EU-MORE

EUropean MOtor REnovation initiative

Hungary

Review of past and existing policy options for the acceleration of electric motor renovation

EU-MORE

Authors:

Erik Faassen (IEECP)

List of Acronyms

Acronym	Text
NECP	National Energy and Climate Plan
NCDS	National Clean Development Strategy
NES	National Energy Strategy
MEKH	Hungarian Energy and Public Utility Regulatory Office
SME	Small and Medium Enterprise

EU-MORE is an acronym for
EUropean MOtor
REnovation initiative

1. Hungary

Introduction and description of the national policy framework and important related national programmes, measures and/or developments:

Taken directly from IEA Executive Summary (2022)

"The major priorities for Hungary's climate and energy policies relate to energy security, reducing fossil fuel use and keeping energy prices affordable. This new review presents a range of recommendations to the government of Hungary to help address its key energy policy challenges, notably the low levels of energy efficiency progress (buildings, transport), high vulnerability and reliance on Russia for gas, oil and nuclear fuel, regulated energy prices which may act as a barrier to clean energy investments, as well as the need for increased resources to deliver the transition.

Hungary was among the first countries globally to turn its 2050 emissions target into a legal commitment with the adoption of the Climate Protection Law in 2020. Hungary's medium- and long-term energy and climate policy is guided by the National Energy and Climate Plan (NECP) of 2020 and the National Clean Development Strategy (NCDS) of 2021.

The NCDS supports energy policy making with early or late action scenarios running up from 2030, 2040 to 2050. Reaching the 2050 target is possible, but will require developing clear policy road maps with key milestones set per sector, which will need to be monitored closely to allow early corrective actions to be taken, as needed.

Hungary's Climate Protection Law also sets out medium-term energy targets: after 2030, increases in final energy consumption above the 2005 level need to be provided exclusively from carbon-neutral energy sources, and renewable energy sources should reach at least a 21% share of gross final energy consumption by 2030.

Hungary merged the governance responsibilities for energy and climate policies within the Ministry of Technology and Industry. Bringing the two policies under one ministry facilitates the integration of climate and energy policy planning. The creation of a dedicated Deputy State Secretary for Climate Policy reflects the growing importance of climate policy within the government.

Hungary has seen rising energy demand reaching 753 PJ in 2020. Efficiency efforts have not been able to decouple energy demand from economic growth, notably in transport and industry.

Under Hungary's NCDS, energy efficiency needs to increase strongly. By 2030, final energy consumption should be reduced to 734 PJ, assuming early action on energy efficiency, and ultimately to around 500 PJ by 2050. However, Hungary's NECP of 2021 has less ambitious energy efficiency targets for 2030, capping the country's final energy consumption to 785 PJ, which is the 2005 level.

In its NECP, the Hungarian government acknowledges the importance of energy efficiency to reach climate targets and ensure energy security. However, the energy efficiency first principle is not specifically recognised, neither in the NECP nor in the National Energy Strategy (NES), which has an outlook for 2040.

The government has divided responsibilities for energy efficiency policy design, funding, implementation, and monitoring and evaluation among different government institutions and other responsible entities. Across ministries, governmental institutions and non-governmental organisations, as implementing authorities, the key challenge is often the lack of skilled professionals. To bridge this gap, the government should support the administrative realignment of energy efficiency responsibilities through, for example, the creation of a dedicated energy efficiency agency that would bundle the available technical skills and financial measures and facilitate access to energy efficiency programmes. Such an agency could work with local authorities to support them in the technically complex implementation of multi-year deep renovation projects.

Household retail prices for electricity and natural gas have long been capped in Hungary, with the objective to keep prices for households affordable and to avoid exposing households to price volatility. However, such regulated energy prices are available to all household consumers and small businesses, not only vulnerable ones, and as such hamper decarbonisation efforts, consumer choice and retail competition. The electricity and gas price regulations are planned to be reviewed, taking into account the tools published in the European Commission's Communication of 23 March 2022.

The regulatory framework needs to be revised to reach the highest possible retail market liberalisation in gas and electricity, including the elimination of administratively determined end-user prices. Protection measures should focus on vulnerable customers and less well-off households as part of social policy rather than energy policy. In July 2022, the government decided to deregulate gas and electricity retail prices for households with consumption above average levels and increase them towards market prices.

Key Recommendations:

- In line with the REPowerEU, the net zero target and Fit for 55 package, adopt increased ambitions on energy efficiency, renewables and low-carbon technologies and strengthen the 2030 greenhouse gas and sectoral emissions targets. Update the National Energy and Climate Plan and the policies and measures required.
- Place energy efficiency at the centre of energy policy making by creating a dedicated body for the implementation of efficiency policies. Design a programme to reduce energy poverty with a focus on energy efficiency and social policy measures, reducing the scope of regulated end-user prices."

Brief evaluation of the overall size and scope of national actions in relation to the replacement of electric motors and the EU-MORE project as a whole

The size and scope of the Hungarian measures relating to the early replacement of electric motors remains (very) limited, with only a tax credit on energy efficiency investments that need to be approved by registered national auditors being eligible. Furthermore monitoring and verification hurdles that were encountered in the roll-out of the auditing requirement Article 7/8 EED demanded for more elaborate monitoring and verification practices at larger enterprises which directly led to the requirement to install sub-metering devices to allow auditors to monitor the efficiency of major energy consuming appliances.

No other policies relating to the replacement of electric motors in industry were found.

1.1 Measure 1: Corporate income tax credit for energy efficiency investments

	Overview
Short Description	The corporate income tax incentive was introduced in 2017 for the implementation and operation of new investments or refurbishments aimed at improving energy efficiency. Goal of the measure is to promote energy efficiency investments all over the business sector at large, medium, and small enterprises. In 2022 this rule was amended to include a wider geographic area.
Responsible Authority	Hungarian Energy and Public Utility Regulatory Office (MEKH)
Status	Ongoing
Issue Date	2017
Start Date	2017; amended in 2022
Ending Date	N/A
Duration	Ongoing
Reference:	Link

1.1.1 Main Description

A detailed description of the policy measure – including references to (if applicable) anchoring national law, EU directives, other schemes

The corporate income tax incentive aims to improve energy efficiency and promote energy efficiency investment across all business sectors in Hungary. The incentive scheme targets both large enterprises and small and medium-sized enterprises (SMEs).

The corporate taxpayer may enjoy tax relief when implementing an investment for energy efficiency enhancement purposes, such as the purchase of new equipment, machinery or other assets, switching to more efficient new equipment, machinery or implementing a refurbishment of existing assets or buildings. The tax return can reach up to 30% of eligible costs, but not more than the amount equivalent of €15 million at present value, which can be increased by 20% for small enterprises, and by 10% for medium-sized enterprises.

The tax relief may only be claimed on investments aimed at energy efficiency improvement. Such investments must be certified by an auditor registered at the Hungarian Energy and Public Utility Regulatory Office (MEKH). Investments to fulfil the mandatory environmental protection standards or minimum energy efficiency standards are not eligible for this incentive scheme. Taxpayers are obliged to provide data on the certified investment and the energy savings stemming from it.

The tax incentive can be used at the earliest in the tax year in which the investment became operational, and in the following five tax years. The project must be operated for at least five years. The tax incentive may only be claimed in connection with projects aimed at energy efficiency improvement. No tax credit can be applied with respect to investments aiming at

fulfilling the mandatory environmental protection standards or minimum mandatory energy efficiency standards. It is necessary for the taxpayer to obtain a certificate from an auditor registered at the Hungarian Energy and Public Utility Regulatory Authority that proves that the investment aims at improving energy efficiency by reducing energy consumption. The certificate should be based on the result of an energy audit. The taxpayer is obligated to provide data on the certified investment and the energy savings stemming from it.

	Characteristics
Budget	N/A
Financing of the measure	Tax credit
Policy focusses	Product
Intervention Type	Tax Relieve on EE investments, need to be approved by registered auditor
Main Barriers Addressed	Finance, ROI for EE investments
Key Driver(s)	EED Article 7/8
Replicability	High
EU Inclusion	Yes NECP, Art 7/8 EED
Related Characteristics	

1.1.2 Impacts

A detailed description of the final (expected) results of the measure implementation and any achievements related to the measure implementation.

Limited up-to-date information is available in English. The last found verified information on the cumulative annual energy savings through the measure are: 2018 -> 0,269 PJ and 39kt CO2 savings in 2018

	Impacts
Case level impact	Medium
Policy level impact	Low
Size	Unknown
Energy	2018 -> 0,269 PJ an 29kt CO2

Impact evaluation	Improved number of investments in Energy Efficiency in industry (and beyond)

Description of the method used for calculating the final energy- / cost- savings achieved through the measure.

Direct measurement of energy savings reported to the responsible authority (MEKH) through national auditors.

1.1.3 Lessons Learnt

Description of the lessons learnt and/or (initial) feedback gathered in response to the measure's implementation. The main barriers found that hamper and/or the conditions that are necessary for the implementation of the measure.

No up-to-date information was found on the measure's effectiveness. However, similar benefits as other tax credits on energy efficiency investments can be expected.

	Lessons Learnt
Key takeaways	Increased number of Energy Efficiency investments made by businesses
Recommendations	
Linked measures	• Energy Efficiency Obligation Scheme • Mandatory appointment of an energy manager in enterprises with large energy consumption • Mandatory energy audit for large enterprises • Requirement for large energy consuming enterprises to install sub-metering devices
Reference(s)	N/A
Other	Hungarian Energy and Public Utility Regulatory Office (MEKH)
Thoughts, comments, considerations …	N/A

1.2 Measure 2: Requirement for large energy consuming enterprises to install sub-metering devices

	Overview
Short Description	The requirement for large energy consuming enterprises to install sub-metering devices allows auditors to audit major energy consuming appliances or units at large energy consuming enterprises.
Responsible Authority	Hungarian Energy and Public Utility Regulatory Office (MEKH)
Status	Ongoing
Issue Date	2020, 16 January
Start Date	2020
Ending Date	
Duration	
Reference:	https://njt.hu/jogszabaly/2020-1-20-5Z

1.2.1 Main Description

A detailed description of the policy measure – including references to (if applicable) anchoring national law, EU directives, other schemes

From 1 January 2020, large energy consuming enterprises that are mandated to appoint an energy manager, or enterprises that apply for the corporate income tax relief are mandated by decree to install and operate sub-meters at the following metering points:

- Electronic appliances larger than 100 kW have to be measured separately – pumps, compressors, electric engines, etc.
- Heating appliances with electronic power larger than 140 kW have to be measured separately – HVAC units, heat pumps, etc.
- factory or building units, production line with a maximum load larger than 200 kW (excluding separately measured appliances).

Exceptions to the required sub-meter installation obligation are for the equipment whose operating times do not exceed 2,000 operating hours / year on average in the three years preceding the year in question.

All the above thresholds are halved as of 2022.

	Characteristics
Budget	Not Applicable
Financing of the measure	Not Applicable
Policy focusses	Physical
Intervention Type	Mandatory monitoring/metering for audits
Main Barriers Addressed	Lack of information, lack of awareness, lack of data/measurement
Key Driver(s)	MEKH decree 1/2020; Act 57/2015 on Energy Efficiency EED 7/8
Replicability	Medium
EU Inclusion	Yes
Related Characteristics	

1.2.2 Impacts

A detailed description of the final (expected) results of the measure implementation and any achievements related to the measure implementation.

The measure implementation will allow energy auditors to better implement monitoring and verification practices for large energy consuming enterprises and monitor the overall energy impact of companies. The measure implementation is directly related to the EED requiring mandatory energy audits to large enterprises. The required implementation of the sub-metering equipment allows read-out of actual energy consumption.

	Impacts
Case level impact	Low
Policy level impact	Low
Size	Limited
Energy	Very Limited
Impact evaluation	Enabler for energy consumption monitoring

Description of the method used for calculating the final energy- / cost- savings achieved through the measure.

Not Applicable

1.2.3 Lessons Learnt

Description of the lessons learnt and/or (initial) feedback gathered in response to the measure's implementation. The main barriers found that hamper and/or the conditions that are necessary for the implementation of the measure.

Measure was implemented as a result of having inadequate and unreliable access to information on the energy consumption of large energy consuming equipment in industry for Auditors energy audits.

This is a direct requirement for having an adequate monitoring and verification system in place before implementing policy.

	Lessons Learnt
Key takeaways	N/A
Recommendations	N/A
Linked measures	• Energy Efficiency Obligation Scheme • Mandatory appointment of an energy manager in enterprises with large energy consumption • Mandatory energy audit for large enterprises • Corporate income tax credit for energy efficiency investments
Reference(s)	https://njt.hu/jogszabaly/2020-1-20-5Z
Other	MEKH
Thoughts, comments, considerations ...	

1.3 Measure 3: Operational Programmes for Environment and Energy Efficiency 2021-2027

	Overview
Short Description	Measures with limited relation to the EU MORE objective are EC Operational Programmes: 1. Environmental and Energy Efficiency OP (KEHOP(+)) 2. Economic Development and Innovation OP (GINOP(+))
Responsible Authority	Innovációs és Technológiai Minisztérium (KEHOP, KEOP) Pénzügyminisztérium - Gazdaságfejlesztési Programok Ügyfélszolgálata (GINOP, GOP)
Status	Ongoing
Issue Date	2014
Start Date	2014
Ending Date	2027
Duration	13 years
Reference:	

1.3.1 Main Description

A detailed description of the policy measure – including references to (if applicable) anchoring national law, EU directives, other schemes

Environmental and Energy Efficiency OP (KEHOP) (KEHOP(+))
The programme aims to support sustainable growth and contribute to achieving the Europe targets for smart, sustainable and inclusive growth. It should improve flood protection, provide better waste and wastewater management services and good quality drinking water to more residents, help protect natural habitats and species, and it should improve energy efficiency and the use of renewable energy sources.

Funding priorities
The Programme will focus on five main priorities:

- Adaptation to climate change impacts
- Development of water supply, wastewater disposal and cleaning, wastewater management
- Waste management and environmental remediation related developments
- Nature protection and wildlife protection related developments
- Promoting energy and the use of renewable energy sources

Economic Development and Innovation OP (GINOP(+))
The programme aims to stimulate the economies of the less developed regions in Hungary. Its most important priorities are the competitiveness of small-and medium sized enterprises, research and innovation, and employment. The programme also aims to develop the tourism industry, enterprises' energy efficiency, and information and communication technologies. Moreover it will stimulate the use of financial instruments to cover other objectives, like increasing renewable energy production and improving the energy efficiency of households and public buildings.

Funding priorities
The Programme will focus on different main priorities:

- Increasing the competitiveness and productivity of SMEs
- Research, technological development and innovation
- Infocommunication developments
- Energy
- Employment
- Competitive labour force
- Tourism
- Financial instruments

	Characteristics
Budget	**KEHOP** **Cohesion Fund (CF)**: 3.131.268.934,00 € **Regional Development Fund (ERDF)**: 305.018.340,00 € **GINOP** **Funds** **Regional Development Fund (ERDF)**: 6.033.219.466,00 € **European Social Fund (ESF)**: 1.953.991.284,00 €
Financing of the measure	Directly funded through the EC Regional Development Fund (ERDF) the European Social Fund (ESF), and the Cohesion Fund (CF)
Policy focusses	Both
Intervention Type	Cross-cutting sustainability financing
Main Barriers Addressed	Cross-cutting
Key Driver(s)	EU Fund
Replicability	Low
EU Inclusion	Yes
Related Characteristics	

1.3.2 Impacts

A detailed description of the final (expected) results of the measure implementation and any achievements related to the measure implementation.

Expected Impacts (KEHOP, KEOP)

- 1,100,000 residents to benefit from flood protection measures;
- 340,000 additional persons served by improved water supply;

- 800,000 additional persons served by improved wastewater treatment;
- 60,000 tonnes/year additional solid waste recycling capacity; and
- **Annual decrease of greenhouse gas emissions by over 1,544,000 tonnes CO2eq.**

Expected impacts:

- Over 300,000 unemployed people – nearly half of them under-25 years old, will benefit from job creation initiatives, with 450,000 people set to participate in training to enhance employability;
- **Nearly 12,500 companies - including 1,500 start-ups to receive financial/advisory support, with 8,000 more assisted to enhance their use of e-services and ICT;**
- **Some 1,400 to benefit from improved energy and resource efficiency, while the programme will install 240 MW renewable energy production capacities;**
- Nearly 3,000 research jobs to be created, giving a boost to SME innovation activities and Hungarian research institutes, while improving cooperation among private and public research centres;
- A million households to be linked to the new generation broadband network, with high-speed internet coverage being rolled out country-wide; and

Some 1.6 million visitors expected to natural and cultural heritage sites as a result of investments in sustainable tourism – helping to grow local and remote economies.

	Impacts
Case level impact	Medium
Policy level impact	High
Size	?
Energy	No specific numbers available relating to motor replacement under the KEHOP and GINOP EC Operational Progrmmes
Impact evaluation	As per the above

Description of the method used for calculating the final energy- / cost- savings achieved through the measure.

N/A

1.3.3 Lessons Learnt

Description of the lessons learnt and/or (initial) feedback gathered in response to the measure's implementation. The main barriers found that hamper and/or the conditions that are necessary for the implementation of the measure.

N/A

	Lessons Learnt

Key takeaways	
Recommendations	
Linked measures	
Reference(s)	KEHOP Hungary, GINOP Hungary
Other	EC, National Government
Thoughts, comments, considerations …	The Operational Programmes stated here have (very) limited connection with the goals of the EU-MORE program and are only included in this review for reference

Table 1: National Policy Measure Overview - Hungary

#	Measure Title	Short Description	Type of Measure	Start Year	End Year	Duration	Target Groups	Source link / Reference	Case Level Impact of the measure
1	Corporate income tax incentive to trigger energy efficiency Investments	The corporate income tax incentive was introduced in 2017 for the implementation and operation of new investments or refurbishments aimed at improving energy efficiency. Goal of the measure is to promote energy efficiency investments all over the business sector at large, medium, and small enterprises.	Tax incentive	2017; amended 2022	Ongoing	Ongoing	Companies	link	Medium
2	Requirement for large energy consuming enterprises to install sub-metering devices	The requirement for large energy consuming enterprises to install sub-metering devices allows auditors to audit major energy consuming appliances or units at large energy consuming enterprises.	Mandatory monitoring/metering for audits	2020	Ongoing	ongoing	Large Companies (energy intensive)	link	Low
3	Operational Programmes for Environment and Energy Efficiency 2021-2027	Environmental and Energy Efficiency OP (KEHOP(+)) Economic Development and Innovation OP (GINOP(+))	Funding for Sustainability	2014	2027	13 years	Cross-cutting	KEHOP GINOP	Medium