

THE GEOPOLITICAL IMPORTANCE OF THE YPG-CONTROLLED AREAS IN SYRIA ENERGY AND WATER RESOURCES, AND AGRICULTURAL LANDS

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- Which natural resources did the YPG seize control of after its engagement with the U.S.?
- What is the extent of YPG-controlled natural resources and what is the YPG's energy trade capacity?
- How important are these resources?

INTRODUCTION

According to current data, the YPG is in possession of an area of approximately 50,000 km², which constitutes 30% of Syria's total surface area. Among the areas under YPG control, there are highly valuable energy (petroleum and natural gas) and water resources, not to mention agricultural lands. To be more precise, 50% of Syria's irrigable lands, 70% of its energy resources, and 95% of its water potential are in the parts of Syria that are under the YPG terrorist organization's control. In other words, the most crucial factors that have been determining Syria's GDP do not serve the same civilian purposes any longer. Syrian nationals have been suffering and migrating since they do not have access to fresh water, food, energy, and other related products. The reconstruction cost has been increasing and the gap to compensate these costs has been widening.

Prior to the YPG, DAESH, a terrorist organization that was once very influential, controlled the exact same territory. The geopolitically advantageous status of this region was the main reason why DAESH

operated there. In addition to non-state actors, the same areas have been attracting the attention of different regional and international powers. Therefore, the critical geopolitical significance of the YPG-controlled areas ought to be extensively analyzed so as to comprehend the struggle in the region and to be able to make more reliable assessments.

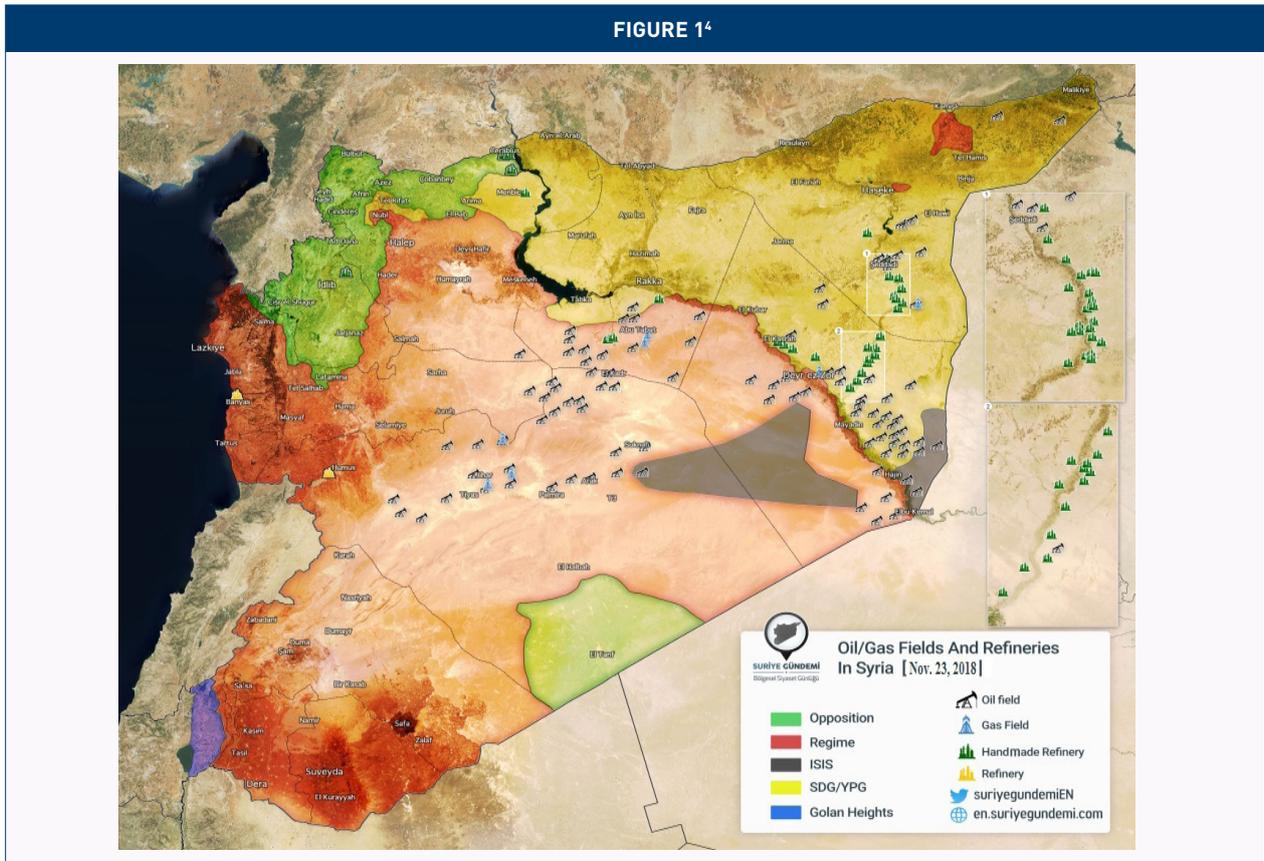
ENERGY RESOURCES

To begin with, 70% of Syria's total energy resources including the regions of Deir ez-Zor, Hasaka, Homs, and Raqqa, are under the control of the YPG terrorist organization. Furthermore, more than a dozen oil fields located on the east coast of the Deir ez-Zor district, specifically al-Omar, the largest oil field in the country, are controlled by the YPG.¹ (Figure 1) Just the oil fields located on the east coast of the Deir ez-Zor district constitute 30% of Syria's total energy

1. Mehmet Çağatay Güler, "Suriye'de Devrim ve Enerji Jeopolitiği", Suriyegundemi, <http://www.suriyegundemi.com/2018/11/30/suriyede-devrim-ve-enerji-jeopolitigi>, (Accessed January 28, 2019).

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FIGURE 1⁴

resources.² Most of the drilled oil has been used as an export commodity and the rest has been refined in the small, handmade refineries to acquire kerosene, benzene, gasoline, and fuel oil. Speaking of the exportation of crude oil, the YPG's current potential is around 300,000 barrels per day.³ In this sense, calculations based on the average price of Brent Oil (\$73.10) and the presumption that the YPG is able to utilize all its potential and to trade under the current prices, its approximate export revenue is \$8 billion. (Figure 2)

Furthermore, the YPG is in possession of critical natural gas fields. As such, Conoco Natural Gas Facili-

ty, Syria's largest natural gas facility (around 4.6 billion m³ yearly production),⁵ has been under the control of YPG forces. Considering the regime's current natural gas production of 3.1 billion m³, Conoco's importance becomes more apparent. In addition to the Conoco facility, the YPG operates several other natural gas fields. Today, the YPG controls more natural gas fields (estimated capacity of 4.5-5 billion m³)⁶ than the Assad regime (around 3 billion m³).⁷ Just like the oil production, most of the natural gas is exported and the remaining is converted to electricity via the natural gas conversion plant in Cipse. Although its revenues are not as high as those of crude oil, natural gas also offers remarkable gains. As such, when calculations are

2. "Suriye'deki enerji kaynaklarının ne kadarı PYD'nin elinde?", Anadolu Agency, February 9, 2018, <https://www.ntv.com.tr/dunya/suriyedeki-enerji-kaynaklarinin-ne-kadari-pydnin-elinde,YeFYqG0sp0-IE7YcMcWCdA>

3. The potential is estimated by subtracting the Assad regime's 2010 production and 2017 production.

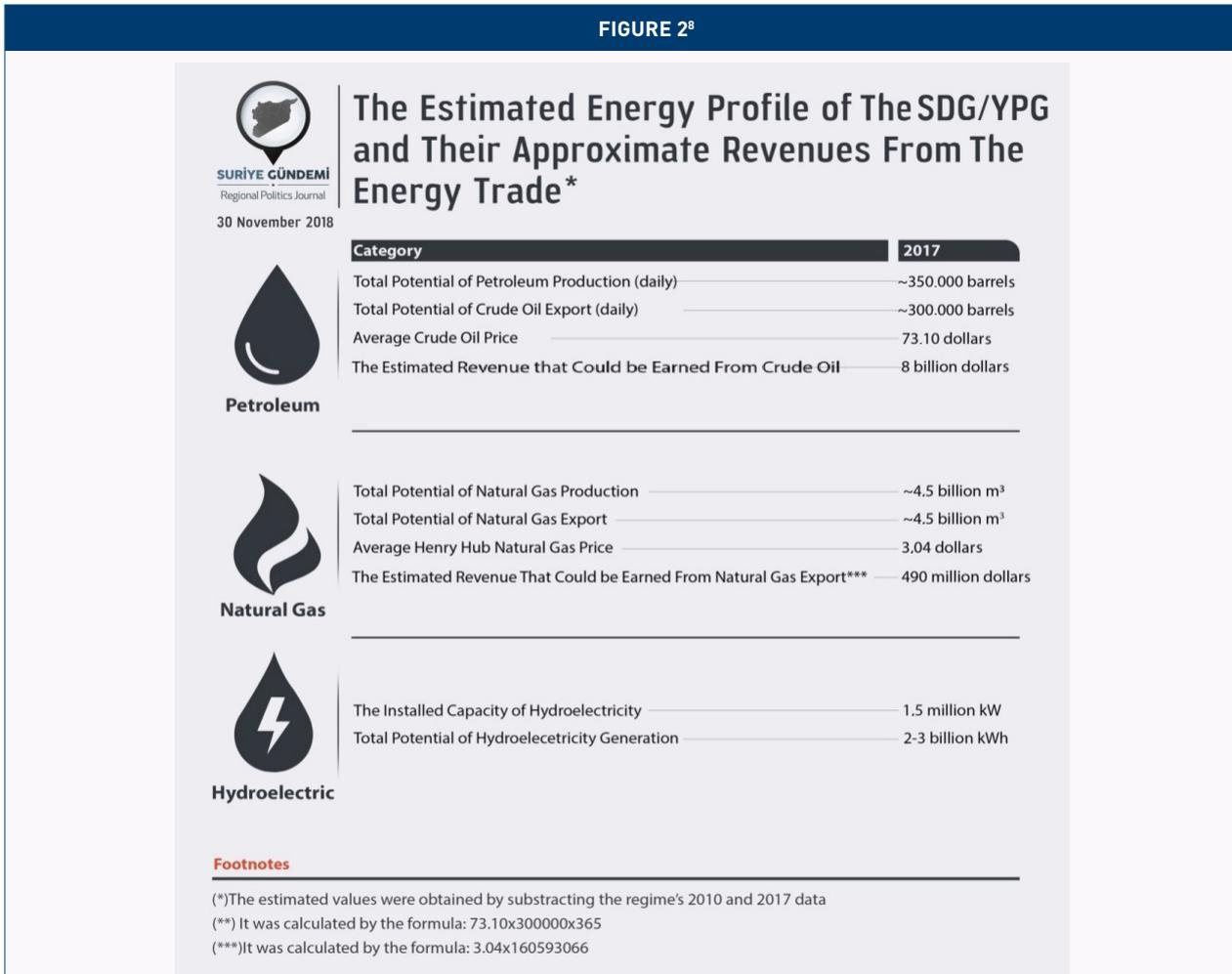
4. "Oil/Gas Fields and Refineries In Syria", Suriyegundemi, <http://en.suriyegundemi.com/2018/11/23/oil-gas-fields-and-refineries-in-syria>, (Accessed January 28, 2019).

5. "US-Backed Force Seizes Major Syria Gas Plant", France24, November 23, 2017, <https://www.france24.com/en/20170923-us-backed-force-seizes-major-syria-gas-plant>

6. The estimated capacity is calculated by subtracting the Assad regime's 2010 production and 2017 production.

7. "BP Statistical Review of World Energy" (BP Report, London: 2018), p. 28.

FIGURE 2⁸



made based on the average Henry Hub prices (\$3.04) and on the full utilization of its potential, the YPG's natural gas export revenue is around 490 million dollars. (Figure 2)

Lastly, apart from the oil and gas resources, the YPG is in control of almost all of Syria's hydroelectric capacity. To be more specific, the installed hydroelectric capacity of the country is 1.5 million kW (1.51 GW⁹) and the yearly production of electricity before the outbreak of the civil war, was around 3 billion

kWh.¹⁰ Almost all this electricity is realized via three main dams: Baath (75 MW),¹¹ Tabqa (800 MW),¹² and Tishrin (630 MW).¹³ These three dams are located on the Euphrates River and all of them are under the control of the YPG - as is their electricity potential. (Figure 2) To this end, the YPG does not need

8. Mehmet Ç. Güler, "The Syrian Revolution and the Geopolitics of Energy", Suriyegundemi, <http://en.suriyegundemi.com/2018/12/05/the-syrian-revolution-and-the-geopolitics-of-energy>, (Accessed January 28, 2019).

9. "Hydropower in Syria", World Energy Council, Hydropower Installed Capacity, <https://www.worldenergy.org/data/resources/country/syria/hydropower/2011>, (Accessed January 29, 2019).

10. "Hydroelectricity Net Generation 2010/Syria", U.S. Energy Information Administration, International Energy Statistics, https://www.eia.gov/beta/international/rankings/#?product=2-12&cy=2010&pid=33&aid=12&ctl_id=12-A&ctl_type=a, (Accessed January 29, 2019).

11. "Power Plants/Hydro/Syrian Arab Republic/Baath Hydroelectric", Global Energy Observatory, <http://globalenergyobservatory.org/form.php?pid=41661>, (Accessed January 30, 2019).

12. "Power Plants/Hydro/Syrian Arab Republic/Taqba Hydroelectric", Global Energy Observatory, <http://globalenergyobservatory.org/form.php?pid=4166041661>, (Accessed January 30, 2019).

13. "Power Plants/Hydro/Syrian Arab Republic/Teshreen Hydroelectric", Global Energy Observatory, <http://globalenergyobservatory.org/form.php?pid=41659>, (Accessed January 30, 2019).

to convert a lot of natural gas to electricity since the hydropower it possesses is sufficient to meet most of its energy demand.

WATER RESOURCES

Syria's average annual precipitation is 252 mm¹⁴ and the annual renewable water resources are estimated at 16 billion m³ (6 billion m³ groundwater + 12 billion m³ surface water - 2 billion m³ overlap of both).¹⁵ Regarding the water sources, Syria has 16 rivers and their tributaries.¹⁶ The most important water sources in Syria are the rivers Euphrates, Tigris, Orontes, Afrin, Nahr al-Kabir al-Janoubi, and Yarmouk. Among these sources, the Euphrates River stands out as the largest and most important source since it constitutes 97% of the country's total usable water resources (15 billion m³).¹⁷ Therefore, the status of the Euphrates River is the most critical issue in Syrian water politics. In this regard, the YPG takes the lion's share as it keeps the largest dam (Tabqa Dam) under its control. The Tabqa Dam on the Euphrates River is the largest dam in the country with a total water storage capacity of 14 billion m³.¹⁸ This means that without the Tabqa Dam's storage capacity 93% of the Euphrates's water supply to Syria cannot be captured. Furthermore, considering the country's 19.7 billion m³¹⁹ total water storage capacity, we can say that the Tabqa Dam

constitutes 70% of Syria's total water storage capacity. Likewise, the YPG is in control of all the waters obtained from the Tigris River (1.2 billion m³).²⁰ In total, the YPG's water potential reaches 15.2 billion m³ or, in other terms, 97% of Syria's total renewable water resources.

AGRICULTURAL LANDS

Regarding agricultural data, Syria's total agricultural lands cover 18 million ha,²¹ its arable agricultural lands are estimated at 6 million ha²², and its irrigable agricultural lands are only 1.5 million ha.²³ When we analyze the irrigable lands city by city, Hasakah, Aleppo, Raqqa, and Hama come to the fore,²⁴ while Deir ez-Zor, Damascus, Homs, and Idlib follow. Among them, Hasakah, which is under YPG control, has the most irrigable lands with around 480,000 ha²⁵ (a third of the total irrigable lands in the country). Likewise, Raqqa, also under the YPG, possesses the country's third-largest irrigable lands (200,000 ha).²⁶ Additionally, the irrigable lands located in the Deir ez-Zor region (100,000 ha²⁷) are also in the hands of the YPG. In brief, half of the total irrigable agricultural lands in the country are under the YPG's control. (Figure 3) Before the inception of the Syrian civil war, approximately 90% of the total water resources were used for agricultural purposes.²⁸ In that period, Syria had 2 bil-

14. "Syrian Arab Republic", FAO's Information System on Water and Agriculture (Aquastat), Food and Agricultural Organization of the United States, http://www.fao.org/nr/water/aquastat/countries_regions/Profile_segments/SYR-WR_eng.stm, (Accessed January 31, 2019).

15. "Syrian Arab Republic/Water/Aquastat/Data/Query/Results", FAO's Information System on Water and Agriculture (Aquastat), Food and Agricultural Organization of the United States, http://www.fao.org/nr/water/aquastat/data/query/results.html?regionQuery=false&showCodes=true&yearRange.fromYear=1960&yearRange.toYear=2015&cvarGrpIds=4150,4151,4154,4155,4156,4157,4158,4159,4160,4161,4162,4164,4165,4166,4167,4168,4169,4170,4171,4172,4173,4174,4175,4176,4177,4178,4182,4183,4184,4185,4186,4187,4188,4189,4190,4192,4193,4194,4195,4196,4197,4452,4453,4456,4471,4472,4509&cntIds=212&newestOnly=true&showValueYears=false&categoryIds=-1&XAxis=YEAR&query_type=CP&YAxis=VARIABLE&hideEmptyRowsColumns=true, (Accessed January 31, 2019).

16. Ibid.

17. Ibid.

18. Ibid.

19. Ibid.

20. Ibid.

21. "Irrigation in the Middle East Region in Figures", Food and Agricultural Organization of the United States, Aquastat Survey-2008, Rome: 2009, p. 346-347.

22. Ibid.

23. Ibid., p. 347-352.

24. "Global Map of Irrigation Areas (GMIA)/Syrian Arab Republic", Global Map of Irrigation Areas, Food and Agricultural Organization of the United States, <http://www.fao.org/nr/water/aquastat/irrigationmap/SYR/index.stm>, (Accessed February 1, 2019).

25. Ibid.

26. Ibid.

27. Ibid.

28. "Irrigation in the Middle East Region in Figures", Food and Agricultural Organization of the United States, Aquastat Survey-2008, Rome: 2009, p. 346-347.

lion export revenue²⁹ based on agriculture; this constituted 17% of the country's total export (\$12-13 billion³⁰). In other words, agriculture is very critical for Syria not only in terms of domestic consumption but also for exportation purposes.

FIGURE 3	
Syrian Resources	YPG Control of Syrian Resources (%)
Irrigable Agricultural Areas	50%*
All Energy Resources	70%**
Total Water Potential	95%***
* 480,000 ha + 200,000 ha + 100,000 ha	
** 350,000 oil barrels + 4.5 billion m3 natural gas + 3 billion kWh hydroelectric	
*** 1.2 billion m3 from the Tigris River + 14 billion m3 from the Euphrates River	

CONCLUSION

The YPG's advantageous geopolitical position has been negatively affecting the efforts to maintain peace and stability in the country. Furthermore, it not only undermines the economy but it also exacerbates the cost of reconstruction. The UN declared the reconstruction cost for Syria as \$388 billion, which is seven times more than the country's GDP in the pre-civil war period. However, there is a huge difference that determines to

29. Hassan N et al., "Farming Systems in Syria: Its Constraints and Strategies for Improvement", *Scholars Journal of Agriculture and Veterinary Sciences*, Vol. 1, No. 4, (2014), p. 189-194.

30. "Syria Import and Export Indicators and Statistics at a Glance", *EconomyWatch World*, www.economywatch.com/world_economy/syria/export-import.html (Accessed February 2, 2019).

a great extent the country's GDP between the times before the civil war and today: the resources' "owner."

Overall, the YPG holds under its control 50% of the total irrigable agricultural areas in Syria. The revenues that used to be obtained from agriculture (\$2 billion) are now controlled by the YPG initiative. In addition, the YPG controls almost 70% of the country's energy resources and the revenue that could be earned through these energy resources (\$8.5 billion). Likewise, 95% of the country's total water potential is controlled by the YPG. Considering the country's water stress, the YPG is in possession of serious bargaining leverage with the other regional actors. In light of all this and despite the YPG's lack of control over urbanized cities and industry centers, it becomes very clear that the YPG controls highly crucial and geopolitically advantageous locations.

In this context, the reconstruction cost for Syria's infrastructure, superstructure, social and demographic framework, and political and economic status is getting higher and harder to attain as most of the country's resources are in the hands of a terrorist organization. Moreover, this situation puts an extra burden on the shoulders of Syrian citizens. This is one of the reasons why they will continue to suffer and to migrate. In brief, the reconstruction process initiative for the Syrian people by means of their own resources has been left to the YPG's discretion. The best option for Syria's future is to take away this initiative from the YPG and deliver it to its real owner - Syrian citizens. Otherwise the impact of the YPG's geopolitical position on the future of Syria, without a doubt, will be devastating.