Policy Brief

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Policy Paths for Meeting Energy Efficiency Goals

Financing, Measurement, and Policy Reforms Needed to Realign with the Paris Agreement

What's the issue?

The International Energy Agency (IEA) reports that global energy efficiency improvements could account for nearly half of emissions reductions needed to reach net zero by 2050, but have received a fraction of the investment compared to renewable energy generation projects [3]. Broadly increasing efficiency measures can provide energy security and resiliency while helping align with critical climate goals laid out in the Paris Agreement.

COP 28 in Dubai provided a historic target for energy efficiency increases. As part of the Global Renewables and Energy Efficiency Pledge, over 120 Parties agreed to double energy efficiency improvements from 2% to 4% every year until 2030. This was followed by the subsequent launch of the Global Energy Efficiency Alliance (GEEA) at COP 29, which provided a comprehensive platform for international cooperation towards the 2030 goal.

Despite widespread support, progress towards this goal is far behind where it needs to be. The average improvement in energy intensity achieved from 2013-2024 was around 1% - well below the 4% target. This shortcoming means that in order to hit the 2030 goal, an average improvement of 5% over the next five years is needed [2].

Source: RMI

What happened at COP 30?

- **Investment in efficiency must triple by 2030** to meet Article 2 temperature goals
- **Include measurable efficiency goals** into updated Nationally Determined Contributions (NDCs)
- **Establish clear policy pathways** that integrate efficiency, electrification, and renewable integration across national planning frameworks
- **Standardize national monitoring systems** to track energy intensity improvements and align reporting with updated NDCs
- **Scale energy-efficiency de-risking platforms** to unlock finance for building retrofits, efficient appliances, and flexible grid infrastructure

COP 30 led to the launch of the Mission Efficiency Initiative, a global energy efficiency De-Risking platform to build on the 2030 goal laid out at COP 28. The platform will connect investors to project funding through pipelines to Development Finance Institutions (DFIs), international organizations, and the private sector. The mechanism is intended to provide project preparation, planning, and technical assistance across industry, transport, buildings, appliances and lighting [4]. The facilitation of this platform will help accelerate additional financial commitments alongside existing pledges, including 17.5 billion euros from the European Investment Bank in partnership with the Solar Impulse Foundation, and 20 million in investment mobilized by the UN Industrial Development Organization [5].

The talks also produced a strategic partnership agreement led by Mission Efficiency to advance partnerships at the global, national, and regional levels. This included the development of 50 roadmaps and targets through the participation of more than 30 stakeholders across China, Colombia, India, the Philippines, Kenya, and the United States. Over 180 businesses in the United States delivered a letter to the COP presidency, affirming their commitment to partnering with governments towards the goal of doubling energy efficiency by 2030 [6]. This effort was led by the Business Council for Sustainable Energy (BCSE) and the Alliance to Save Energy, both boasting a strong presence at COP. "Governments must see that companies are staying the course and committed to delivering the technology solutions needed to double the rate of energy efficiency improvements in five years" said Lisa Jacobson, president of the BCSE. Lastly, the Building Efficiency, Electrification, and Renewable Integration (BEERI) Policy Action standard launched the World Green Building Council. This structured framework, with support from the International Energy Agency, promotes minimum energy performance standards and electrification requirements. By 2028, BEERI aims to accelerate these measures through alignment with the NDC scorecard for sustainable buildings.

Policy recommendations

Expand targets for flexible demand resources

As renewables continue to be rapidly integrated into our energy systems, grid stress and curtailment issues become more pressing, particularly in developing countries with weak transmission infrastructure and high seasonality in demand. To address this, parties need to explicitly integrate demand flexibility into their national climate strategies. Parties should integrate quantifiable flexibility targets into their updated NDCs, including commitments to start shifting utility models to real-time pricing. Further load shift planning will become critical to grid and generation planning in the coming decades. Countries and development organizations should support demand flexibility financing mechanisms to provide technical assistance to utilities, as well as facilitate the enablement for scaling flexibility services.

Strengthen and expand minimum energy performance standards

Countries should modernize existing Minimum Energy Performance Standards (MEPS) by expanding their scope and raising the requirements for appliances. Existing MEPS are outdated and typically only cover refrigeration and air conditioning, requiring expansion to include commercial HVAC systems, residential heat pumps, and water heaters. Parties should commit to updating appliance and equipment standards on a recurring schedule and aligning new MEPS with high-performing technology.

Create a universal efficiency labelling framework

A universal framework for performance labels could integrate existing national labelling standards into a single globally consistent system for benchmarking the performance of heating and cooling devices. By standardizing performance, clear progress could be tracked across markets while creating a trusted method of identifying high-performance products at an international level. This could be voluntarily adopted and fit within existing COP and BEERI commitments.

Source: New York Times, 2021

What are the challenges?

To follow through on the efficiency goals laid out at COP 28, the IEA estimates that spending on efficiency and electrification will need to triple by 2030 [3]. However, spending is still heavily skewed towards energy generation, while the amount of capital allocated to grid infrastructure, building retrofits, efficient appliances, and demand-side management lags well behind.

COP 29's New Collective Quantified Goal and the "Baku to Belem Roadmap" aim to scale climate finance to $1.3 trillion by 2035 [2]. However, meeting these commitments will require significant de-risking instruments to attract private investment, especially in developing economies where investment has fallen behind. Countries' updated NDCs must explicitly lay out specific investment mechanisms, domestic policy targets, and the technical collaboration needed to meet these goals in order to effectively implement them.

Unlike renewable generation, efficiency gains are often harder to measure. For efficiency to be credible in NDCs, countries must develop and build out data-monitoring systems, baseline metrics for energy intensity, and integrate them into national climate frameworks and legislative policy [1]. Global collaboration is central to meeting these goals, with information sharing on financing instruments, data systems, and monitoring playing a major role in international coordination.