European-Ukrainian Energy Agency

RES market overview of Ukraine: present and future

Kyiv-2021
About EUEA

- an independent non-profit organization
- founded in 2009
- open to all stakeholders

Our mission

- constructively cooperate with like-minded companies
- to contribute to the transparent development of the energy efficiency and renewable energy market
- to promote a fair and sustainable business climate
- raise public awareness of sustainable energy and clean energy issues
- to influence the government's energy policy for the sake of sustainable development of the industry

EUEA is an effective platform for cooperation with the Ukrainian and international business community, public authorities and other key market players
Our members

• 15 countries of Europe, Northern America, Asia
• EUR 3.5 billion– total investment
• 2.5 GW RES power plants

Video about EUEA
RES Market Overview (September 1, 2021)

- 9 313 MW of RES (16% share in IPS – installed capacity or 9% of generation capacity in August).
- 1348 MW (constructed in 2020: 1168 MW SPP & 144 MW WPP).
- 9% - the share of RES generation in the total energy produced by the Integrated Power System (IPS) of Ukraine in August 2021.
The installed capacity of RES facilities in the regions of Ukraine as of 01.09.2021, MW

<table>
<thead>
<tr>
<th>Region</th>
<th>SPP</th>
<th>WPP</th>
<th>Small HPP</th>
<th>Biogas and biomass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaporizhia</td>
<td>358.6</td>
<td></td>
<td></td>
<td>595.8</td>
</tr>
<tr>
<td>Lviv</td>
<td>338.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kyiv</td>
<td>318.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivano-Frankivsk</td>
<td>285.4</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kirovograd</td>
<td>337.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khmelnytsky</td>
<td>423.6</td>
<td></td>
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<tr>
<td>Vynnytsya</td>
<td>359.8</td>
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<tr>
<td>Odesa</td>
<td>532.8</td>
<td></td>
<td>149.2</td>
<td></td>
</tr>
<tr>
<td>Dnipropetrovsk</td>
<td>1134.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kherson</td>
<td>499.9</td>
<td></td>
<td></td>
<td>579.5</td>
</tr>
<tr>
<td>Mykolayiv</td>
<td>908.3</td>
<td></td>
<td></td>
<td>152.1</td>
</tr>
<tr>
<td>Other</td>
<td>870.9</td>
<td></td>
<td></td>
<td>157.5</td>
</tr>
</tbody>
</table>

Top leaders:
- **SPP** - Dnipropetrovsk region - 1134.1 MW.
- **WPP** – Zaporizhia region - 595.8 MW.
- **HPP** – Kirovograd region - 16.2 MW.
- **Biomass and biogas** - Khmelnytsky region – 34.6 MW.
Who owns RES in Ukraine, %

- Almost 32 thousand households (835 MW)
- The share of foreign investment in the RES sector of Ukraine
- The share of RES owned by small and medium businesses
- Large owners (DTEK owns 1 GW, which is 11% of the total share of built RES projects)
Challenges:
• Level of monthly payments to RES producers in average 73% in 2021
• Debts accumulation UAH 15 bln for 2020 and about UAH 10 bln in 2021 to producers of electricity from RES
• Electricity market

Expectations:
• Introduction of auctions, feed-in premium, energy storage regulation
• Integration with ENTSO-E.
• Popularity and realistic implementation of corporate PPAs, net metering.
• The mechanism of Guarantees of origin.
• Green Hydrogen perspectives, etc.

• National Economic Strategy by 2030. It provides 25% of electricity produced from RES in the structure of the energy system by 2030.
The average price for €/€ in the period from 14.09.2021 to 27.09.2021 in neighboring countries and Ukraine, EURO/MWh

- Romania: 142.28
- Hungary: 143.59
- Slovakia: 132.60
- Poland: 103.55
- Ukraine: 69.83

ELECTRICITY CONSUMPTION STRUCTURE, 117906,9 MLN KWH, 2020

- Population: 31%
- Industry: 42%
- Agriculture: 3%
- Other: 6%
- Communal: 12%
- Construction: 1%
- Transport: 5%
Banking partners in Romania Raiffeisen, ERSTE Group, Garanti Bank Romania, Alpha Bank, BNP Paribas (Poland), BOS Bank (Poland) all offering discounted green mortgages.