



PannErgy Plc.

QUARTERLY PRODUCTION REPORT

2021 Q2

15 July 2021

## Introduction

PannErgy Plc. publishes a production report on a quarterly basis, presenting green energy production and utilisation. In the report, the Company presents the green heat sales figures of its key geothermal energy production systems in the reporting period, and additional useful information.

### I. Consolidated production information

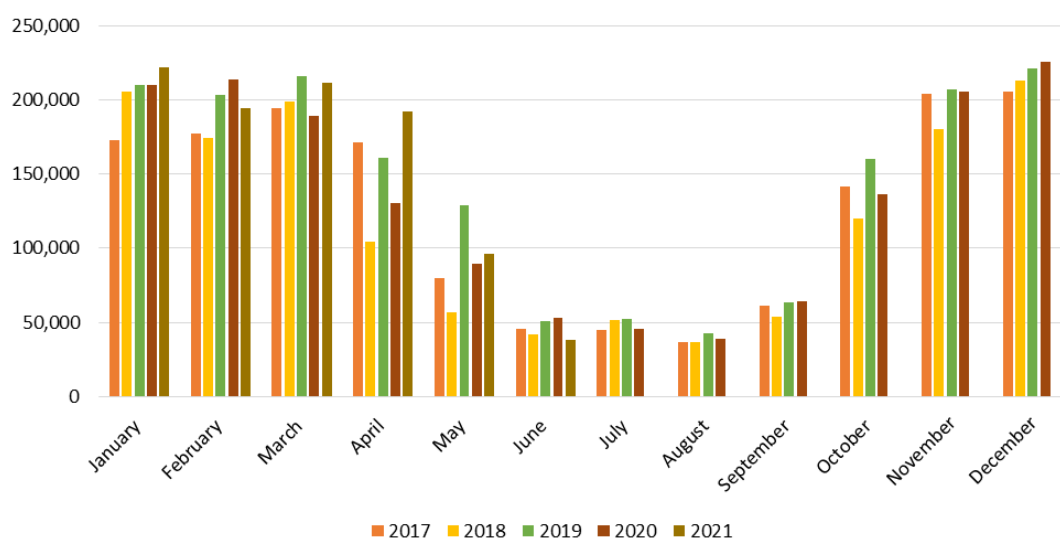


Figure 1

Consolidated volume of heat sold (GJ)

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

	2017	2018	2019	2020	2021	2021 TARGET
January	172,758	205,199	209,999	209,678	221,966	
February	177,533	174,300	203,484	213,855	194,173	
March	194,634	199,090	215,693	189,195	211,762	
<b>Q1</b>	<b>544,925</b>	<b>578,589</b>	<b>629,176</b>	<b>612,728</b>	<b>627,901</b>	<b>660,769</b>
April	171,294	104,033	160,548	130,407	192,053	
May	79,700	56,758	129,300	89,190	96,333	
June	45,936	41,641	50,780	53,394	38,595	
<b>Q2</b>	<b>296,930</b>	<b>202,432</b>	<b>340,628</b>	<b>272,991</b>	<b>326,981</b>	<b>290,438</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>160,683</b>
October	141,270	119,652	159,888	136,460		
November	204,045	180,263	206,686	205,417		
December	205,251	213,267	221,248	225,688		
<b>Q4</b>	<b>550,566</b>	<b>513,182</b>	<b>587,822</b>	<b>567,565</b>		<b>620,679</b>
<b>Total</b>	<b>1,535,497</b>	<b>1,435,894</b>	<b>1,716,178</b>	<b>1,601,882</b>		<b>1,732,569</b>

Figure 2

Consolidated volume of heat sold, in a table format (GJ)

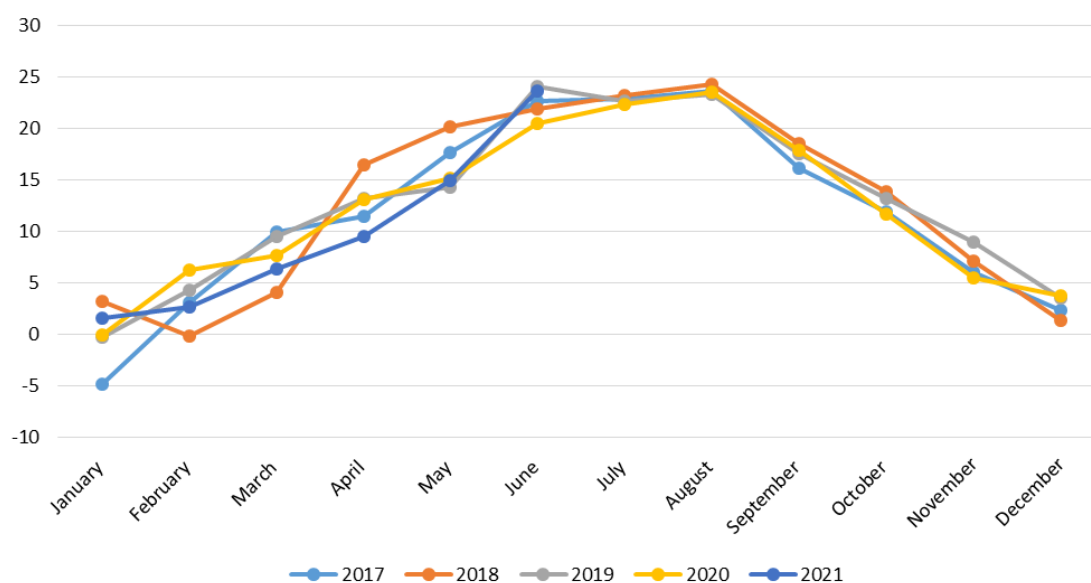


Figure 3  
Average temperatures in 2017–2021

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.

In the period under review the weather offered a more favourable heating potential at Group level compared to the same period in 2020, mainly due to cooler spring weather than in previous years.

A comparison of the 2021 Q2 heat sales figures with average values of the same period in historical years indicates that the Company realised outstanding heat sales in the reporting period. The volume of heat sold in the quarter under review exceeded that of the base period by 19.8% and outstripped the quarterly target by around 12.6%, mainly due to the favourable weather conditions detailed above and the investments made in recent periods to increase capacity and improve efficiency.

In consideration of the information presented in this production report, the Company confirms the expected realisation of the consolidated HUF 2,800–2,880 million EBITDA target range published previously for the 2021 business year.

## II. Main projects

### Miskolc Geothermal Project

(Miskolci Geotermia Zrt., Kuala Kft.)

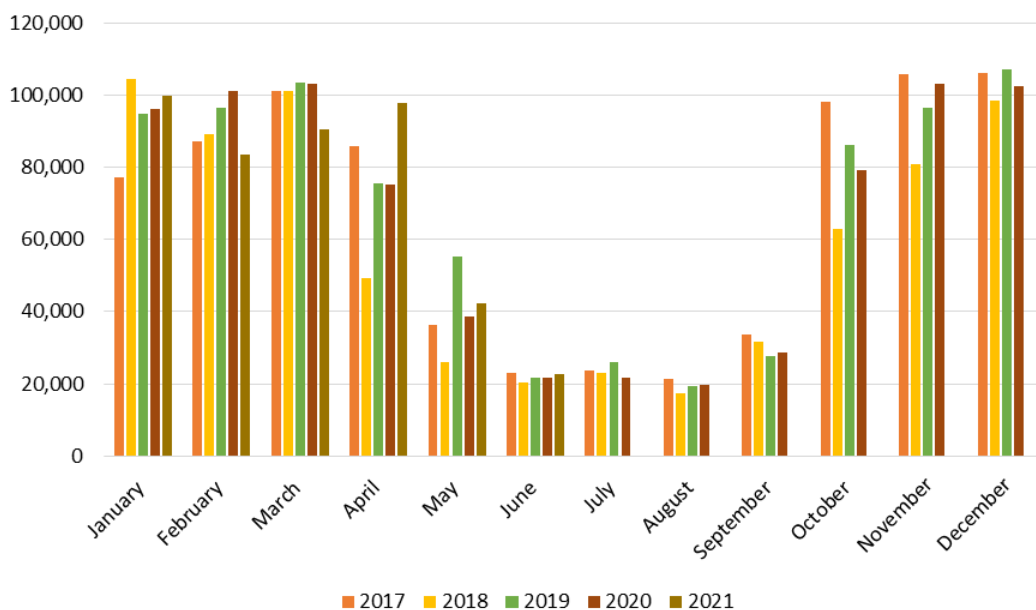


Figure 4  
Volume of heat sold in Miskolc (GJ)

The Geothermal System of Miskolc sold a total of 162,958 GJ of thermal energy in 2021 Q2, up by 20.0% compared to the heat sales data of the same period in 2020, primarily due to the circumstances presented in Section I.

### Győr Geothermal Projects

(DD Energy Kft., Arrabona Koncessziós Kft.)

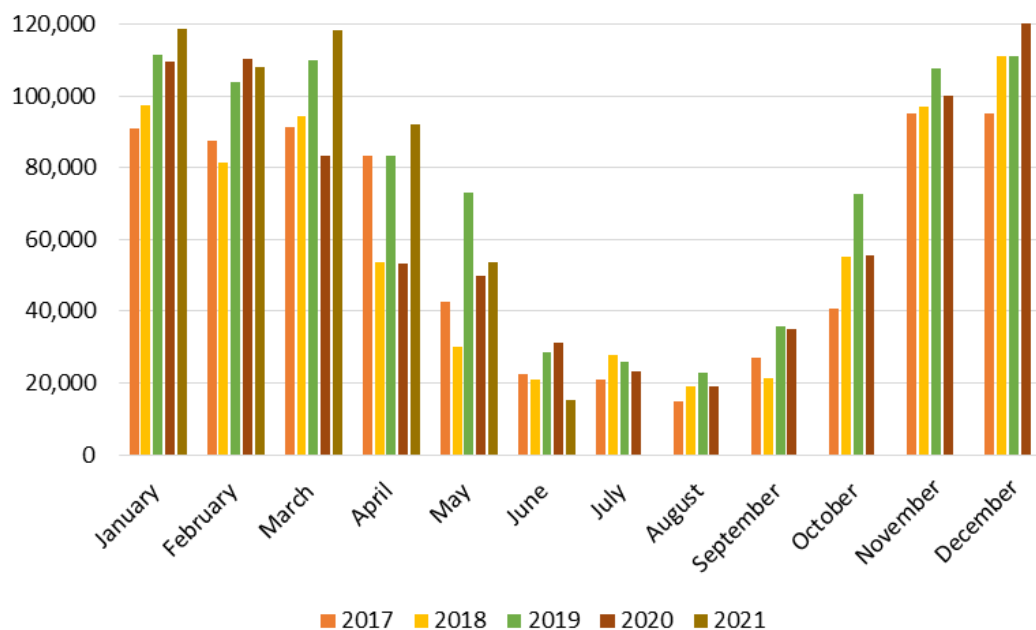


Figure 5  
Volume of heat sold in Győr (GJ)

The Geothermal System of Győr sold total of 161,121 GJ of thermal energy in 2021 Q2, up by 19.9% compared to the heat sales data of 2020 Q2, primarily due to the circumstances presented in Section I.

### Geothermal Facility of Szentlőrinc

(Szentlőrinci Geotermia Zrt.)

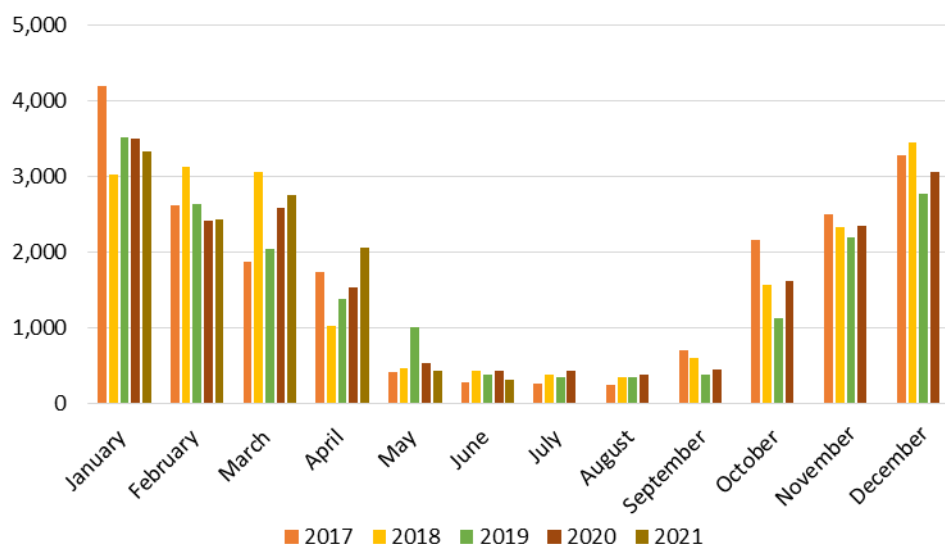


Figure 6

Amount of heat sold in Szentlőrinc (GJ)

In Szentlőrinc, the volume of heat sold in the period under review was 11.8% higher than in the base period, amounting to 2,786 GJ. The Geothermal Facility of Szentlőrinc can fully meet the heat demand of the local district heating system on its own; thus the weather sensitivity of the geothermal heat input may be significantly higher than that of district heating systems with complex heat resources.

### III. Miscellaneous

#### PannErgy for the prevention of climate change

In line with global efforts, Hungary intends to take resolute action against climate change. The key energy sector action plan for these efforts is the new National Energy Strategy (NES) published in January 2020, which replaced a similar strategy published in 2011. The NES presents the future of the Hungarian energy sector for the period until 2030 and, at the same time, it provides an outlook for the decade after that. The NES takes into consideration the requirement of the European Union that the economies of EU Member States must become climate-neutral, overall, by 2050.

The NES is committed to decarbonisation, providing ample leeway for the further proliferation of green and other, emission-free energy production solutions. NES goals to be highlighted from the perspective of the geothermal energy production represented by PannErgy:

- reducing Hungary's gas consumption and thus, its reliance on energy imports;

- giving preference to district heating systems;
- reducing the share of natural gas sources below 50% in district heating systems;
- increasing the utilisation of geothermal sources and urban waste in district heating systems, implementation of the Green District Heating Programme.

As a comprehensive, quantified target, by 2030 the share of renewable energy sources in gross final energy consumption should be raised to at least 21% (compared to 13.3% in 2017), whereby greenhouse gas emissions will decline by around 40% compared to the level recorded in 1990.

The projects of the PannErgy Group have contributed to the efforts to preserve a more liveable environment and combat climate change with the CO<sub>2</sub> emission cuts shown in Figure 7. The estimated reduction amounted to around 19,000 tons in the period under review, while the total aggregate volume of greenhouse gas emission saved by the PannErgy Group so far is estimated at around 599,000 tons.

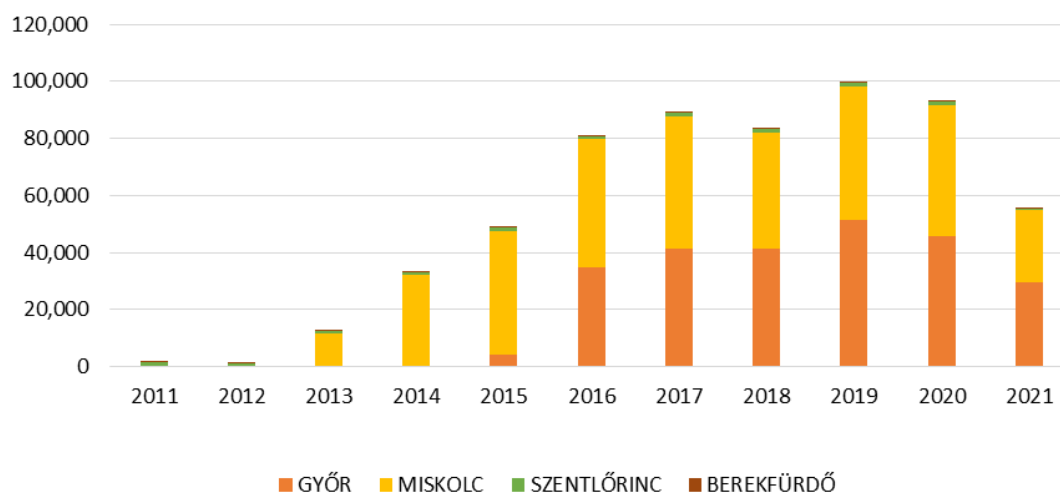


Figure 7

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

### Impact of climate change on PannErgy's heat markets

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

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 climate change has no perceivable effect on PannErgy Group, and the Company does not expect any trend-like negative effects in the future either.

The primary goal of PannErgy is 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 free 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;
- technical, energy and R&D projects aimed at the improvement of heat production efficiency.

#### **PannErgy Plc.**

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