



**REKK** REGIONAL CENTRE  
FOR ENERGY  
POLICY RESEARCH

# RENEWABLE ENERGY AND ENERGY EFFICIENCY QUARTERLY

## EDITORIAL

We have launched this newsletter to provide timely and concise information on the development of renewable energy markets and energy efficiency policy developments in Hungary and in Europe.

This issue features the following highlights:

- ◆ The Hungarian Strategy on the Energy Use of Buildings: The long awaited building strategy is launched for public consultation, the action plan for its implementation due in mid 2015. The majority of savings (78%) is expected to materialise in the residential building sector. The planned financial resources are EU funding and the revenues from GHG quota sales, coupled with private funding.
- ◆ RES-E generation:
  - Small increase in 2013 and still behind the interim target, but the overall 2020 Hungarian RES target can be achieved without meeting the official RES-E target in 2020.
  - 34% increase in 2014 Q1-Q3 compared to same period in 2013, thanks to the increasing production of the operating biomass power plants.

- ◆ Delayed Energy Efficiency Directive: Transposition infringement procedure against Hungary entered second stage
- ◆ New EU-wide 2030 targets: 40% GHG reduction, 27% RES share; 27% Energy Efficiency improvement. A shift to a cost efficient burden sharing scheme could hurt Hungary's interests
- ◆ EU funds available in Hungary for renewable energy and energy efficiency investment in the 2014-2020 period: 754 m€. The institutional setting and the allocation method for those funds are not yet decided.

We truly hope that you find these information valuable,



András Mezősi

Editor-in-chief

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## FOCUS

### THE HUNGARIAN STRATEGY ON THE ENERGY USE OF BUILDINGS

*The long awaited building strategy is launched for public consultation and the action plan for its implementation is due in mid-2015. The majority of savings (78%) is expected to materialise in the residential building sector. The planned financial resources are EU funding and the revenues from GHG quota sales, coupled with private funding.*

The aim of the document is to provide a policy framework for energy use reduction in the Hungarian buildings stock that is currently responsible for 40% of total energy use. Due to its energy saving potential, the building sector is very much in focus within the European energy efficiency policy. The Energy Performance of Buildings Directive (EPBD – 2010/31/EU) mandates Member States to set their national minimum energy requirement (at cost optimal level) and ensure that new and existing buildings undergoing major refurbishment meet these criteria. The Energy Efficiency Directive (EED - 2012/27/EU) requires the preparation of building strategies to be submitted by 30th April 2014 (Art 4) and the refurbishment of 3% (measured in total floor-space) of public buildings owned or used by the central government annually (Art 5).<sup>1</sup> Together, EED and EPBD provide a framework for MSs to drive the reduction of energy use in buildings.

The public consultation of the draft Strategy has been launched on 11 September 2014 and written comments could be submitted by 11 October 2014.<sup>2</sup> As a next step, the Ministry of National Development will submit the final draft for approval to the government.

The Strategy defines energy savings targets for three types of buildings: residential houses, public and service sector buildings. The overall energy savings target is 49 PJ primary energy by 2020 that is derived from the energy savings for-

**Table 1 The saving target (2020), the estimated scope and investment need**

	2020 energy savings target (PJ)	Draft Strategy		REKK calculations	
		Number of refurbished flats by 2020 (thousand)	Estimated total investment cost by 2020 (bn HUF)	Number of refurbished flats by 2020 (thousand)	Estimated total investment cost by 2020 (bn HUF)
Detached houses	17.6	130	743	169	505
Block houses built with industrial technology	12.8	380	536	337	488
Traditional multi-flat houses	8	190	329	255	294
<b>Residential subtotal</b>	<b>38.4</b>	<b>700</b>	<b>1608</b>	<b>760</b>	<b>1286</b>
Public buildings	1.6	2.4	152		
Service sector buildings	4				
Other building related savings	5				
<b>Total</b>	<b>49</b>				

seen in the Energy Strategy – 2030. The additional savings of 5 PJ are due to the improvement of metering, better consumer awareness and the increased utilisation of renewable energy sources.

REKK has prepared a background study for the development of the Strategy that contained various refurbishment scenarios for residential and public buildings. The results of the calculation indicated that if the 3 sub-targets were considered in the optimal refurbishment sequence of residential buildings, the overall cost of 38.4 PJ savings by 2020 is 1286 bn HUF achieved by the modernisation of less industrial buildings and more detached houses and traditional multi-flat buildings at lower average unit cost (compared to the figures of the Draft Strategy). If no sub-targets are defined, the cost of reaching the same amount of overall savings is only 1185 bn HUF.

### REKK OPINION

*The Strategy is built on a set of pre-defined energy savings sub-targets for the three main residential building types. However, an ideal refurbishment strategy would only consider the unit cost and savings potential of individual buildings, therefore we consider the setting of different sub-targets redundant. The current targets unduly prioritise the refurbishment of block houses built with industrial technology. The improvement of the energy performance of buildings is the only sustainable way of reducing the utility costs of households.*

The Strategy defines 14 policy measures including the introduction of new financial mechanisms for supporting renovation activities (financed by EU funds and GHG quota sales coupled with private resources), the promotion of renewable energy utilisation (solar collectors, heat pumps and PV), the regular monitoring and review of minimum energy requirements and the effectiveness of the building certificate system, the preparation of energy requirement for central and local governmental buildings, R&D (new technologies, public health effects and energy poverty) and awareness raising measures (campaigns and advisory centres). The Strategy includes deadlines and responsible bodies for each policy measures, however the tools of implementation and the associated costs are to be defined in the Action Plan scheduled to be finalised by June 2015.



# DEVELOPMENT OF TECHNOLOGY PRICES

## ESTIMATED LEVELIZED COST OF ELECTRICITY

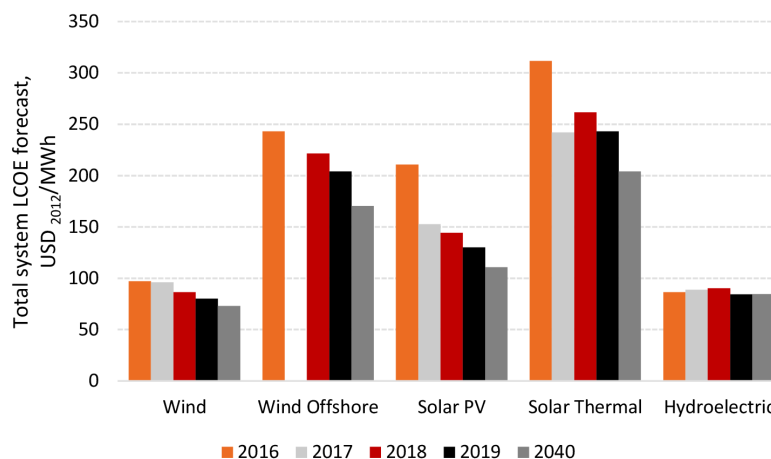
The U.S. Energy Information Administration (EIA) is one of the major institutions preparing reliable and sound LCOE calculations. The Levelized Cost of Electricity (LCOE) is the main index used for comparing the generation costs of different technologies. Using LCOE, the overall competitiveness of a plant type is evaluated over an assumed financial life. LCOE contains the following cost items for the whole lifecycle: i) fixed costs (cost of building the plant, initial investment), ii) variable costs (operations and maintenance costs and fuel costs), iii) financing costs (cost of debt and cost of capital).

Table 2 presents the latest estimation for the different electricity generation technologies for plants starting operation in 2019.

The results are sensitive to the assumed utilization rate for each plant type (capacity factor). Besides, the overall levelized costs are also changing with the inclusion of subsidies. This table does not contain the impact of various incentives including state or federal tax credits (all investments and O&M costs are included).

Over the last 4 years the estimated LCOE values declined for all examined RES technologies. The LCOE estimates decrease further from 2016 to 2040 for some technologies (PV, solar thermal and offshore wind) but wind and hydro can be considered mature technologies.

Figure 1 LCOE estimated for RES



Source: EIA forecast 

## PRICE REGULATORY PREREQUISITES OF A SUCCESSFUL RENEWABLE DH SCHEME

*Presentations of the renewable district heating workshop are available in Hungarian at the REKK website.*

*László Nyíri: Geothermal and renewable DH in Miskolc*

*János Ádók: Geothermal DH experiences*

*Attila Péterffy: Experiences of the biomass DH plant in Pécs*

*Märt Ots: DH price regulation in Estonia*

*Péter Kaderják: Price regulation prerequisites of a successful renewable DH scheme*

**VISIT [WWW.REKK.EU](http://WWW.REKK.EU)**

Table 2 U.S. average Levelized Cost of Electricity (LCOE) for New Generation Resources (2012 \$/MWh) for plants entering service in 2019

Plant Type	Capacity Factor (%)	Levelized Capital Cost	Fixed O&M	Variable O&M (inc. fuel)	Transmission Investment	Total System Levelized Cost
Wind	35.0	64.1	13.0	0.0	3.2	80.3
Wind Offshore	37.0	175.4	22.8	0.0	5.8	204.1
Solar PV	25.0	114.5	11.4	0.0	4.1	130.0
Solar Thermal	20.0	195.0	42.1	0.0	6.0	243.1
Hydroelectric	53.0	72.0	4.1	6.4	2.0	84.5

Source: U.S. Energy Information Administration (EIA)

# HUNGARIAN RES-E REGULATORY AND MARKET PANORAMA

## YEARLY DEVELOPMENT OF RES-E GENERATION IN HUNGARY

- *Small increase in RES-E generation in 2013 but still behind the interim target*
- *The overall 2020 Hungarian RES target can be achieved without meeting the official RES-E target in 2020*

The National Renewable Energy Action Plan (NREAP) set a non-binding target of 6.5% share of RES-E generation in gross final electricity consumption for 2011, 6.9% for 2012 and 7.5% for 2013. With the downturn from 2010 (due to less biomass-based generation) we are moving away from these objectives, even though the gross final electricity consumption is far below the originally projected quantity.

### REKK OPINION

**E**ven if Hungary was not able to meet the expected RES-E share set by the NREAP, its advancement towards the binding renewable energy target is of less concern. In 2012 the overall RES share was 2% points above the interim target, thanks to the rapidly growing share of RES in the heating sector. The heating sector is the most important sector from a RES perspective. First, it accounts for more than 50% of total final energy consumption, second nearly 75% of RES is used in this sector in Hungary. We can conclude that the 2020 RES target can be reached without meeting the RES-E target in 2020.

The sharp decrease in biomass-based generation in 2012 is due to the expiry of FIT-quotas for several co-firing plants (such as Mátra and Vértess power plants). Some of them continued to produce electricity without receiving feed-in tariff and started to sell more on the market, while others significantly reduced their production. From 2013 due to the additional allocation of quotas these plants will re-enter the FIT system and reverse the currently declining RES-E production.

As Figure 2 shows, the installed PV capacity increased rapidly in the last two years. In the last six

years, capacities increased from 0.36 MW to 35 MW, out of which 31 MW comes from small-sized (under 0.5 MW) systems. In addition to investment subsidies, net metering supported substantially the spread of PV systems – now more than 4800 are installed.

The total biogas capacity also increased significantly, from 18 MW in 2008 to 67 MW in 2013. Most of them are included in the FIT system, while only electricity production of sewage gas plants is usually used on site.

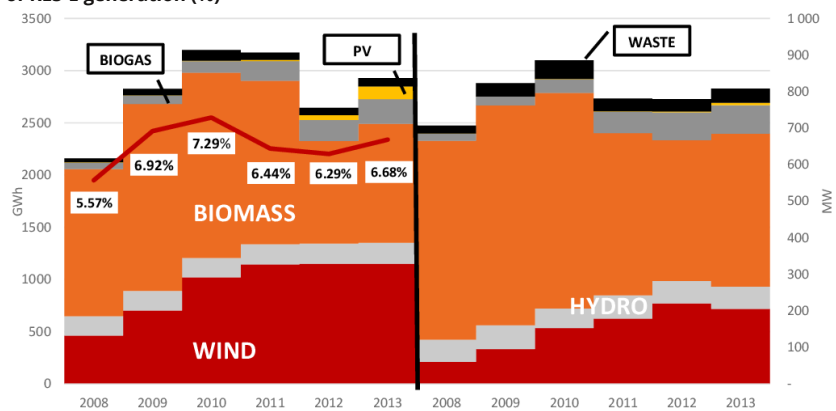
The Hungarian Energy Office organised the second wind tender in 2009, but it was withdrawn before the announcement of results. Since then there is no possibility to build new wind capacities or obtain licenses for operation. Both the installed capacity and the generation of wind plants increased at the beginning of the observed period (as the result of the licenses allocated in the 2006 tender) but this trend stopped in 2013 and will remain so until a new tender is announced.

## MONTHLY DEVELOPMENT OF RES-E GENERATION IN HUNGARY

- *34% increase in RES-E generation in 2014 Q1-Q3 compared to same period in 2014*
- *Increase is caused by the surging production of the operating biomass power plants*

Comparing the first three quarters of 2013 and 2014, an increase in FIT generation is visible (with the exception of one month) mostly due to the higher capacity eligible for FIT (730 MW in 2014 compared to 650 MW in 2013). The total generation in this period of the year was 1383 GWh in 2013 (5% of gross inland electricity consumption),

Figure 2 Renewable electricity generation (GWh), installed capacity (MW) and the share of RES-E generation (%)



Source: MEKH

and 1852 GWh in 2014 (6% of gross inland electricity consumption of the equivalent period).

The unit cost of FIT support is only calculated for 2014, as a regulatory change at the beginning of the year (for more information, see our Q3 report) make the values incomparable with the previous year. The mean cost in the first three quarters was 1.52 HUF/kWh, which is quite high compared to the mean hourly base load HUPX price of 11.57 HUF/kWh (38.3 EUR/MWh) for the equivalent period. We calculated the values from the total cost of FIT (including the exact FIT support received by producers excluding the price of electricity, the cost of balancing energy and the operation expenses of the FIT balancing group), divided by the total consumption for every month. This is however not the contribution every end user has to face, as from 2014 - due to the above mentioned regulatory change - the household customers are exempted from the payment of this element of the electricity price.

## CHANGES IN LEGISLATION

In the period of early September-late November no change occurred.

## CHANGES IN RENEWABLE CAPACITIES BASED ON MEKH RESOLUTIONS

### 6 MWe New RES-E Licenses were Issued

To give a comprehensive view on the recent developments, we reviewed the resolutions issued by MEKH in June-November 2014. Overall, few renewable licenses were issued, altogether around 6 MWe.

## Prospective Wind Producers Sue the State

Three wind power companies (Kiskun Szélpark, Felső-Bácska Szélpark and Almási Szélpark Kft.) applied for a power producer's license at MEKH. The companies are registered to the same address and likely represent the same owners. Current regulation only allows wind power plants to connect to the grid if they have successfully obtained a license from a wind power tender. So far, only 330 MW was awarded without a tender in 2006. These three companies (representing a wind power park of 30 MWe) have already obtained a number of licenses (but not the grid connection licence) and sued the Hungarian state for not allowing them to connect to the grid. The trial is ongoing but previously MEKH issued several similar resolutions rejecting such claims.

## Few Renewable Power Plants are to Connect to the Grid

Five PV producers received license for feed-in tariff, altogether representing 2.8 MWe capacity. On average, solar parks have a capacity around 0.5 MWe and receive feed-in tariff for 25 years. These units will start commercial operation end of 2015 latest. Feed-in volumes were set assuming 13-15% annual utilisation.

Five (agricultural) biogas and landfill gas plants will connect to the grid by the end of next year, adding up 2.8 MWe capacity. Plants received feed-in for 3-9 years, the regulator assumed 80-90% utilisation for each unit. A 0.33 MW hydro-power plant will connect to the grid in spring 2014.

## GEOTHERMAL CONCESSIONS

The Hungarian Mining Office (MBFH) is in charge of auctioning concession areas for geothermal exploitation. The tendering procedure opened in June 2014 and winners were selected in late November. The area of Battonya (358.5 km<sup>2</sup>) was awarded to EU-FIRE EGS Hungary Kft. (a joint venture of Mannvit), an international engineering firm and the Hungarian private company EU-Fire. The company has 60 days to sign the contract for the utilisation of the area.

Figure 3 Monthly FIT generation (2013-2014 Q1-Q3) and cost of FIT support (2014)

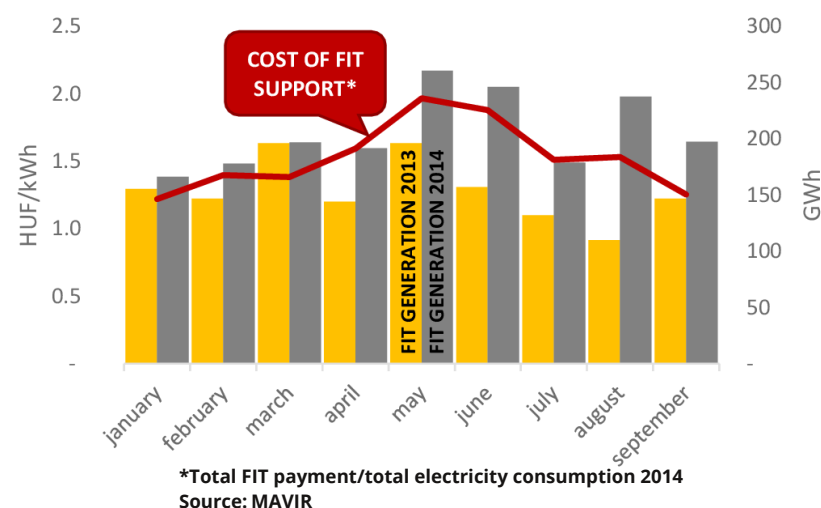















Table 3 Summary of MEKH resolutions

Power plant	Resolution	Resolution type	Fuel	Capacity (MWe)	Commercial operation / expected commercial operation*	Annual quota (MWh)	Period	Total quota
<b>Arrabona Depo Kft. - Győr</b>	2278/2014. 	New license	Landfill gas	0.499	01.01.2015.*	3743	2 years 9 months	10292
<b>Biogáz Alfa Kft.</b>	2344/2014. 	New license	Biogas	1.19	01.10.2014.*	9163	8 years	73304
<b>Ormánsági Biogáz Kiserőmű</b>	2559/2014. 	New license	Biogas	0.637	01.07.2015.*	4905	5 years 5 months	26977
<b>STF Kft. Hajdúszovát II</b>	2280/2014. 	New license	Biogas	0.4	01.01.2015.*	3080	9 years 1 month	27977
<b>Soproni szeméttelep</b>	2687/2014. 	Modification	Biogas, landfill gas	0.33	operating	2568	to 2016.12.31	6900
<b>Csőkemence Kft. Ökörtelek</b>	2310/2014. 	New license	Biogas, landfill gas	0.096	01.09.2014.*	720	5 years	3600
<b>Carpathia Vízerőmű Kft. Szentgotthárd</b>	2328/2014. 	New license	Hydro	0.31	01.04.2015.*	1225	25 years	30613
<b>Alba Naperőmű</b>	2659/2014. 	New license	PV	0.489	01.01.2015.*	550	25 years	13750
<b>Belvárdgyulai Napelemes kiserőmű</b>	2577/2014. 	New license	PV	0.405	28.08.2014.*	517	25 years	12925
<b>Csurgó naperőmű</b>	2658/2014. 	New license	PV	0.489	01.01.2015.*	550	25 years	13750
<b>SAMAS-Kistelek I. napelemes kiserőmű</b>	2613/2014. 	New license	PV	0.499	01.07.2015.*	605	24 years 10 months	15075
<b>Solar III Lengyeltóti Napelemes Kiserőmű</b>	2614/2014. 	New license	PV	0.45	01.10.2014.*	546	10 years 1 month	5504
<b>Théra Bt. – Mosonmagyaróvár</b>	2279/2014. 	New license	PV	0.495	15.11.2014.*	549	25 years	13723



## EU REGULATION

### DELAYED ENERGY EFFICIENCY DIRECTIVE

#### *Transposition infringement procedure against Hungary entered second stage*

The European Commission set 5 June 2014 as the deadline for transposing the Energy Efficiency Directive (2012/27/EU) by Member States into their national legislation. All but 4 countries (Cyprus, Italy, Malta, and Sweden) failed to meet the deadline, therefore infringement proceedings were initiated against them in July 2014, by sending a request for information on their compliance, the so called „Letter of Formal Notice“. The infringement procedure ended at this first stage for most of the countries, except Hungary and Bulgaria, which failed to provide satisfactory evidence of progress on their transposition. Therefore, they were formally requested to fulfil their obligations in a „Reasoned Opinion“ on 26 November. The two states have to notify within two months the Commission the measures of compliance otherwise they may be referred to the Court of Justice - as the third step of the infringement process - and might receive a financial penalty. Article 7 notification of Hungary, aimed at informing the Commission on the approach to achieve an annual 1.5% cumulative end-use energy savings target by end of 2020, lacks most details of implementation,<sup>3</sup> while the National Energy Efficiency Action Plan due on 30 April 2014 has not yet been submitted by Hungary.<sup>4</sup>

### LONG-AWAITED DEAL ON THE EU'S 2030 ENERGY AND CLIMATE GOALS

**New EU-wide 2030 targets: 40% GHG reduction, 27% RES share; 27% EE improvement**  
***A shift from the present to a cost efficient burden sharing scheme could hurt Hungary's interests***

After lengthy negotiations, EU leaders decided on a set of new climate and energy targets to be reached by 2030. The agreement concluded on 23 October 2014 includes a 40% cut in EU-wide carbon emissions compared to the 1990 level, and 27% - 27% targets respectively for renewable energy share and energy efficiency gains. The 40% GHG reduction target will require a 43% cut in EU ETS sectors and 30% decrease in the non-ETS sectors compared to 2005. The non-ETS EU target still has to be translated into national targets.<sup>5</sup> The objective of 27% share of renewable

energy in final energy consumption will be binding at the EU level, without setting member state-level targets. The indicative (non-binding) target of 27% energy efficiency improvement to be reached by 2030 compared to consumption projections is to be reviewed by 2020. The Commission will take necessary steps in case of under-achievement.

### REKK OPINION

**A**lthough the agreement does not specify the burden sharing rule that will be applicable to the non-ETS sectors of Member States in the 2020-2030 period, it outlines the main direction in which the current mechanism will be modified. The present “solidarity based” method (GHG reduction targets based on relative GDP per capita) will be replaced by a new mechanism that better reflects the relative cost-effectiveness of mitigation options available to Member States. Moreover, there is an intention to enhance the availability and utilization of the flexibility instruments that permit cross-country exchange of abatement options to further increase the efficiency of the system. As the current burden sharing agreement for 2020 allows Hungary to even increase its non-ETS sector emissions by 10% compared to 2005, a cost-efficient allocation would increase the cost of compliance, depending on the availability of low-cost mitigation options and financing alternatives.

### ERRA Course: Introduction to water utility regulation

February 16-20, 2015, Budapest

The course features 5 days dedicated to the core responsibilities and activities of water utility regulatory authorities with regard to the oversight of the regulated utilities, principles and practices of tariff setting, performance benchmarking, and new developments in the regulation of the sector.

The level of the course is introductory: it aims to provide basic, but comprehensive training. Participants will gain knowledge on key economic concepts guiding the operation of the sector, the challenges faced by sector participants including the wider problems of water management, and the role of the regulator and regulatory models including best practices.

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# MONITORING OF INVESTMENT SUPPORT OPTIONS

## RES AND EE GRANTS IN THE HUNGARIAN OPERATIVE PROGRAMMES 2014-2020

- *EU funds available in Hungary for renewable energy and energy efficiency investment in the 2014-2020 period: 754 m EUR*
- *The institutional setting and the allocation method for those funds are not yet decided*

The Hungarian Government signed the Partnership Agreement for the 2014-2020 funding period with the European Commission this summer and accepted the related Operative Programmes this autumn. The OP documents are under final approval by the Commission and at this final stage only minor changes are to be expected.

Renewable energy investments will be primarily financed by the Environmental and Energy Efficiency OP. In addition, local authorities can apply from the Regional OP for their energy projects, whereas private companies are eligible for funding under the Economic Development and Innovation OP in case they set up RES heat or electricity generating capacities for their own consumption.

Calls for applications are published continuously. Currently drinking water enhancement and sewage investment tenders are the only open tenders under KEHOP assistance. The current calls all relate to "derogational issues" where the risk of non-compliance with the final OP (still not approved yet) is negligible as these calls are pre-financed from national sources.

**Table 4 EU funds available in Hungary for renewable energy and energy efficiency investment in the 2014-2020 period**

Operative Programme	Projects eligible for assistance	Available budget (billion HUF)	Available budget (million EUR)
<b>KEHOP (Environmental and Energy Efficiency OP)</b>	private companies generating energy to the network and local authorities in case of commercial energy generation	44 (23+21)	143 (75+68)
<b>TOP (Regional OP)</b>	local authorities in case of public purpose generation (except Budapest and Pest county)	36: public purpose energy generation from RES 86: energy improvement of buildings (26 for RES and 60 for energy efficiency)	117 279 (84+195)
<b>GINOP (Economic Development and Innovation OP)</b>	companies which set up energy generation capacity for their own usage	3: generation for own consumption from RES 63: energy improvements of buildings (renewables sources and energy efficiency)	10 205

Source: Hungarian Government, Széchenyi 2020 documents

## REKK OPINION

*These funds play a significant role in realizing medium and long-term energy plans, however not enough to achieve Hungary's RES ambitions without other financial sources. Contrary to the previous funding period the two main development areas - energy efficiency and renewable energy - will be tendered together, which makes combined projects more easily fundable.*

*REKK supports the idea - expressed also by the European Commission during the negotiations - that preference is given to support allocation modes based on some form of competition. Similarly, the growing importance and separate budget for financial instruments (all other forms that non-re-fundable grants) is a step toward a more sustainable financing of RES and EE.*

## SUPPORT FOR THE RESIDENTIAL SECTOR

### 2.7 bn HUF support for energy efficiency investments in the residential sector

In the third quarter of 2014, three residential support schemes were initiated by the Ministry of National Development with a 2.7 bn HUF funding for the following actions:

- ◆ Replacement of doors and windows, shading
- ◆ Replacing major home appliances (fridge, freezer)
- ◆ Boiler replacement

Boiler, door and window replacement support granted 40% of the total investment cost (with an absolute ceiling on top as well). The support required the pre-financing of the investment by the households. The boiler replacement support fund was exhausted in several weeks. In December 2014 the total support for household appliances replacement was raised with 60 mn HUF.

## REKK OPINION

*The pre-financing required by the support scheme may exclude poorer households from the schemes. Furthermore, applying for the support requires a huge amount of red tape. Applicants need to spend several days preparing the required documents and uploading the full documentation onto a website. These two factors can easily bias the applications towards more affluent households that could carry out the investment without support.*

*Moreover, some contractors take advantage of the state support offering higher price for the execution of works.*

Table 5 Residential support schemes

	Total support m HUF	Type of support	Max. support level	Starting date	Availability (as of 18.12.2014.)
<b>Replacement of doors and windows, shading</b>	1100	pre-financing	40% of costs but max 450,000 HUF, or 520,000 if shading is included	26.11.2014.	still available
<b>New household appliances (fridge, freezer)</b>	687.6	non-refundable	50% of price but max 35,000 HUF	14.11.2014.	still available
<b>Boiler replacement</b>	1000	pre-financing	40% of total costs but max 650,000 HUF	14.11.2014.	funds exhausted 03.12.2014.

## REKK REPORTS

### THE EU'S 2030 CLIMATE AND ENERGY FRAMEWORK AND ENERGY SECURITY

Climate Strategies is a leading independent, international research organisation based in the UK. REKK experts participated in a joint work to assess the joint impact of energy efficiency programs and gas infrastructure development on the gas security of supply and on the gas wholesale prices of Europe.


Our study argues that there is no magic bullet to improving the security of supplies of natural gas, be it shale gas, LNG, internal market infrastructure, greater demand side efficiency or fuel substitution by renewables, etc. A comprehensive strategy of mutually reinforcing elements is essential. This strategy must encompass immediate short-term priorities as well as setting longer term goals. It must also give equal weight to both supply side (e.g. renewables, gas infrastructure, and new sources like shale or LNG) and demand side (e.g. consumption efficiency) options.

On the supply side, the EU must move urgently to support the completion of the short-list of infrastructure projects of common interest which the Commission has already identified. Since not all projects can be completed immediately, it makes sense to further focus policy and financial support on an even smaller priority list of infrastructure projects, which fill critical gaps in the EU's current disruption response system.

Demand side action is also essential to address the limitations of supply side options. Our analysis shows that while supply side measures can help to reduce the price risks of supply disruptions and improve price convergence, they do little to reduce the negative economic impacts EU imports of natural gas, nor to reduce average costs for consumers.


The potential dividends to reducing EU natural gas demand are big. Ambitious goals for energy efficiency and renewables under the 2030 Framework could lead to a 28% reduction of net gas imports (e.g. under the EE/RES30 scenario modelled by the Commission), and a 22% reduction of total energy imports compared to 2010. For gas, this roughly corresponds to current gas imports from Russia, or 7% of the EU's total energy import bill.

Our modelling analysis found that even a 10% reduction in annual natural gas demand (58 bcm/yr) by 2030 could lead to a roughly equivalent 13% decline in average prices across the EU27.





The study can be downloaded from the REKK website. 

### TOWARD 2030-DIALOGUE ISSUE PAPER: HOW CAN RENEWABLES AND ENERGY EFFICIENCY IMPROVE GAS SECURITY IN SELECTED MEMBER STATES?

In the framework of the Towards 2030-Dialogue Intelligent Energy Europe research project REKK and TUV Wien coordinated the work on a study, which assesses the potential contribution of renewables and energy efficiency to reduce gas import dependency. This fact-finding paper seeks to identify recent trends in natural gas use and import dependencies in 12 rather vulnerable EU Member States. It also analyses the potential to reduce insecurity of external gas supplies of these countries in the short and longer term up to 2030 by the higher deployment of renewable energy and by more stringent energy efficiency measures in the EU.

The policy paper can be downloaded from the project website 

### Notes

- 1 As of today, only Greece, Hungary, Luxembourg and Slovenia failed to submit its strategy. 
- 2 Draft Hungarian Strategy on the Energy Use of Buildings 
- 3 Energy Efficiency -Article 7 
- 4 National Energy Efficiency Action Plans 
- 5 European Council: Conclusions on 2030 Climate and Energy Policy Framework 