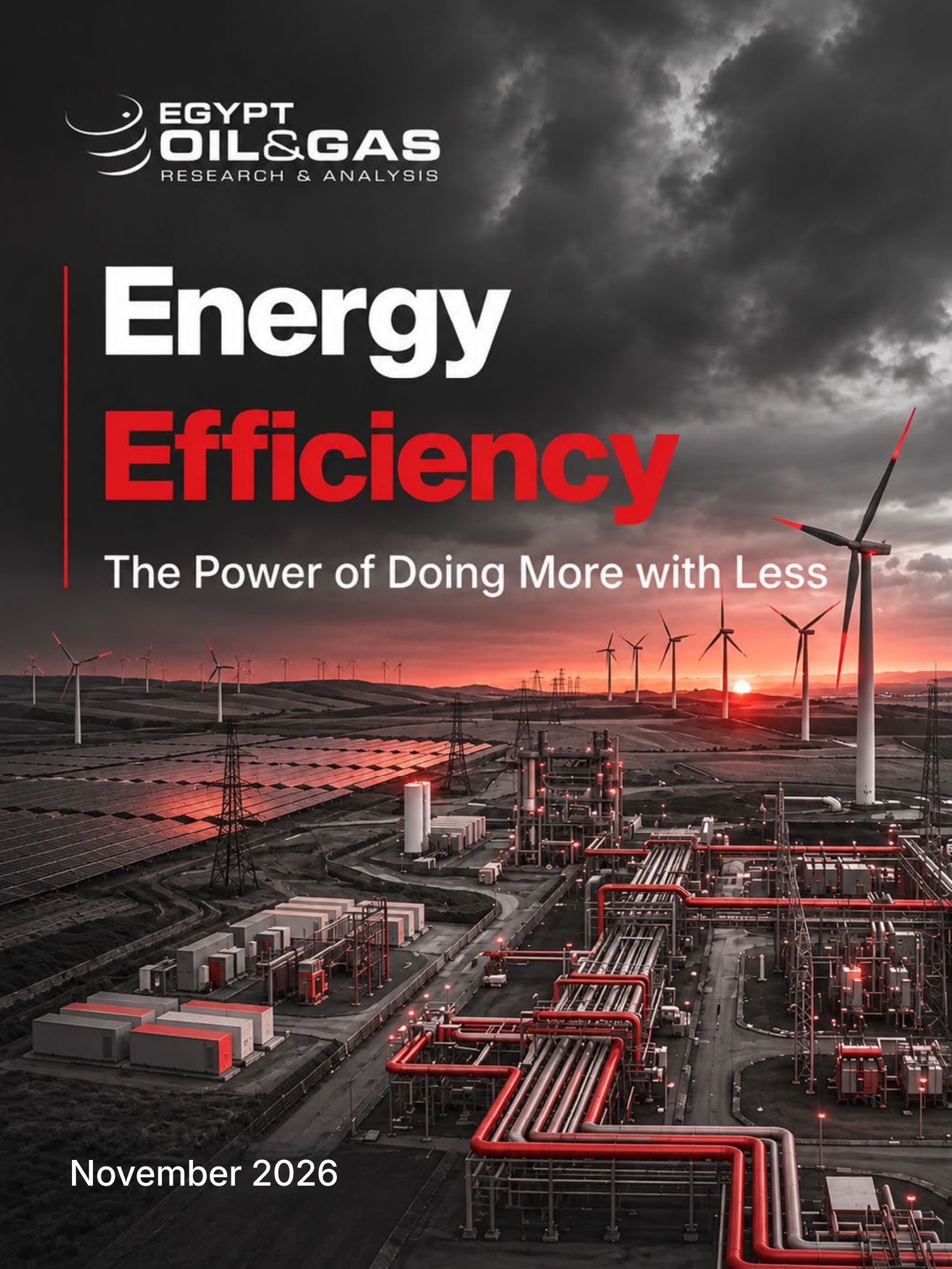
EGYPT OIL&GAS
RESEARCH & ANALYSIS

Energy Efficiency

The Power of Doing More with Less



November 2026

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Abbreviations and Units

AI	Artificial Intelligence
AIDP	Automotive Industry Development Program
bcm	Billion Cubic Metres
BRT	Bus Rapid Transit
CAPMAS	Central Agency for Public Mobilization and Statistics
CNG	Compressed Natural Gas
CO_2e	Carbon Dioxide Equivalent
EBRD	European Bank for Reconstruction and Development
EDGE	Excellence in Design for Greater Efficiencies
EE	Energy Efficiency
EEBC	Egyptian Energy Efficiency Building Codes
EEHC	Egyptian Electricity Holding Company
EEAA	Egyptian Environmental Affairs Agency
EgyptERA	Egyptian Electricity Utility and Consumer Protection Regulatory Agency
ENPPI	Engineering for the Petroleum and Process Industries
EPROM	Egyptian Projects Operation and Maintenance
ESMAP	Energy Sector Management Assistance Program
ECO-FEI	Environmental Compliance Office and Sustainable Development
EPAP	The Egyptian Pollution Abatement Program
FY	Fiscal Year
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEFF	Green Economy Financing Facility
GPRS	Green Pyramid Rating System
GSI	Green Sustainable Industry
g/kWh	Grams per Kilowatt-Hour
HBRC	Housing and Building National Research Center
HVAC	Heating, Ventilation, and Air Conditioning
IDA	Industrial Development Authority
IEA	International Energy Agency

IEEF	Industrial Energy Efficiency Fund
IFC	International Finance Corporation
IMEEP	Egyptian Program for Promoting Industrial Motor Efficiency
JICA	Japan International Cooperation Agency
ktoe	Thousand Tonnes of Oil Equivalent
kWh	Kilowatt-Hour
km	Kilometers
LNG	Liquefied Natural Gas
LRT	Light Rail Transit
mmbbl/d	Million Barrel per Day
MEPS	Minimum Energy Performance Standards
MoERE	Ministry of Electricity and Renewable Energy
MoPMR	Ministry of Petroleum and Mineral Resources
MoI	Ministry of Industry
MPED	Ministry of Planning and Economic Development
Mtoe	Million Tonnes of Oil Equivalent
MW	Megawatt
NDC	Nationally Determined Contribution
NEEAP	National Energy Efficiency Action Plan
PV	Photovoltaic
OECD	Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goal
SHIP	Solar Heating in Industrial Processes
SME	Small and Medium-Sized Enterprise
SHMFF	Social Housing and Mortgage Finance Fund
SCZONE	Suez Canal Economic Zone
TWh	Terawatt-Hour
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization

Introduction

A country's economic power depends not only on how much energy it produces or secures, but also on how effectively it uses its energy to produce economic value. With a world facing continued uncertainty, rising demand, and growing competitive pressures, energy efficiency has become a strategic economic necessity.

It helps countries lower operating costs, improve business profitability, strengthen industrial productivity, and reduce their exposure to imported fuels and price volatility.

Although the importance of energy efficiency is increasingly recognized, progress remains insufficient. Global energy intensity, which measures how much energy is used per unit of gross domestic product (GDP), is estimated to improve by 3% in 2026, still below the pace required to achieve the international ambition of efficiency improvements by 2030, according to the International Energy Agency (IEA).

Meanwhile, expanding industrial activity, growing electricity needs, and new sources of demand, particularly artificial intelligence (AI) and data centers, are placing additional pressure on energy systems.

Transitioning to cleaner energy sources and efficient electrification is a significant opportunity, but it also imposes a fundamental challenge: increasing energy supply alone will not be enough without improving energy efficiency.

As Egypt works to strengthen its industrial base, boost economic growth, and enhance energy security, improving energy efficiency has strategic importance; it offers an opportunity to ease pressure on energy demand from local sources, while reinforcing economic competitiveness. Egypt has already initiated national energy strategies, sector-specific efficiency programs, and regulatory frameworks.

Yet the looming question is whether these efforts are translating into measurable savings and sustained improvements across the wider economy. Understanding where energy is consumed, identifying the most energy-intensive activities, and assessing the effectiveness of existing measures are key to determining where further progress can be achieved.

Against this backdrop, the report examines energy efficiency as a strategic driver of economic performance, moving from global trends to Egypt's national experience.

It assesses international progress in energy demand, energy intensity, and electrification before evaluating Egypt's policy framework, sectoral consumption patterns, and implementation efforts across oil and gas, manufacturing, buildings, and transport.

Ultimately, the challenge is not just more energy efficiency policies, but translating existing ambitions into tangible, economy-wide results. For Egypt, smarter use of energy is not only a pathway to sustainability; it is an opportunity to create a more productive, resilient, and competitive economy.

Global Progress: Is Efficiency Improving Fast Enough?

I. Global Energy Demand

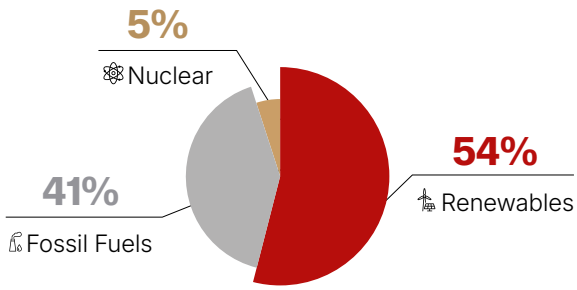
Global energy demand continued to expand in 2025, increasing by 1.3%, compared with growth of over 2% in 2024, and is expected to be flat in 2026. This slowdown reflected a combination of slower economic growth, weaker expansion in energy-intensive industries in some regions, and improvements in energy efficiency.

Despite slower overall growth, demand increased across all major energy sources, although their contributions varied considerably.

Solar PV accounted for more than a quarter of additional global energy demand, followed by natural gas. Low-emissions energy sources collectively supplied nearly 60% of the increase, reflecting their growing role in meeting global energy needs.

Nevertheless, fossil fuel consumption continued to expand in 2025, while coal demand is expected to rise by 1.2% and natural gas demand to decline by 1.5% in 2026. Meanwhile, oil demand is projected to fall by 2.6% in 2026. However, growth in fossil fuel demand was moderated by the expansion of renewable energy, elevated gas prices, and weaker industrial consumption, according to the IEA.

Energy Sources' Contribution to Demand Growth in 2025



Source: Energy Institute

a. Sectoral Demand: Where Are the Pressures?

Energy demand patterns by sector in 2025 have revealed divergent trends across the buildings, industry, and transport sectors, highlighting the various pressures that influence global energy consumption and efficiency.

The buildings sector was the largest contributor to natural gas demand growth, accounting for almost 70% of the increase, as consumption across residential and services buildings rose by around 3%.

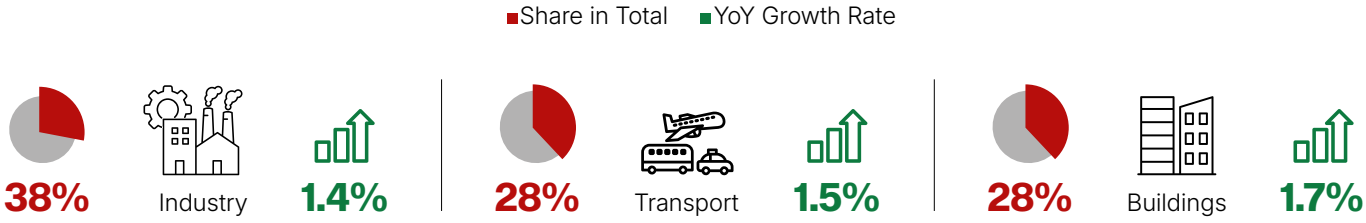
Industrial gas use, meanwhile, was broadly flat amid weaker manufacturing activity and elevated liquefied natural gas (LNG) prices.

In the coal market, power generation continued to dominate consumption, accounting for around two-thirds of global coal use, while industrial applications, particularly steelmaking and chemical production, remained important sources of demand.

Transport fuels continued to account for the largest share of global oil products demand in 2025, led by gas/diesel oil and motor gasoline, which reached 29.1 million barrels per day (mmbbl/d) and 27.7 mmbbl/d, respectively, growing by 0.9% and 1.2% year-on-year (YoY).

Meanwhile, aviation emerged as a faster-growing segment, with global jet fuel and kerosene demand increasing by 3.1% to 7.8 mmbbl/d. Petrochemical feedstocks also remained an important component of global oil, according to the IEA.

Global Energy Demand by Sector in 2025



Source: IEA

Global electricity demand is expected to grow by 3.6% in 2026, remaining in line with its average annual growth since 2021. In 2025 electricity demand was driven primarily by buildings and industry, with the buildings sector accounting for nearly 43.2% of the annual increase.

Industry was the second-largest contributor, adding 334 terawatt-hours (TWh) to global electricity demand, or roughly 41.5% of the annual increase, reflecting continued electrification across industrial activities.

Meanwhile, transport contributed more than 10% of global electricity demand growth, as electric vehicle adoption continued to expand.

The growing electricity requirements of data centers also added to demand, highlighting the increasing influence of digital infrastructure on global power consumption.

AI is emerging as an additional source of electricity demand, particularly through the expansion of data centers and high-performance computing infrastructure. Global data center electricity consumption reached approximately 485 TWh in 2025, marking a 17% annual increase.

Consumption is projected to nearly double to 950 TWh by 2030, accounting for around 3% of global electricity demand. AI-focused data centers are expected to drive a particularly strong increase, with their electricity consumption projected to triple by 2030, according to the IEA.

Growth in Data Centre Electricity Consumption in 2025

17%

Source: IEA

Data Centres' Share of Global Electricity Consumption in 2025

1.7%

Source: IEA

II. Improvements in Global Energy Intensity

While energy consumption continued to expand, the improvement in global energy intensity accelerated in 2025. Energy intensity measures the energy required to generate a unit of GDP, making it a key indicator of the relationship between economic activity and energy consumption.

However, changes in this indicator reflect not only technological efficiency gains but also shifts in economic structure, weather conditions, and energy supply composition.

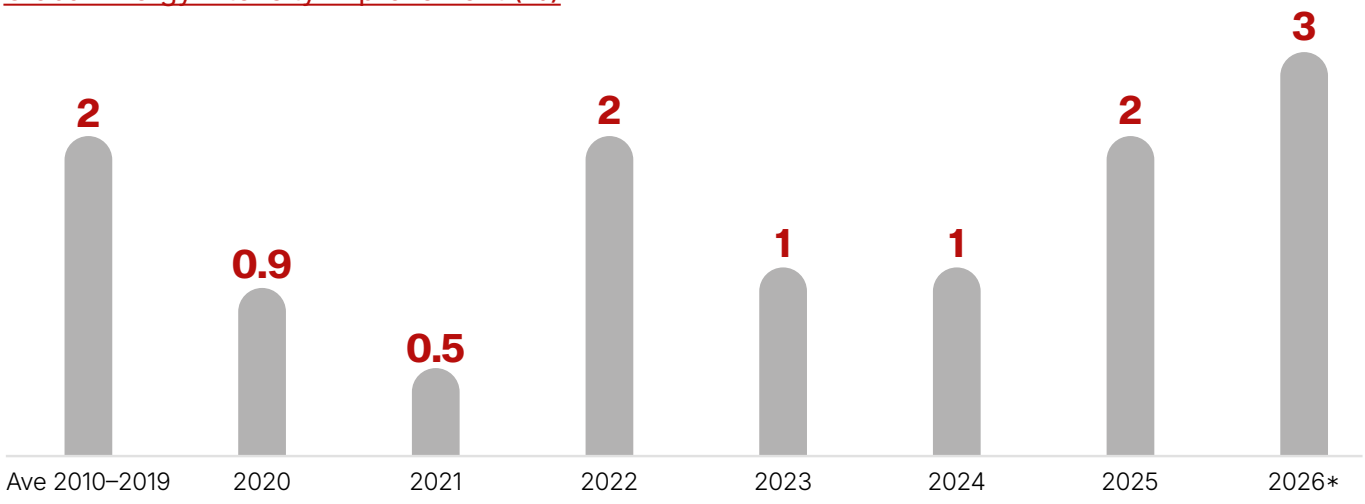
Global energy intensity improvement recovered to around 2% in 2025, compared with 1% in 2024, and is expected to grow by about 3% in 2026, reversing the slowdown observed over recent years.

The improvement brought global progress closer to its pre-pandemic average of around 2% annually recorded between 2010 and 2019.

This recovery was supported by slower global energy demand growth, the increasing contribution of renewables to electricity generation, and more moderate weather-related pressures on consumption.

However, progress remained insufficient to meet the COP28 commitment to double the global annual rate of energy efficiency improvement to 4% by 2030, according to the IEA.

Global Energy Intensity Improvement (%)



*Forecasted

Source: IEA

The industrial sector has emerged as a major drag on global energy efficiency gains, as rising energy consumption has not been matched by corresponding improvements in industrial productivity. Between 2019 and 2024, industrial energy intensity improved by less than 0.5% annually on average, down sharply from nearly 2% during 2010–2019.

This slowdown coincided with an acceleration in industrial energy demand growth, while industrial value-added growth weakened from 2.8% to 2.2%.

As a result, industry accounted for around two-thirds of the increase in global final energy demand since 2019, placing additional pressure on overall efficiency gains.

The widening gap between industrial energy consumption and value-added growth highlights the need for stronger efficiency measures, particularly across energy-intensive manufacturing activities, where improving production processes and upgrading industrial equipment could deliver significant energy savings, according to the IEA.

III. The Efficiency Gap: Is the World on Track for 2030?

By 2030, SDG target 7.3 calls for doubling the global rate of improvement in energy efficiency, as measured by energy intensity. The progress is still not enough, with global energy intensity improving by only 1.5% in 2023. To make up for the shortfalls earlier, improvements need to average around 4.2% per year over the period 2024-2030, according to Tracking SDG 7.

a. Initiatives to Improve Energy Efficiency

Governments worldwide increasingly view energy efficiency as a cost-effective option for cutting emissions while also shielding economies from fuel price swings. The energy efficiency strategy does not work the same everywhere, though. It connects big climate targets to rules for specific sectors plus some financial support to make changes happen.

Buildings get modernized through stricter construction standards and better demand management. Cooling networks and grids are part of that push as well. Industry uses roughly 37% of final energy worldwide, so the IEA focuses on swapping outdated motors and recovering wasted heat, along with support for factory audits.

Key Global and Regional Energy Efficiency Initiatives

Initiative / Program	Lead Body & Scope	Key Stat / Impact
Global Renewables & Efficiency Pledge	COP28 & Participating Governments (Global)	>4%/y efficiency progress by 2030
UNIDO Industrial Decarbonization	UNIDO (25+ Countries)	$600M+ saved; 16 mmt CO_2 cut
COP31 35-by-35 Pledge	UNIDO / Global Coalition	35% electric share of energy by 2035
EU Energy Efficiency Directive	European Union (Regional)	Mandatory EU-wide energy reduction targets

Sources: COP28, UNIDO and COP31

b. Key Barriers to Faster Global Progress

Despite strong global commitments, several critical bottlenecks continue to slow the transition toward higher energy efficiency across economies:

- **High Upfront Capital Costs & Financing Gaps:** Upgrading to high-efficiency motors, industrial heat pumps, or deep building retrofits requires heavy initial investment, while small and medium-sized enterprises (SMEs) often lack access to affordable efficiency solutions.
- **Subsidized Energy Prices:** Low fossil fuel and electricity tariffs weaken the financial business case for saving energy and stretch out payback periods.
- **Split Incentives:** In leased buildings and industrial zones, property owners pay for equipment upgrades while tenants capture the lower utility bills, stalling investment from both sides.
- **Fear of Operational Downtime:** Factories frequently postpone retrofits out of concern that installing new equipment will interrupt continuous production schedules.
- **Shortage of Technical Expertise:** Many regions lack certified energy auditors and skilled engineers needed to implement ISO 50001 systems, waste-heat recovery, and AI-driven energy controls.
- **Weak Policy Enforcement:** Even where strict building codes and equipment standards exist, inconsistent monitoring and fragmented oversight across government ministries limit actual compliance.

IV. Global Energy Mix and Energy Efficiency: A System in Transition

Three forces are reshaping the world's energy system: rising energy demand, rapid growth in low-emissions electricity, and slow progress in energy efficiency.

a. The Energy Mix Is Changing with a Growing Demand

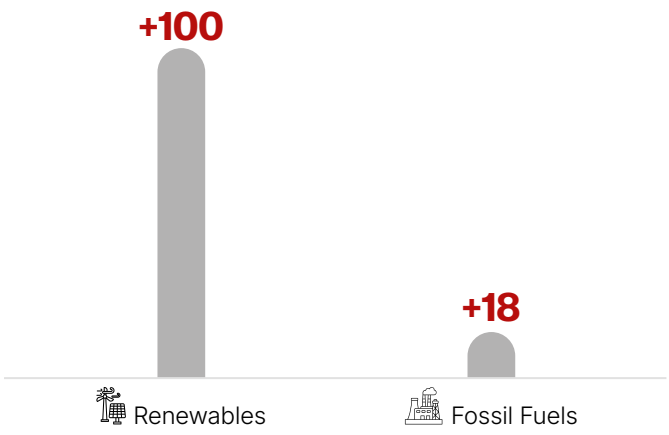
Global energy demand grew about 1.3% in 2025. Meanwhile, solar, wind, hydropower, nuclear, and other low-emissions sources accounted for nearly 60% of global energy demand growth in 2025.

Solar photovoltaic (PV) alone accounted for more than a quarter of demand growth.

But fossil fuels haven't been replaced at the same pace. The supply of renewable energy nearly doubled between 2010 and 2025, while the supply of fossil fuels still increased by about 18%, mainly because overall energy demand kept growing and the growth of renewables was not enough to satisfy all this growing demand, according to the IEA.

This means that the transition is not yet fully substitutive, but still partly additive.

Energy Supply Growth by Sources 2010-2025 (%)



Source: IEA

b. Electricity Is Becoming More Important

World electricity demand grew by about 3% in 2025, more than twice the growth of total energy demand. This growth is driven by demand from buildings and industry, the adoption of electric vehicles, cooling needs, data centers, and broader electrification.

Electricity is getting cleaner at the same time. Low-emissions sources contributed around 43% of global electricity generation in 2025, with renewables alone providing around 34%, just behind coal.

Wind and solar together accounted for about 17% of global generation, according to the IEA.

This shift is important to highlight. As transport, buildings, and industry are increasingly electrified, electricity increasingly becomes the core connector between energy supply and end-use efficiency.

c. Electrification and Efficiency Reinforce Each Other

Electrification can reduce overall energy requirements when electric technologies replace less-efficient fossil-fuel systems. Electric vehicles, motors, and heat pumps can generally provide the same service using less final energy than combustion-based alternatives.

For this reason, rising electricity consumption does not necessarily mean worsening efficiency.

Electricity demand can increase while total energy falls if more efficient electric technologies replace direct fossil-fuel use.

There is rapid expansion of the electrification of transport, with electric vehicles (EVs) accounting for nearly 25% of new car sales in 2025, up from less than 1% in 2015, according to the IEA.

From Policies to Results: Is Egypt Delivering Measurable Savings?

I. Egypt's Energy Efficiency Framework

Egypt's energy efficiency approach has evolved from targeted electricity-saving measures to a broader national framework. The first National Energy Efficiency Action Plan (NEEAP I), covering 2012–2015, prioritized efficient lighting, appliance standards, and public awareness.

The second plan (NEEAP II) from FY 2018/19 to FY 2021/22 expanded these efforts to include industrial efficiency, grid improvements, smart meters, and electricity pricing, while placing greater emphasis on institutional capacity and financing mechanisms.

The third plan (2026–2029) takes this development further by strengthening coordination across government entities, assigning clearer responsibilities to ministries, and improving implementation and monitoring.

Egypt's National Energy Efficiency Action Plans



Sources: ESMAP & MoERE

The NEEAP III provides the main implementation framework for translating Egypt's energy efficiency objectives under the updated Integrated Sustainable Energy Strategy 2040 into sector-specific measures. It proposes 45 measures, up from 27 in the second plan, spanning regulatory, institutional, technical, financial, and administrative interventions, alongside awareness and capacity-building initiatives, according to the Energy Sector Management Assistance Program (ESMAP) and the Ministry of Electricity and Renewable Energy (MoERE).

Sectoral Energy Efficiency Units Across Government Entities

Entities with a Decree Establishing an Energy Efficiency Unit



Source: NEEAP III

a. National Energy Efficiency Targets and Strategies

Egypt's Integrated Sustainable Energy Strategy 2035 established a national objective to reduce energy demand by 18% by 2035, equivalent to ~ 20 million tonnes of oil equivalent (Mtoe). The Ministry of Petroleum and Mineral Resources' (MoPMR's) sector-specific strategy targets energy savings equal to 18% of projected 2035 consumption, according to MoPMR and ESMAP.

Egypt's Energy Efficiency Targets Across Key Sectors

Ministry	Targets or Commitment	Deadline
	23.59 TWh in distribution-company conservation targets	2035
	Phase I to achieve 10% energy savings	2027
	Phase II to achieve 18% energy savings	2035
	Construct 8 new energy-efficient pumping stations and upgrade 34 existing stations	2035

Source: Organisation for Economic Co-operation and Development (OECD), MoPMR and The United Nations Framework Convention on Climate Change (UNFCCC)

For manufacturing, Egypt's updated Nationally Determined Contributions (NDC) specified a 10% reduction in average specific thermal energy consumption across iron and steel, fertilizers, and ceramic industries. The subsequent NDC 3.0, submitted in November 2026, outlines seven industrial mitigation policies and measures, up from five in NDC 2.0. Its energy-efficiency measures include replacing inefficient industrial motors with IE3 or higher-efficiency models, optimizing industrial heating systems, expanding solar thermal applications, and improving energy performance in cement production and other energy-intensive industries, according to UNFCCC and the Egyptian Environmental Affairs Agency (EEAA).

b. Government Policies and Regulatory Framework Across Sectors

Egypt has progressively strengthened its energy efficiency regulatory framework, moving beyond the obligations established under Electricity Law No. 87 of 2015 toward more comprehensive enforcement and monitoring mechanisms. Regulatory developments in 2026 expanded the Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptERA's) oversight responsibilities, tightened appliance efficiency requirements, and introduced dedicated monitoring arrangements. Alongside these longer-term reforms, the government introduced temporary consumption-reduction measures targeting public-sector electricity use and government vehicle fuel consumption, according to the Egyptian Electricity Holding Company (EEHC) and the Egyptian Cabinet.

Key Developments in Egypt's Energy Efficiency Regulatory Framework

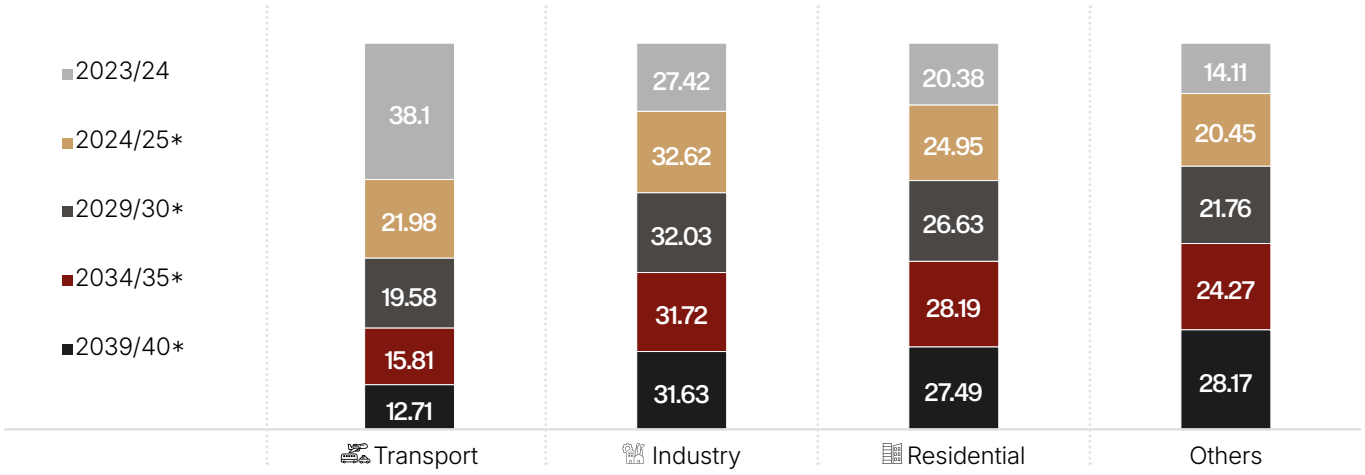
Electricity Law No. 87 of 2015	Mandated energy efficiency officers and consumption records for large electricity consumers, alongside efficiency programs for distribution companies
Electricity Law Amendments (March 2026)	Expanded EgyptERA's oversight, introduced service-provider licensing, and strengthened compliance requirements and penalties.
Appliance Efficiency Measures (March 2026)	Tightened efficiency standards and conformity checks for major electrical appliances and lighting equipment
Electricity Law Amendments (November 2026)	Approved the establishment of an energy efficiency monitoring unit within EgyptERA.
Prime Ministerial Decree No. 3530/2026	Set temporary targets to reduce electricity and lighting consumption by 20% and fuel use in government vehicles by at least 30%

II. What Consumes Egypt's Energy?

a. Energy Consumption by Economic Sector

Egypt's actual final energy consumption rose by 20.2% between FY 2015/16 and FY 2023/24, reaching 61.53 Mtoe. Efficiency priorities reflect two different pressures. The transport sector is the largest final-energy consumer in FY 2023/24, with 23.44 Mtoe, 38.1% of total consumption, with growth of 85.9% since FY 2015/16. Industry recorded 16.87 Mtoe, with growth of 8%, according to the Central Agency for Public Mobilization and Statistics (CAPMAS).

Estimated Sectoral Shares of Energy Consumption (%)



*NEEAP Modeling Series

Sources: CAPMAS & NEEAP III

b. Major Energy-Intensive Industries

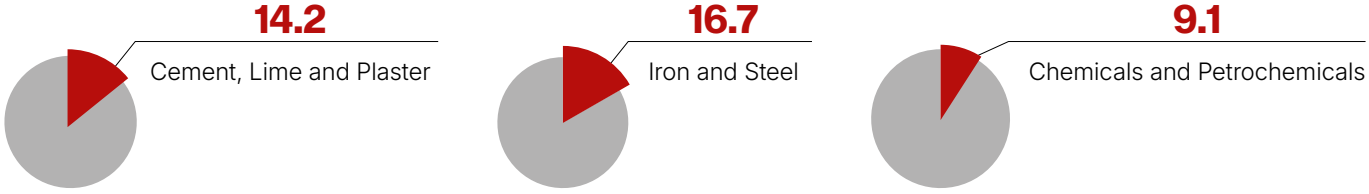
Industrial final-energy demand is heavily exposed to gas-based heat and power use. Of the 16.87 Mtoe consumed in FY 2023/24, natural gas accounted for 51%, electricity for 24.2% and coal for 17%. Priority measures should target both thermal systems and electrically driven equipment, rather than focusing solely on electricity conservation.

Within the industrial sector, iron and steel accounted for 2.83 Mtoe of final energy consumption in FY 2023/24, making it the largest energy-consuming industrial subsector.

Cement, lime and plaster followed with 2.39 Mtoe, while chemicals and petrochemicals accounted for 1.54 Mtoe.

These figures highlight the importance of improving efficiency in energy-intensive industrial processes, particularly through site-level energy audits, better kiln and furnace performance, waste-heat recovery, and improved process controls, according to CAPMAS.

Share of Energy Consumption by Industry (%)

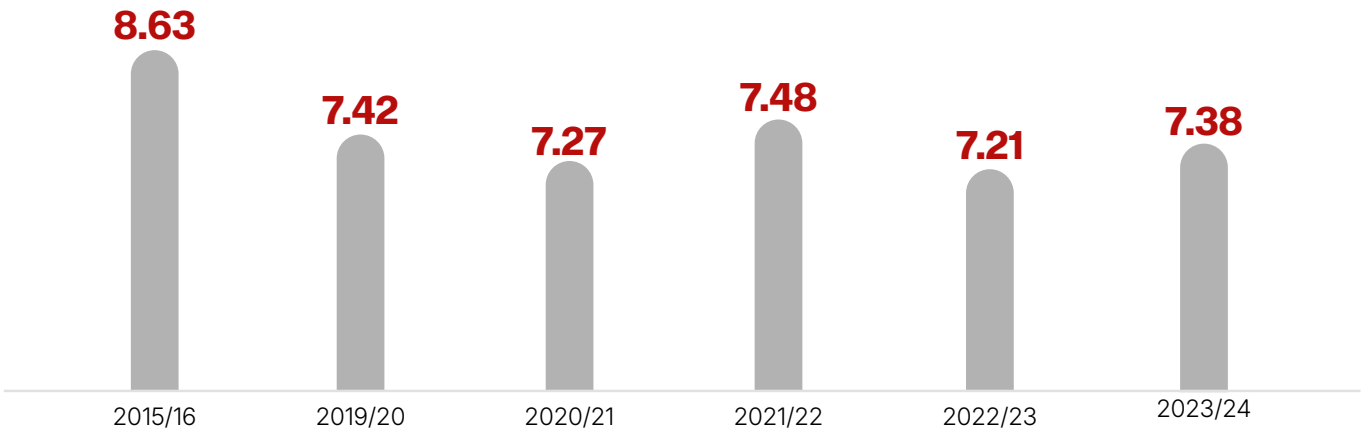


Sources: CAPMAS

c. Energy Intensity Trends and Sectoral Efficiency Performance

Egypt achieved a 14.5% reduction in final-energy intensity between FY 2015/16 and FY 2023/24, with the indicator declining from 8.63 to 7.38 thousand tonnes of oil equivalent (ktoe) per EGP billion of constant-price GDP. However, the improvement was not continuous: intensity increased from 7.21 in FY 2022/23 to 7.38 in FY 2023/24, indicating that energy consumption grew faster than real economic output, according to CAPMAS.

Egypt's Final Energy Intensity (ktoe/EGP bn)



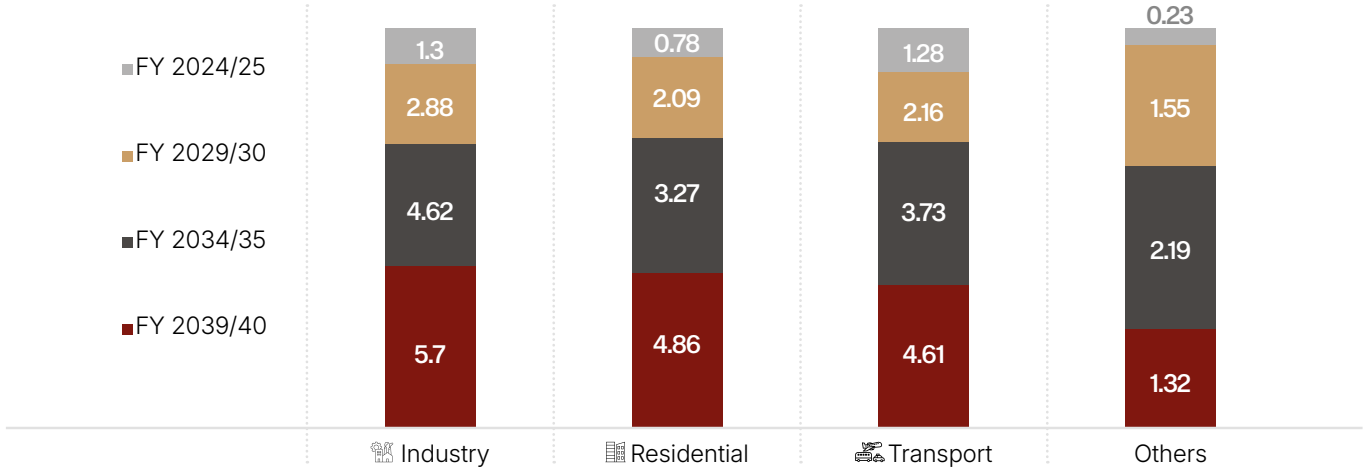
Source: CAPMAS

NEEAP III estimates that end-use efficiency measures could deliver 8.68 Mtoe in annual final-energy savings by FY 2029/30, compared with a frozen efficiency counterfactual.

Industry is the largest contributor at 33.2% in FY 2029/30, followed by transport at 24.9% and the residential sector at 24.1%.

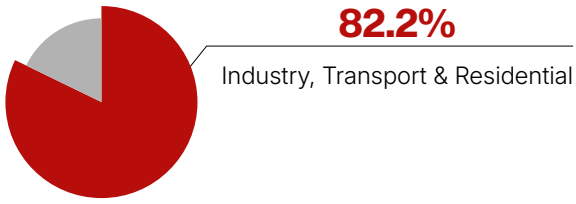
This distribution provides a practical basis for prioritizing interventions: industrial process improvements, more efficient transport activity and modal choices, and lower energy use in homes, particularly for cooling and appliances, according to NEEAP III.

NEEAP III Expected Annual Final Energy Savings by Sector (Mtoe)



Sources: NEEAP III

Key Sectors' Contribution to Projected Energy Savings in FY 2029/30



Source: MoERE

The projected trajectory reinforces the scale of the industrial opportunity. Annual industrial savings are expected to increase from 1.296 Mtoe in FY 2024/25 to 2.883 Mtoe in FY 2029/30 and 5.703 Mtoe in FY 2039/40.

Relative to the relevant sector counterfactual, the plan indicates that industrial savings rose from 6% in FY 2024/25 to 13% in FY 2029/30 and 19% by FY 2039/40.

Transport is also expected to deliver a substantial proportional improvement, with savings reaching 15% by FY 2029/30 and 32% by FY 2039/40, according to NEEAP III.

III. From Policy to Practice: Sector-Wide Adoption

Turning Egypt's high-level energy efficiency strategies into measurable savings requires coordinated execution across major energy-consuming economic sectors.

a. Oil and Gas

Operational Improvements and Energy Recovery

Under the Petroleum Sector Energy Efficiency Strategy (2022–2035), affiliated companies have executed several projects in this regard.

Sector Energy-saving Projects Implemented by 2025

No. of Measures & Projects
436

Annual Savings
$162.3 million

Energy Savings
7.7%*

*Of the sector's 2021 baseline consumption

Source: Ministry of Planning, Economic Development (MPED)

Implementation Support

The ministry established a database to monitor energy consumption across petroleum companies, identify energy-intensive operations, and guide targeted improvement projects.

A Center of Excellence for Energy Transition, established by Engineering for the Petroleum and Process Industries (ENPPI) and Egyptian Projects Operation and Maintenance (EPROM), with Japan International Cooperation Agency (JICA) supporting its development, provides practical training, technical energy audits, energy-management support, and project feasibility studies, according to the MoPMR.

b. Electricity

Power Generation Efficiency and Fuel Optimization

The MoERE has implemented operational adjustments across power generation companies to improve plant performance and reduce fuel consumption, introducing battery-based energy storage systems and relying on thermal power plants that are more fuel-efficient. These changes to power plant operating patterns have reduced reported fuel consumption to about 174 grams per kilowatt-hour (g/kWh) currently, from around 214 g/kWh. Thus, more than 65 billion cubic meters (bcm) of natural gas were saved, with an economic value exceeding $38 billion, supported by improvements in generation efficiency and operating practices, according to EEHC.

Cumulative Natural Gas Savings since 2014

Source: EEHC

Volume

> 65 bcm

Value

$38 billion

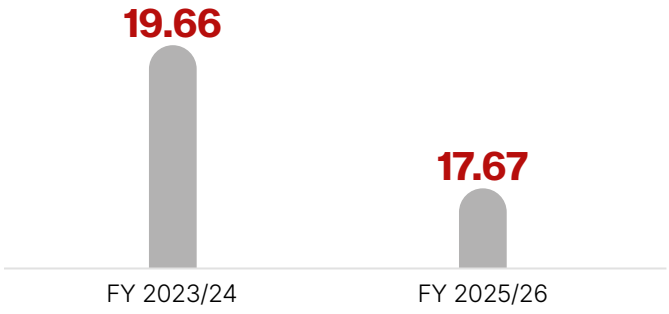
Grid Modernization and Loss Reduction

Electricity distribution companies have recorded improvements in network performance, with total reported distribution losses declining from 19.66% in FY 2023/24 to 17.67% in FY 2025/26.

These improvements were supported by grid upgrades, enhanced monitoring, and measures addressing electricity theft and commercial losses.

Furthermore, approximately 3.1 million coded electricity meters were installed over two fiscal years, strengthening electricity consumption monitoring and billing accuracy, according to MoERE.

Electricity Distribution Losses Reduction (%)



Source: MoERE

c. Manufacturing

Energy Management and Cleaner Production

The United Nations Industrial Development Organization (UNIDO)'s Industrial Energy Efficiency program in Egypt supported factories to adopt ISO 50001 energy-management systems and strengthen in-house technical capabilities, according to UNIDO. SwitchMed/MED TEST complemented this work through factory assessments identifying opportunities to reduce energy, water, and material consumption, according to SwitchMed.

Industrial Heat and Energy Recovery

Solar Heating in Industrial Processes (SHIP) supported industrial heat-efficiency assessments and preparation for solar-heating projects.

At plant level, Helwan Cement's waste-heat recovery installation demonstrates practical implementation, converting otherwise unused process heat into electricity for on-site consumption, according to SHIP evaluation; Heidelberg Materials Egypt.

Financing and Investment Support

Green Economy Financing Facility (GEFF) Egypt II and Green Value Chain combine investment finance with technical assistance and completion-linked incentives.

The Egyptian Pollution Abatement Program (EPAP) III and Environmental Compliance Office and Sustainable Development (ECO-FEI) provide additional financing routes for eligible equipment, cleaner production, and environmental upgrades, helping manufacturers turn opportunities into real investment, according to the EBRD and EPAP III.

Manufacturing Key Energy Efficiency Program Figures

25 Factories	**30** Projects	**€271** million
Energy audits completed through the Ministry of Electricity–Schneider Electric initiative	**Motor-efficiency and system-optimization projects delivered under UNIDO's Egyptian Program for Promoting Industrial Motor Efficiency (IMEEP)**	**Green Sustainable Industry (GSI) program budget, supporting energy efficiency and broader environmental improvements during 2025–2030**

Sources: Schneider, UNIDO and GSI

d. Buildings

Commercial & Public Building Audit Campaigns

Building on its 2025 industrial pilot, Schneider Electric launched Phase Two of its Energy Efficiency Audits Initiative in June 2026, providing 26 fully funded energy audits for buildings across Egypt. The program seeks to identify efficiency gains in HVAC systems, lighting, and power management, while facilitating access to green financing, according to Forbes.

Global Environment Facility (GEF)/UNDP Low-Emission Buildings Program was approved by the MoERE with UNDP and backed by a proposed $3.78 million in GEF grants and $30.9 million in co-financing, according to the GEF.

The European Bank for Reconstruction and Development (EBRD) Green Cities Action Plan in Cairo was launched in 2025 under the EBRD Green Cities framework.

It includes dedicated projects to retrofit and improve energy efficiency across local municipal and government administrative buildings alongside sustainable neighborhood upgrades, according to the EBRD.

Residential & Green Social Housing Initiatives

Egypt's Social Housing and Mortgage Finance Fund (SHMFF) integrates green building standards, including the International Finance Corporation's (IFC) Excellence in Design for Greater Efficiencies (EDGE) certification and Egypt's Green Pyramid Rating System (GPRS), into its social housing program to lower utility costs and cut emissions. More than 40,000 green social housing units have already been achieved since 2021, targeting up to 55,000 green-certified units, according to the World Bank (WB).

Codes, Rating Systems & Appliance Standards

Framework / Initiative	Lead Bodies	Scope & Impact
GPRS	Housing and Building National Research Center (HBRC), Ministry of Housing	Assesses and certifies building sustainability
Egyptian Energy Efficiency Building Codes (EEBC)	HBRC, Ministry of Housing	Provides technical requirements for residential and commercial buildings
Minimum Energy Performance Standards (MEPS) & Energy Labeling for Appliances	Ministry of Electricity, UNDP, EOS	Enforces mandatory efficiency labels on residential and commercial building equipment

e. Transport

Electric Mass Transit

The government is supporting commuters shifting out of private cars and microbuses through major electric networks, including the 110 kilometers (km) Ring Road electric Bus Rapid Transit (BRT), the East and West Nile Monorails, the Light Rail Transit (LRT) to the New Administrative Capital, and initial launch preparations for the 2,000 km High-Speed Electric Rail network.

In Alexandria, the Abu Qir railway is being upgraded into an electric metro and the Raml Tram, according to the Egyptian Presidency.

CNG Fleet Conversions

Under a 2025–2028 push led by the MoPMR and the Ministry of Finance, the state is subsidizing the conversion of 220,000 vehicles to compressed natural gas (CNG), starting with 50,000 in FY 2025/26, according to the MoPMR.

Alongside local swaps, such as Giza's program replacing fuel-heavy tuk-tuks with cleaner light four-wheelers, this will cut gasoline and diesel use while lowering driver fuel costs, according to GB Corp.

Local EV Assembly & Charging

The National Automotive Industry Development Strategy, implemented operationally through the National Automotive Industry Development Program (AIDP), which entered into force in July 2025, is a performance-based industrial policy designed to localize car manufacturing and shift the market toward electric and natural gas vehicles.

The state offers EGP 50,000 grants per vehicle for the first 100,000 locally assembled EVs, alongside tax and customs breaks, according to the Industrial Development Authority (IDA).

Green Airports & Ports

Cairo International Airport cut energy use per passenger by 12.2% through smart building controls, LED upgrades, and 4 MW of solar power, while Borg El Arab and Hurghada airports rolled out similar solar and efficiency retrofits.

In the Suez Canal Economic Zone (SCZONE), new green hydrogen incentives are backing clean methanol and ammonia ship-bunkering infrastructure, according to the MoPMR.

Conclusion

Globally, energy efficiency has become an increasingly important driver of economic competitiveness and energy security, particularly as energy demand continues to grow and the transition towards cleaner energy sources accelerates.

However, global progress remains below the pace required to achieve international efficiency ambitions, highlighting the need to make better use of existing energy resources rather than relying primarily on expanding supply.

Egypt has made meaningful progress in establishing an energy-efficiency framework and translating its objectives into sectoral initiatives.

However, the findings reveal that progress in improving energy efficiency remains uneven, while growing energy demand continues to place pressure on the country's resources and economic competitiveness.

This suggests that the challenge is not simply a matter of expanding energy supply or introducing additional policies, but of improving how energy is managed and utilized across the economy.

The greatest opportunities lie in addressing inefficiencies in energy-intensive industries, transforming transport systems, and improving energy performance in buildings.

Existing projects demonstrate that practical solutions can generate operational and economic benefits; however, their broader impact depends on consistent implementation, effective enforcement, and the ability to scale successful experiences.

Moving forward, Egypt needs to shift its focus from policy development towards results-oriented execution. This requires stronger institutional coordination, greater private-sector participation, accessible financing, technical capacity building, and reliable mechanisms for measuring actual performance.

Ultimately, energy efficiency must be treated not as a complementary component of Egypt's energy strategy, but as a central pillar of its economic development.

Its successful integration into industrial and economic planning can help reduce resource pressures, strengthen productivity, and build a more competitive and resilient economy.

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