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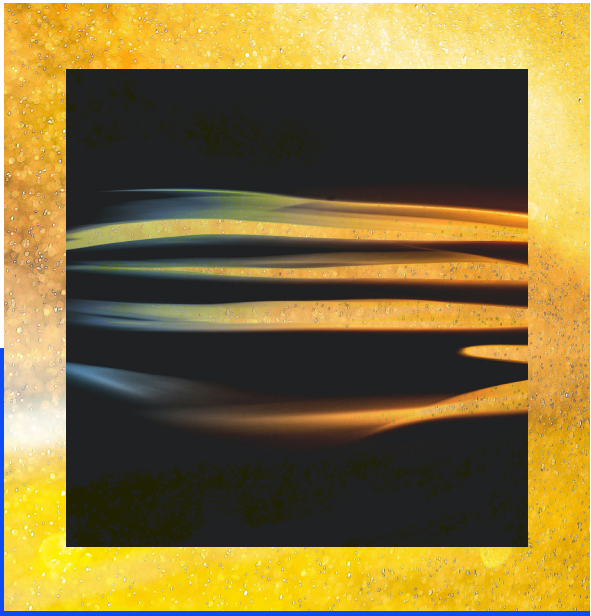
Harnessing Energy Demand Restraint: A Policy Roadmap for Ukraine



Discover Ukraine's potential to improve its energy system through a comprehensive and integrated policy approach.

Experience the full roadmap at
iea.org/programmes/eu4energy

Demand Restraint

Energy demand restraint encompasses a range of policies and practices to **increase energy efficiency**, **reduce energy imports** and **improve operational flexibility and resilience**, particularly in the short term. Benefits of demand restraint include:

- **Energy security**
- **Better economic performance**
- **Environmental sustainability**
- **Community wellbeing**

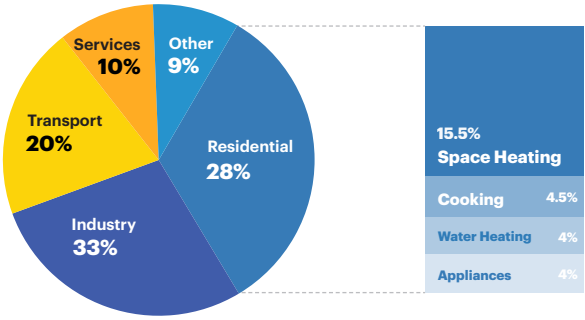
Ukraine's energy sector is characterized by a **rapidly deteriorating energy infrastructure**, **dependence on energy imports**, and **low resilience to disruption**.

Ukraine Energy Consumption Trends

Energy Consumption, by Sector

33%	28%	20%	19%
Industry Primarily iron + steel production	**Residential** Primarily space heating	**Transport**	**Services + Other**

Ukraine Total Final Energy Consumption By Sector (With Residential Breakdown), 2019



Source: IEA (2020), World Energy Balances Database; residential breakdown based on IEA (2019), Energy Efficiency Indicators Highlights, p. 148.

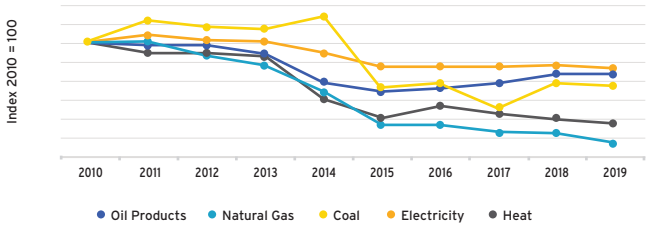
Energy Consumption, by Source

40%	22%	21%	17%
Natural Gas With the addition of heat	**Oil** Primarily transport	**Electricity**	**Other**

Trends and Strategic Goals

Although the most consumed fuel is natural gas, its use has fallen considerably in recent years, unlike consumption of oil products, which have grown steadily since 2015.

Ukraine Total Final Consumption Rate Of Change By Energy Source, 2010-2019

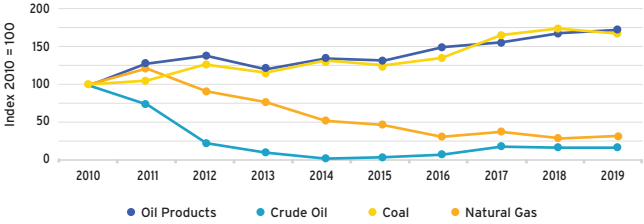


Source: IEA (2020), World Energy Balances Database, OECD/IEA, Paris.

Recent energy import trends largely mirror domestic fuel consumption.

+ Substantial declines are evident for **natural gas** and **crude oil**
+ Rising consumption of **oil products** and **coal imports**

Ukraine Rate Of Change In Energy Imports, 2010-2019



Source: IEA (2020), World Energy Balances Database, OECD/IEA, Paris.

Ukraine's recent energy consumption trends point to several areas where demand restraint would have the most effective impact.

High-Consuming Energy Sectors	***Residential, Transport, Industry and Energy Utility/Power***
Key Drivers Of Consumption Within Sectors	***Space Heating, Road Transport, Iron and Steel***
High-Consuming, Import-Driven Energy Sources	***Oil Products***

To achieve the benefits of demand restraint, Ukraine must take a comprehensive and integrated policy approach building on the following strategic goals.

- **Improve energy efficiency**
- **Reduce fuel imports**
- **Harness demand restraint during supply emergencies**

Proposed Policy Measures

Residential Sector

Improve Energy Efficiency + Reduce Fuel Imports

Measures focusing on improving space heating and building energy efficiency will help advance demand restraint and energy-saving in the residential sector.

Expand	+ Energy efficiency programmes for existing buildings + Building energy performance certification coverage
Strengthen	+ Energy efficiency standards for new construction + Energy efficiency building code monitoring and enforcement
Consider	+ Financial incentives for efficient heating appliances
Complete	+ Metering and energy control technology rollouts
Offer	+ Complementary information and education programmes

Transport Sector

Improve Energy Efficiency + Reduce Fuel Imports

Road transportation dominates energy consumption in this sector and therefore offers significant demand restraint opportunities.

Upgrade	+ Fuel economy standards for all vehicle imports + Fuel excise taxation to encourage switching away from imported fuels
Implement	+ Vehicle fuel efficiency labelling for all domestic vehicles + Measures to speed deployment of heavy freight and public passenger vehicles using domestic alternative fuels
Develop	+ Financial assistance packages to encourage fuel-efficient new purchases

Harness Emergency Demand Restraint

Develop	+ An integrated emergency demand restraint strategy incorporating primary and complementary measures supported by a comprehensive communications strategy, which is tested regularly

Industry Sector

Improve Energy Efficiency + Reduce Fuel Imports

Support

+ Establishing voluntary contractual mechanisms to encourage energy efficiency
+ Developing industry networks to improve education and information exchange
+ Partnerships between smaller businesses and energy services companies

Develop

+ A more rigorous and comprehensive energy auditing and management framework to identify and implement demand restraint options
+ Financial incentives to accelerate the deployment of energy-efficient equipment

Energy Sector

Improve Energy Efficiency

Develop

+ Mandatory measures to improve energy efficiency
+ Regulatory incentives to improve generator efficiency and reduce network losses

Offer

+ Financial incentives to address critical investment constraints on sector modernisation, along with updated power network planning and development frameworks

Reduce Fuel Imports

Expand

+ Consumption mandates for renewable energy

Strengthen

+ Review and improve the rules governing renewable energy support

Harness Emergency Demand Restraint

Fine Tune

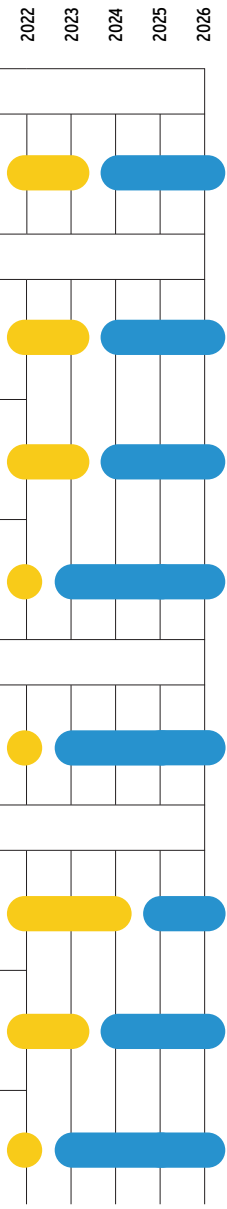
+ Regulatory mechanisms and protocols for managing demand restraint

Develop

+ An integrated emergency demand restraint strategy incorporating targeted voluntary and contractual mechanisms, supported by a comprehensive communications strategy, which is tested regularly

Five-Year Outlook

ACTION	CATEGORY
Residential	
Expand energy efficiency programmes for existing buildings and strengthen standards for new ones	Improve Energy Efficiency
Transport	
Upgrade fuel economy standards for vehicles and implement fuel efficiency labels for vehicle sales	Improve Energy Efficiency
Accelerate deployment of heavy vehicles and public transport vehicles using alternative fuels	Reduce Fuel Imports
Develop primary demand restraint measures to deploy during emergency events	Harness Emergency Demand Restraint
Industry	
Support efforts to improve energy efficiency auditing and management systems	Improve Energy Efficiency
Power and District Heating	
Develop regulatory measures to improve generator efficiency and reduce network losses	Improve Energy Efficiency
Extend consumption mandates for renewable energy	Reduce Fuel Imports
Prepare and regularly test an integrated demand restraint strategy for the power sector	Harness Emergency Demand Restraint



An extended set of policy recommendations is included in the full roadmap

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