ACCELERATING INDUSTRIES' CLIMATE RESPONSE
SRI LANKA

FACTSHEET

What policies are needed to support Sri Lankan industries to decarbonize?

Imported fossil fuels currently supply around half of Sri Lanka's energy demand. This has resulted in challenging cost rises for many businesses in recent years. Sri Lanka is also experiencing the worst effects of climate change. These factors combined mean the need to move to renewable energy and reduce energy waste has never been greater.

To build the energy security needed for Sri Lanka's economy to thrive and to reduce emissions, the Sri Lankan government has pledged that 70 per cent of energy in the country will come from renewable sources by 2030.[1]

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As part of this, Sri Lankan industries must reduce their fossil fuel use so that industrial emissions fall by 7 percent.[2]

According to the Ceylon Electricity Board Annual Statistical Digest for 2022, there were about 68,800 industrial establishments in Sri Lanka. Many of these (62,000) are small to medium enterprises (SMEs). These businesses are a key contributor to Sri Lanka's economy. Industrial production is the second most substantial contributor to the nation's GDP at 14 percent and employs nearly 30 per cent of Sri Lanka's workforce.[3]

Decarbonizing industry must be done in a way that protects industry's contribution to livelihoods and the Sri Lankan economy but which enables the country to meet its climate goals. For this, a range of policies are needed to scale-up renewable energy and energy efficient solutions so that Sri Lankan industries can take a greener, more sustainable path to economic growth.

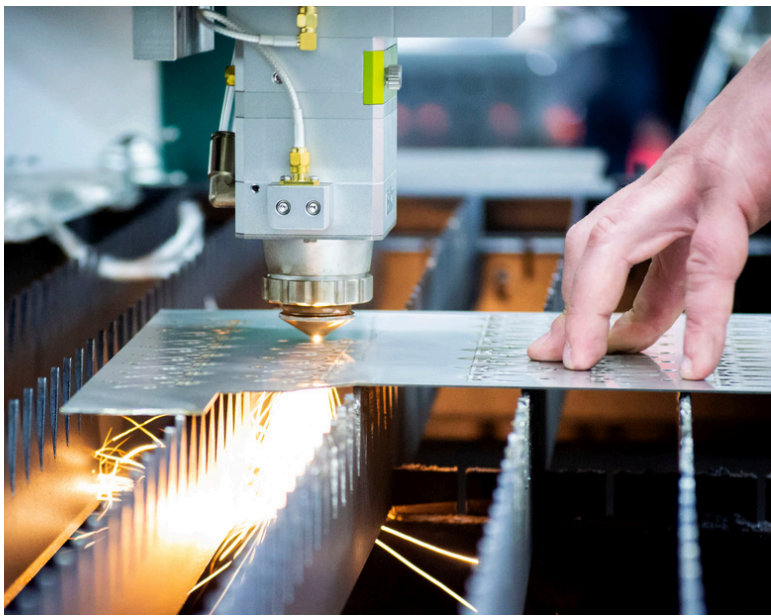
1. UNIDO data
2. UNIDO data
3. The Central Bank Annual Report 2022

Understanding the current policy environment

In 2023, the Ministry of Industries, UNIDO and Global Efficiency Intelligence undertook research to assess the current challenges, opportunities and trends in relation to industrial decarbonization in Sri Lanka. This focused on the following four key manufacturing sectors:

- Food and Beverages
- Textiles and apparels
- Rubber and Plastic
- Cement and other non metallic mineral products
- Metal

Leading industry and government stakeholders were interviewed and surveyed for the research. The findings illuminate the current policy and regulation landscape and highlight the institutional needs and capacity gaps that must be addressed to move Sri Lanka towards its climate goals.



Sri Lanka's current policies related to industrial decarbonization

- National Energy Policy (2019)
- National Climate Change Policy (2023)
- National Environmental Policy 2022
- National Environmental Action Plan 2022 – 2030
- Draft National Policy and Strategy on Sustainable Development (2020)
- National Policy on Sustainable Consumption and Production (2019)
- National Policy and Strategy for Cleaner Production (2005)
- National Plantation Industry Policy Framework (2006)
- The Ministry of Industries is currently developing a National Policy for Industrial Development, alongside a five-year strategic implementation.

Current policy and capacity challenges

1. Lack of comprehensive policy framework: There is a lack of integration and coherence among current policies, which can lead to inefficiencies and missed opportunities. While some policies lay a solid foundation, they often operate in silos, lacking a unified framework that connects efforts across different sectors. This can result in overlapping initiatives, inconsistent standards and a lack of clear direction for industries. A robust policy framework would not only provide clear guidelines for industries, but also signal the government's commitment to sustainable industrial development.

2. Absence of effective measurement, reporting, and verification (MRV) systems: For industries to continually improve their energy efficiency and decrease their carbon emissions, an effective MRV system is crucial. Such a system would allow industries to track their progress, identify areas for further improvement, and provide a basis for incentive programmes or compliance with regulations.

3. Lack of publicly available annual data on industrial energy use and emissions: This makes it challenging for policymakers, researchers and the public to understand the current situation and make informed decisions about necessary interventions.

4. Need for enhanced coordination: The challenge of industrial energy efficiency and decarbonization spans multiple government departments, industry sectors and academic disciplines. Strengthening these relationships could lead to improved alignment of goals, sharing of resources and information and pooling of efforts towards common objectives.

5. Support to adopt advanced technologies: While there are initiatives aimed at promoting cleaner production and resource efficiency, there is a significant gap in supporting industries to adopt advanced technologies and practices that are crucial for deep decarbonization. The absence of strong incentives for industries to adopt decarbonization measures also limits the potential impact of these policies.

6. Lack of a skilled expert workforce: There is a need for a workforce with specialized skills and knowledge in areas such as energy management, clean technologies, emissions monitoring and sustainable industrial processes. Ensuring equal access and opportunities for women in these fields not only promotes diversity but also taps into a wider pool of talent, which is essential for fostering innovation in decarbonizing the industry sector.

7. Insufficient infrastructure: This includes both the physical infrastructure (like grid capacity for renewable energy or transport facilities for alternative fuels) and the supportive infrastructure (such as testing and certification facilities for energy-efficient technologies or data management systems for tracking energy use and emissions). Investments in improving this infrastructure would greatly facilitate Sri Lanka's industrial energy transition.

8. Limited technical knowledge: Even when the necessary infrastructure is in place, the benefits of energy efficiency and decarbonization cannot be fully realized if industrial operators lack the technical knowledge to use the infrastructure effectively.

9. Inadequate financing mechanisms: There is a significant need for robust, accessible financing mechanisms to support the industrial sector in adopting energy-efficient technologies and practices.

10. Regulatory enforcement and compliance: Policies largely rely on voluntary compliance and lack robust monitoring and enforcement mechanisms. Yet these are crucial for ensuring adherence and measuring progress. Strengthening enforcement mechanisms, possibly through increased inspection capacity, stricter penalties, or the introduction of incentives for compliance, is a critical area of need.

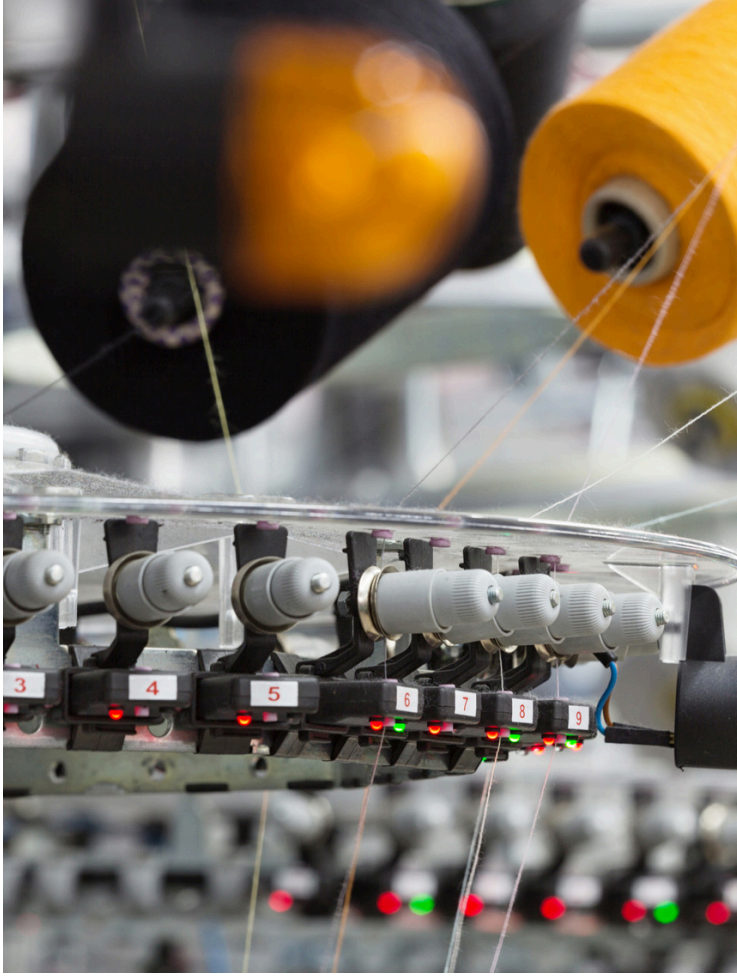
11. Public awareness and perception: There is a general lack of awareness among the public and within industries about the importance of energy efficiency and the need for decarbonization. A concerted effort is needed to raise public awareness, possibly through educational campaigns, public forums or engagement with the media.

12. Insufficient research and development (R&D): The industrial sector's transition towards energy efficiency and decarbonization requires continuous innovation. But current investment in R&D is insufficient in Sri Lanka. More support is needed for universities, research institutes and industries to conduct relevant research.

Policies to accelerate industrial energy efficiency and decarbonization in Sri Lanka

1. Energy standards and labels for industrial equipment: One way to accelerate the deployment of energy-efficient technologies and encourage industry to invest in energy-efficient technologies can be to develop and mandate the standards and labels for industrial equipment. These standards and energy efficiency labels can then be used to adopt minimum energy performance standards (MEPS) in the industry. For example, many countries have adopted MEPS for electric motors.

2. Innovative funding mechanisms, grants and subsidies: Investment in industrial energy efficiency can be encouraged by subsidizing the loans for industrial energy efficiency projects using public funding (i.e., soft loans which are offered at an interest rate lower than the market interest rate).



Innovative funds can be a combination of funds from ESCOs, guarantee funds, revolving funds or venture capitalists and grants from the public sector to encourage investments in industrial energy efficiency measures typically until they achieve the market acceptance level and then be funded on their own. A similar funding scheme was used in Sri Lanka in 2012 and 2013 for domestic refrigerators. The Refrigerator Rebate Scheme was a successful national programme that encouraged households through subsidies to buy energy efficient refrigerators and deep-freezers.

Along with grants and innovative funding policies, the Sri Lankan government can encourage investment in industrial energy efficiency by providing other fiscal incentives like tax exemptions on the purchase of equipment for energy conservation projects or by providing an exemption on import duties on energy-efficient technologies. It could also impose financial penalties like application of fines for non-compliance with energy efficiency laws/regulations. These fines can then be used to set up an energy efficiency fund.

An overarching financing strategy for industrial decarbonization can ensure coordination and complementariness between the aforementioned financial mechanisms, grants and subsidies.

3. Target agreements with financial incentives: Large energy-intensive industries can enter into a voluntary target agreement with the Sri Lanka government to improve industrial energy efficiency and reduce carbon emissions. The target agreements can be set up with or without financial incentives. As part of the target agreements, the participating companies undergo an energy audit by the government or a third-party auditing agency and a list of cost-effective energy efficiency measures is suggested. The cost-effectiveness of investments in energy-saving projects can be enhanced through market-based mechanisms like tradable excess energy savings certificates (ESCert or white certificates). These white certificates are issued to the company for surpassing the saving targets set in a voluntary agreement. The companies that do not meet the targets set in the agreements are obligated to buy those certificates. This has been implemented successfully in India under the PAT scheme. Financial incentives can also be provided in the form of future threats of regulation/CO_2 tax, or currently existing CO_2 tax can also be used to incentivize companies to commit to voluntary target agreements.

The data from the implementation of industrial energy efficiency measures from the voluntary target agreements can also be used to create a database of industrial energy efficiency measures under technology/knowledge sharing programmes. Regional clusters can also be created to encourage knowledge and technology sharing.



4. Energy management standards: Energy management systems like ISO 50001 provide a set of protocols and procedures for the management of energy consumption. Such energy management systems can be used to identify the opportunities, then set and track internal goals for industrial energy efficiency improvement and emission reductions. Certifications like ISO 50001 can be used voluntarily, or compliance can be mandated for selected large consumers by the government. The government can also provide technical support directly to staff to implement monitoring systems and to identify energy-saving measures. Data obtained from the research survey found that only 6% of industrial plants surveyed have ISO 50001 certification. This shows a great potential for capacity building and support to increase energy management systems certification in industry in Sri Lanka.

5. Incentivizing adoption of electric boilers and heat pumps in key industries: There is a need to formulate and implement policies that incentivize the adoption of electric boilers and industrial heat pumps in key industries within Sri Lanka. This could be achieved through a combination of financial incentives, such as tax credits or subsidies, designed to alleviate the initial capital costs associated with transitioning to electric heating technologies. The government could also establish preferential tariff structures for industries adopting electric heating systems, ensuring that the cost of electricity for heating purposes becomes competitive with traditional fossil fuel alternatives. Collaborative initiatives with financial institutions could be explored to facilitate access to affordable financing for the purchase and installation of electric boilers and industrial heat pumps.

6. Promoting renewable energy use in industries: The government should introduce a comprehensive set of financial incentives, such as tax credits, subsidies and concessional financing, to encourage industrial establishments to invest in renewable energy solutions such as solar thermal, renewable natural gas, and sustainable biomass. Simplifying approval processes for renewable energy projects and ensuring seamless grid integration would enhance the attractiveness of these technologies. An essential component of this policy involves initiating awareness campaigns and capacity-building programmes to educate industries about the advantages of transitioning to renewable energy.

7. Promoting the use of low-carbon feedstock in industries: The government can incentivize industries to transition from conventional high-carbon feedstocks to low-carbon alternatives by introducing tax breaks, grants or other financial incentives tied to the adoption of low-carbon feedstock sourcing practices. To ensure effective implementation, the government could collaborate with industry associations and research institutions to establish clear guidelines and standards for the identification and utilization of low-carbon feedstock.

8. Supporting carbon capture in the cement industry: A mid-to long-term policy recommendation is for the government to establish a regulatory framework that supports cement plants to integrate carbon capture, utilization and storage (CCUS) technologies into their operations. To facilitate compliance, financial incentives such as tax credits, subsidies, or low-interest loans can be introduced. Establishing a collaborative platform involving government bodies, industry stakeholders and research institutions will help with knowledge sharing, addressing technological barriers and promoting best practices in carbon capture for cement manufacturing. The government should also incentivize the cement industry to explore and implement innovative ways of utilizing captured carbon.

9. Enabling energy service companies (ESCOs) market: ESCOs are private or public companies that can provide technical, commercial and financial services needed for industrial energy efficiency projects. ESCOs can take project performance risks, arrange financing and may also take customer credit risks in some cases. ESCOs can operate through shared saving contracts (where performance and credit risks are assumed by ESCOs) or through the guaranteed saving contract (where the finance is arranged by ESCO, but the loan contract is between the bank and the customer).

10. Skills and capacity building programmes are also emphasized to grow a proficient cohort of experts, supported by international organizations like UNIDO.

11. The establishment of a robust data collection framework is recommended to track progress, while sector-specific net-zero roadmaps and awareness campaigns are proposed for key industries.

12. A monitoring and evaluation framework is highlighted to ensure programme effectiveness, and institutional arrangements, including the formation of a National Industrial Energy Efficiency and Decarbonization Committee, to facilitate policy formulation and implementation.

POLICY IDEA:

Top-100 Energy-Consuming Enterprise Programme

Drawing inspiration from successful international best practices in both developing and developed countries, this programme involves agreements between the government and the top 100 energy-intensive enterprises and establishes targets and commitments over five-year periods.

These enterprises would be expected to form energy management working groups, conduct energy audits, benchmark efficiency, implement energy management systems, and adopt decarbonization measures. The government's role includes organizing training workshops, providing incentives, and collaborating with international entities for support. Financing mechanisms, information dissemination and a comprehensive monitoring and evaluation framework will further contribute to the programme's effectiveness.

The Accelerating Industries' Climate Response in Sri Lanka initiative runs between 2022-2027. It is led by the Ministry of Environment, Ministry of Industries and Ministry of Power and Energy, implemented by the United Nations Industrial Development Organization and funded by the European Union under the Global Climate Change Alliance+.

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