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
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

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>33%</td>
</tr>
<tr>
<td>Residential</td>
<td>28%</td>
</tr>
<tr>
<td>Transport</td>
<td>20%</td>
</tr>
<tr>
<td>Services + Other</td>
<td>19%</td>
</tr>
</tbody>
</table>

- **Industry** Primarily iron + steel production
- **Residential** Primarily space heating
- **Transport**
- **Services + Other**

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

- **Residential** 28%
- **Industry** 33%
- **Transport** 20%
- **Services** 10%
- **Other** 9%

#### Energy Consumption, by Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>40%</td>
</tr>
<tr>
<td>Oil</td>
<td>22%</td>
</tr>
<tr>
<td>Electricity</td>
<td>21%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
</tr>
</tbody>
</table>

- **Natural Gas** With the addition of heat
- **Oil** Primarily transport
- **Electricity**
- **Other**

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.

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

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.

<table>
<thead>
<tr>
<th>Expand</th>
<th>Strength</th>
<th>Consider</th>
<th>Complete</th>
<th>Offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Energy efficiency programmes for existing buildings</td>
<td>+ Energy efficiency standards for new construction</td>
<td>+ Financial incentives for efficient heating appliances</td>
<td>+ Metering and energy control technology rollouts</td>
<td>+ Complementary information and education programmes</td>
</tr>
<tr>
<td>+ Building energy performance certification coverage</td>
<td>+ Energy efficiency building code monitoring and enforcement</td>
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</tr>
</tbody>
</table>

### Transport Sector

**Improve Energy Efficiency + Reduce Fuel Imports**

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

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

**Harness Emergency Demand Restraint**

+ 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
+ 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
+ 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

### 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

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

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