge point sold to default to not charging during peak hours,[17] and supplier time-of-use tariffs then charged roughly 8p/kWh across the overnight window against about 28p for the rest of the day. Consequently, more than 700,000 EVs are now on smart tariffs today. Regulators can adapt the combination of a regulatory default for new charge points with a tariff that rewards shifting load.

Ofgem's Accelerated Strategic Transmission Investments replaced project-by-project need-based assessment with bulk pre-approval of 26 projects, releasing money ahead of full approval through pre-construction allowances near 2.5% of forecast cost and early construction funding of up to 20%. Early funding enabled grid developers to sign earlier framework agreements for critical grid equipment and land purchases. Thus, the framework provided equipment manufacturers the long-term certainty needed to scale production, and significantly increased UK's supply chain along with accelerating approvals by up to two years.[18] Regulators elsewhere can early release of capital against long-lead items.

03

Channeling concessional financing and guarantees

Channeling concessional financing and guarantees is critical for increasing electrification. Grid investments are very capital intensive, requiring the commitment of massive funds most investors cannot easily access. Storage investments face bankability challenges, as they lack the revenue certainty generators obtain with power purchase agreements (PPAs). And consumers face very high upfront costs in electrifying processes, in both the industrial and buildings sectors, as equipment such as heat pumps require significantly more capital than fossil fuel alternatives.

The Working Group suggests governments and development-finance institutions should scale concessional, blended finance solutions to lower the cost of capital, and provide de-risking & guarantee tools for:

- end-use electrification processes in industry, buildings, and transport
- grid and storage investments, such as investments in smart meters, grid automation, and digital infrastructure

Delivery Partners: Concessional Financing Providers

CIF Renewable Energy Integration Program funds grid upgrades, storage, system operations software and demand-side flexibility. A government and the development banks active in that country jointly draft an investment plan identifying what specifically is blocking renewables integration, and CIF funds the multilateral development bank, which is also acting as the implementing partner.

REI had approved $206 M across 8 projects, with $1.3 Bn in expected co-financing.[19] CIF mobilized significant capital for electrification projects in EMDEs, providing concessional funds and unlocking larger blended finance, covering the concessional component of very large loans.

Examples from Practice

Australian Capacity Investment Scheme and EBRD GEFF Türkiye program provide two examples for addressing the financing gap, displaying both state-led and private concessional financing and guarantee schemes are needed for the financing gap.

Australian Capacity Investment Scheme runs competitive tenders, and winning projects sign an agreement lasting up to 15 years, that places a floor and a ceiling around their market revenue: below the floor the Commonwealth pays 90% of the shortfall, above the ceiling the project returns 50% of the excess, with both levels bid by the developer rather than set by government.[20] Governments can adapt the floor-and-ceiling structure where storage lacks revenue certainty.

EBRD GEFF Türkiye lends wholesale to Turkish banks, which on-lend the money as ordinary commercial loans for green equipment while keeping the credit risk themselves. It operates through a Green Technology Selector, an online database of pre-vetted equipment, and concessional climate finance blended with the EBRD loan brings the rate down far enough to price competitively.[21] Development-finance institutions can adapt the combination of wholesale lending through local banks with a pre-vetted equipment list. Businesses can take up blended-finance facilities offered through local banks.



Business and public sector collaboration will play an essential role in advancing Electrification. Public sector incentives will define the terms in which private sector will undertake investments, and credibility of the public sector commitments will provide the long-term vision most investments require.

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Working Group members

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- Aegean Region Chamber of Industry (EBSO)
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- Asmira Group
- Aygaz
- Batel Elektromekanik
- BCG
- BCSD Australia
- Borusan EnBW Enerji
- Business Council for Sustainable Energy (BCSE)
- Clean Energy Buyers Association (CEBA)
- Deacero
- Eczacıbaşı
- EDF
- ELDER (Electricity Distribution Companies Association of Türkiye)
- Endamer
- Enerjisa Enerji
- Enerjisa Üretim
- E.On
- Escon
- EY
- Fiba Enerji
- Fiba Holding
- Ford Otosan
- Fortum
- Garanti BBVA
- GE Vernova
- GIZ
- Global Renewables Alliance
- Grupo Crecimiento Verde
- Güral
- Gurīn Energy
- Iberdrola
- IC Enterra
- IC Holding
- IC İçtaş
- ICC
- IEEE
- IFC / World Bank Group
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- IRENA
- Izmir Chamber of Commerce (İZTO)
- Johnson Controls
- Kalyon Holding
- Kocaeli Chamber of Industry
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- LAV
- Limak
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- Mingyang Smart Energy
- MPP Energia
- Neste
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- P2X Solutions
- Pfizer
- Pomza Export Mining Company
- QNB Türkiye
- Sabancı Holding
- Schneider Electric
- SEFiA
- Siemens
- Solar Impulse Foundation
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- TÜSİAD
- UN Climate Change High-Level Champions
- Unilever
- US Chamber of Commerce
- Vito
- VitrA
- WAT Motor
- WBCSD
- We Mean Business Coalition
- World Green Building Council
- XPRIZE
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