



## PannErgy Plc

QUARTERLY PRODUCTION REPORT

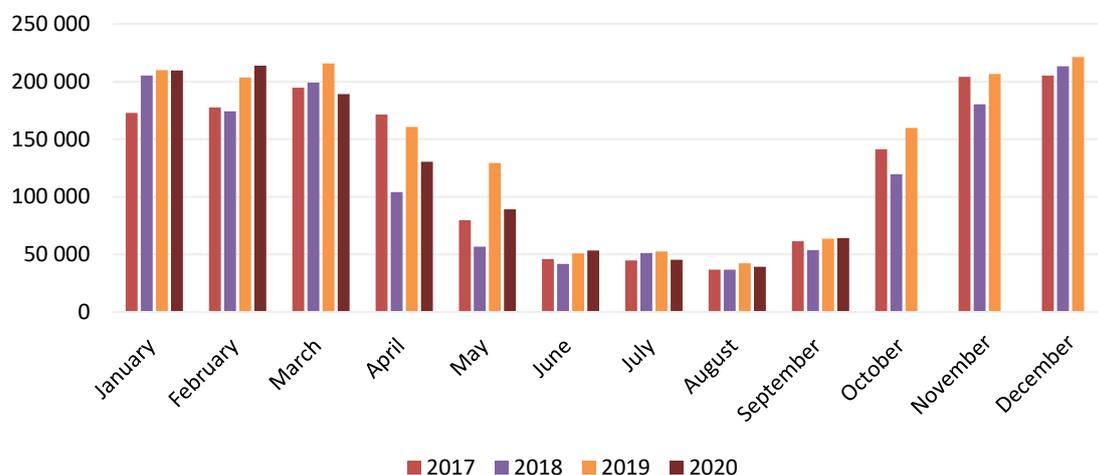
for the period of Q3 of 2020

15 October 2020

**This announcement is published in Hungarian and English languages. In case of any contradiction between these two versions, the Hungarian version shall prevail.**

**Introduction:**

PannErgy Nyrt. publishes a production report on a quarterly basis describing green energy production and use. The Company's report gives account of the condition of its key geothermal energy production systems, the experience related to their operation, and the data on green heat sold in the reporting period.



**Figure 1 Consolidated quantity of heat sold (GJ)**

*The chart illustrates the aggregate amount of heat sold by the Miskolc, Győr, Szentlőrinc and Berekfürdő projects, in a monthly breakdown.*

	2017	2018	2019	2020	2020 PLAN
January	172 758	205 199	209 999	209 715	
February	177 533	174 300	203 484	213 878	
March	194 634	199 090	215 693	189 214	
<b>Q1</b>	<b>544 925</b>	<b>578 589</b>	<b>629 176</b>	<b>612 807</b>	<b>621 403</b>
April	171 294	104 033	160 548	130 410	
May	79 700	56 758	129 300	89 190	
June	45 936	41 641	50 780	53 394	
<b>Q2</b>	<b>296 930</b>	<b>202 432</b>	<b>340 628</b>	<b>272 994</b>	<b>247 988</b>
July	44 865	51 247	52 406	45 297	
August	36 709	36 794	42 415	39 205	
September	61 502	53 650	63 731	64 096	
<b>Q3</b>	<b>143 076</b>	<b>141 691</b>	<b>158 552</b>	<b>148 598</b>	<b>164 526</b>
October	141 270	119 652	159 888	0	
November	204 045	180 263	206 686	0	
December	205 251	213 267	221 248	0	
<b>Q4</b>	<b>550 566</b>	<b>513 182</b>	<b>587 822</b>	<b>0</b>	<b>612 739</b>
<b>TOTAL</b>	<b>1 535 497</b>	<b>1 435 894</b>	<b>1 716 178</b>	<b>1 034 399</b>	<b>1 646 656</b>

**Figure 2 Consolidated quantity of heat sold, in GJ, in a table.**

A comparison of the 2020 Q3 heat sales figures with the data of the same period in historical years indicates that the Company realised average heat sales in the review period, while it fell short of the heat sales target by 10%. On nominal terms, the shortfall represents a modest value in view of the low thermal energy demand typical of the summer period.

The Company maintains its planned, updated cumulative heat sales target for 2020 (see Figure 2 above) published as part of the proposals of the Annual General Meeting closing the business year of 2019, and confirms its published annual EBITDA plan of HUF 2,530–2,600 million.

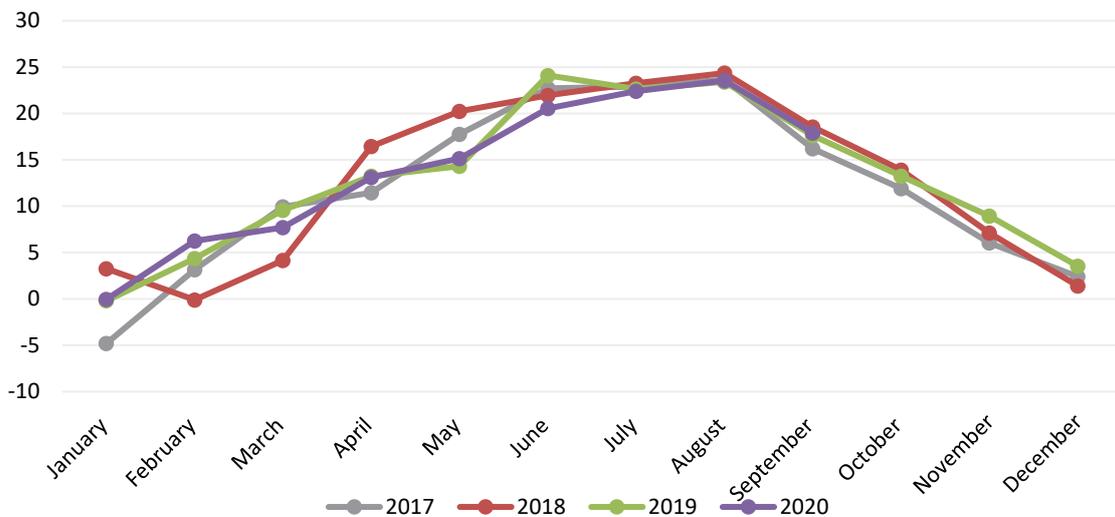


Figure 3 Average temperatures in 2017-2020

The 2–8 °C ambient temperature range is ideal for daily geothermal heat sales during the heating season, especially when the difference between the daily minimum and maximum temperatures is as small as possible. The monthly averages of the average daily temperatures were practically as favourable in the period under review as in the corresponding period of 2019.

### Miskolc Geothermal Project

(Miskolci Geotermia Zrt., Kuala Kft.)

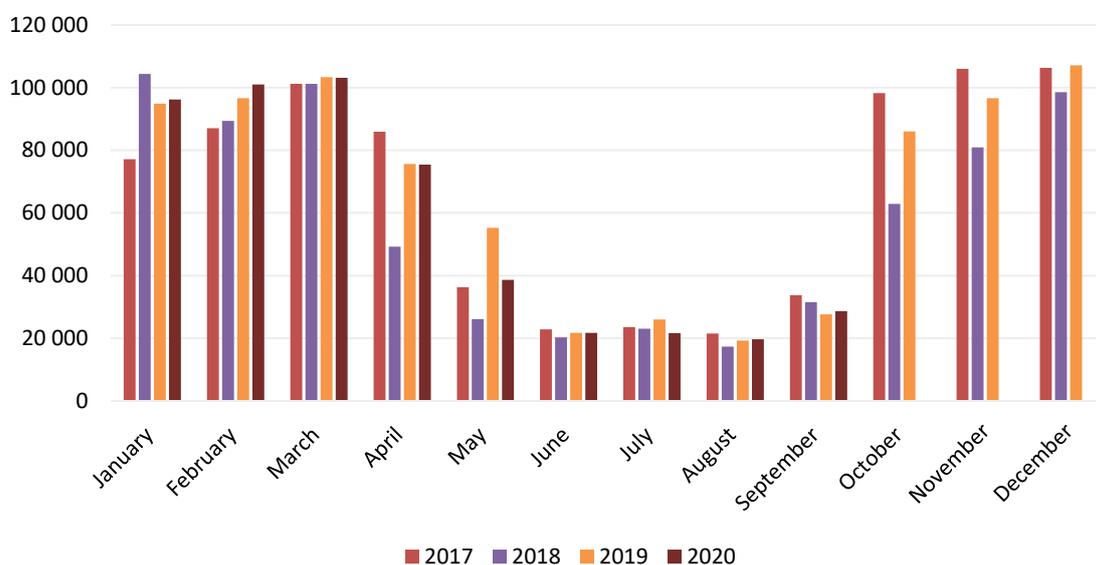


Figure 4 The amount of heat sold at Miskolc, in GJ

The Geothermal System of Miskolc sold a total of 69,955 GJ thermal energy in 2020 Q3, showing a 4% decline compared to heat sales data of the same period in 2019.

Pursuant to legislation, the heating season starts on 15 September and ends on 15 May of the following year. Continuous district heating supply starts on 15 October and ends on 15 April. Based on the Operating Agreement concluded with the communities of residents, service providers automatically start district heating services on 15 September if the average outdoor temperature remains under 10°C for 1 day or under 12°C for 3 consecutive days. The communities of residents may ask for deviation from the date of the automated startup of heating if all the condominiums belonging to a specific district heating centre submit a written notice to that effect to the district heating service provider. The service provider in Miskolc, MIHŐ Miskolci Hőszolgáltató Kft., commenced intermittent district heating services on 27 September for the heating season of 2020/2021, a few days earlier than last year.

The regulated district heating producer tariffs to be applied from 1 October 2020 were announced in Decree 32/2020 (IX. 30.) of the Minister for Innovation and Technology, published in edition no. 215 of 2020 of the Magyar Közlöny (the Hungarian Official Journal). The regulated heating tariff is set at 2,626 HUF/GJ both for Miskolci Geotermia Zrt. and KUALA Kft. instead of the previously applicable 2,695 HUF/GJ.

### Győr Geothermal Projects

(DD Energy Kft., Arrabona Koncessziós Kft.)

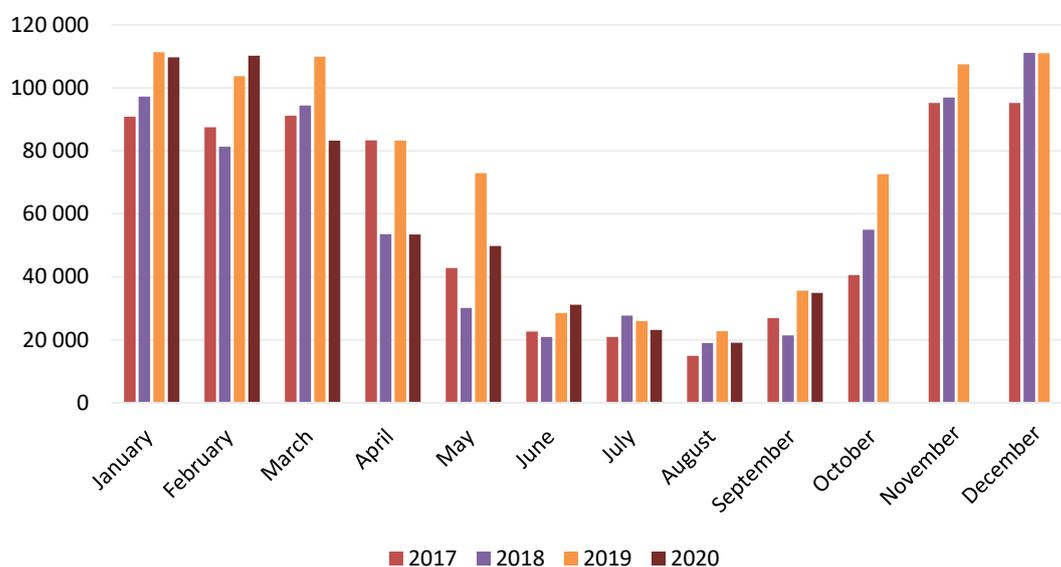


Figure 5 Amount of heat sold in Győr (GJ)

The Geothermal System of Győr sold a total of 77,140 GJ thermal energy during 2020 Q3, down 8.5% compared to the same period of the previous year.

The district heating service provider in Győr, Győr-Szol Zrt., commenced intermittent district heating services after the period under review, on 1 October, but after a few days the service was temporarily discontinued due to improving weather conditions.

The regulated district heating producer tariffs to be applied from 1 October 2020 were announced in Decree 32/2020 (IX. 30.) of the Minister for Innovation and Technology, published in edition no. 215 of 2020 of the Magyar Közlöny (the Hungarian Official Journal). The regulated heat supply tariff applied by Arrabona Koncessziós Kft. is 3,204 HUF/GJ, the same as in the previous period.

### Geothermal Heating Facility of Szentlőrinc

(Szentlőrinci Geotermia Zrt.)



Figure 6 Amount of heat sold in Szentlőrinc (GJ)

In Szentlőrinc, the amount of heat sold was 1,249 GJ, 16% higher than in the base period. The Geothermal Facility of Szentlőrinc can fully meet the heat demand of the local heating system on its own, thus the weather sensitivity of the geothermal heat input is significantly higher than that of district heating systems with complex heat resources.

The regulated district heating producer tariffs to be applied from 1 October 2020 were announced in Decree 32/2020 (IX. 30.) of the Minister for Innovation and Technology, published in edition no. 215 of 2020 of the Magyar Közlöny (the Hungarian Official Journal). The regulated heat supply tariff applied by Szentlőrinci Geotermia Zrt. is 3,654 HUF/GJ, the same as in the previous period.

### Climate change

Hungary has set the objective of reducing its greenhouse gas emissions by at least 40% below 1990 levels by 2030, while the rate of renewable energy in gross final energy consumption will be at least 21%. PannErgy Group runs its renewable energy projects in strict compliance with the national objective of making the district heating sector “greener” and more competitive. Through its geothermal projects promoting sustainability, the Company – as a key participant – supports Hungary’s climate policy and the objectives laid down in the National Energy Strategy 2030 document.

The PannErgy Group’s projects contributed to the efforts made to preserve a more liveable environment by the CO<sub>2</sub> emission cuts shown in Figure 7. The reduction amounted to 8,619 tons, while the total aggregate amount of greenhouse gas emission saved by the PannErgy Group so far amounts to 510,410 tons.

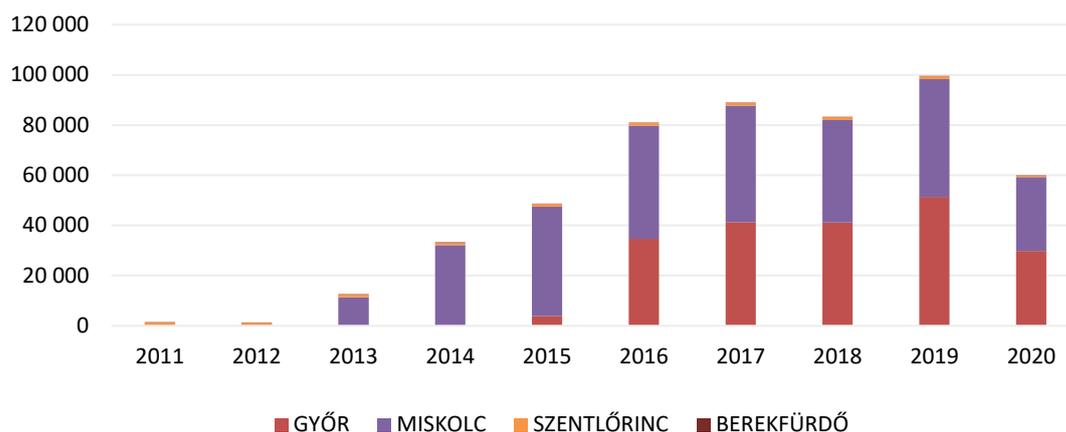


Figure 7 The amount of greenhouse CO<sub>2</sub> not released into atmosphere thanks to the PannErgy Group's projects

One of the evident effects of climate change in Hungary appears in the form of frequent volatile and extreme changes in weather conditions, including ambient temperatures, and a rise of the average temperature of the winter months from the historically cold, stable sub-zero range to markedly over the freezing point. These changes are not expected to have an adverse impact on the output of geothermal heat generation; indeed, perspectives of input into district heating systems are favourable as an average over multiple years. The reason for this is—as is noted in this report—the fact that daily geothermal heat sales are ideal in the 2-8 C temperature range during the heating season. At the same time, the potential decrease in the demand for heat during the transitional seasons may be compensated, indeed, overcompensated by the growth in the potential of the increasingly mild winter months.

The demand for energy in the large district heating systems supplied by the PannErgy Group is far greater than the amount of geothermal energy that can be fed into those systems. Accordingly, any change in the demand for heat in those heating systems stemming from the climate change has no perceivable effect on PannErgy Group, and the Company does not expect any trend-like effects in the future either.

PannErgy primary aims to utilise its substantial uncommitted available thermal capacities – in addition to the capacities being utilised now –, which is expected to further reduce sensitivity to ambient temperature changes. The most important possible areas for utilising the available uncommitted thermal capacities include:

- Implementation of energy efficiency and optimisation projects with existing customers;
- Cold energy projects – for the utilisation of the so-called “summer” heat;
- Connection of new customers indirectly through district heating systems or directly to the geothermal systems on the primary or the secondary (return) sides.

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