

PRESS RELEASE



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RENEWABLE ENERGY SOURCES IN THE CURRENT GEOPOLITICAL SITUATION – INTERNATIONAL CLIMATE SUMMIT TOGETAIR 2022

The reconfiguration of the situation in Europe after the Russian attack on Ukraine has necessitated a change in thinking about the direction of the continent's energy transition. Germany has announced the transition of its own power industry to 100% RES. This would be expected to happen as early as 2035. How realistic is it to accelerate the diversification of energy sources and leapfrog RES? Answers will be sought by participants of the TOGETAIR 2022 Climate Summit (20-21-22 April, BUW, ul. Dobra 56/66, Warszawa)

TOGETAIR 2022 THEMATIC AGENDA <https://togetair.eu/agenda>

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- Russia's invasion of Ukraine and its economic consequences show how crucial energy sovereignty is for Europe. Poland's energy security depends not only on whether we have contracted supplies of raw materials, but also where they will come from. Diversification of sources must therefore proceed step by step along with a very dynamic development of low- and zero-emission generation units. – says Jerzy Topolski, Vice-President of the Management Board of TAURON Polska Energia.



WHAT RENEWABLE ENERGY SOURCES DO WE HAVE?

Today, the term RES is primarily associated with energy derived directly from wind or sunlight. Rightly so, as these are the most popular and efficient technologies, although not the only ones available.

Offshore **wind farms** are the most efficient, field-proven, and highly successful sources of clean energy. The potential capacities of such power plants are comparable to conventional power plants, and the prevailing conditions at sea guarantee certainty of supply.

Photovoltaics is the technology that is currently developing the fastest. Modern PV panels work efficiently and bring adequate power even in less favourable climate conditions, such as in Poland. They produce energy even on cloudy days and are efficient in the rain, which is why photovoltaics have in recent years ceased to be a technology that only makes sense in the sunny south. In the colder north, photovoltaics are mainly used in the form of distributed, local domestic sources, while in subtropical climates (e.g. deserts in the United Arab Emirates) large-scale, gigantic photovoltaic power plants are already in operation.

- In 2017, emissions from buildings - related mainly to their heating and air-conditioning systems - accounted for 11 percent of Poland's emissions. 84 percent came from the residential sector and 16 percent from the commercial sector. It is clear, therefore, that the 2050 goal that all buildings in Poland should be zero-emission will help accelerate and facilitate the achievement of climate goals. The Saint-Gobain Group in Poland is particularly active in this area. Not only does it support zero-emission construction with its innovative solutions, but it has also implemented measures to minimize energy consumption at its several production sites in Poland. – comments Henryk Kwapisz, Saint - Gobain

Run-of-river or dammed hydroelectric power plants. These are world's most powerful, most efficient renewable energy sources. Many countries (e.g. Norway, Austria) base their power generation on their power. However, the ability to take advantage of such resources is strictly dependent on hydrologic conditions.

Geothermal: the ability to use the temperature of the earth's interior to heat and generate electricity is a very efficient, low-cost, and renewable technology. Unfortunately, it is currently possible to use it only in a few points of our planet, endowed with easy access to resources below the surface. Iceland serves as a great example. However, intensive research is underway in the U.S. to explore the possibility of reaching much deeper and harnessing the natural energy of the earth's interior anywhere on the planet. The expertise of oil and gas companies specializing in deep drilling is used for this purpose.

- The geological structure of Poland, recognized by more than 7 thousand deep boreholes, indicates areas where the use of thermal waters will bring particularly high benefits. Thermal waters are a valuable resource used in many areas of the national economy, with growing interest from investors. However, a much broader inclusion of geothermal energy in the structure of district heating in Poland than has been the case so far would contribute to an increase in the amount of heat from RES and, above all, to an improvement in air quality in Polish cities. This effect is already being felt today in those cities where geothermal heating plants are operational.



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- Compared to other renewable energy sources (RES), such as solar, wind, surface water, biomass and biogas, geothermal investments are distinguished by operational stability and constant production over time, as well as very limited interference with the environment and landscape. The added value is also the possibility to use the mineralized thermal waters for other purposes. The cascade method of thermal water utilization makes it possible to use them first of all for energy purposes, and at a later stage, also for recreational and therapeutic purposes, as well as, among others, for drying wood, heating pitch or sidewalks. – says **dr inż. Mateusz Damrat, Director of the Polish Geological Institute (PIG-PIB)**

- We're facing record high electricity prices that will continue to rise each year, legislative muzzling of RES, outdated transmission networks. In order to heal the Polish energy sector and become independent from Russia, it is first necessary to straighten things out and make some unpopular decisions. We have a lot of work ahead of us. – comments **Krzysztof Majdan, Lead Editor at Money.pl.**

Biomass is a fuel produced from plants grown specifically for that purpose or from residues produced by agriculture or the timber industry. Biomass power generation seems interesting in the transition phase from coal-based power generation: older, coal-fired power plants can be adapted to biomass power generation relatively easily and cheaply. This is already happening today, also in Poland, and examples include: a biomass unit in Połaniec, biomass co-firing in cogeneration at more modern heat and power plants, e.g. in Warsaw, Poznań or Białystok. However, biomass raises doubts, because its use is connected with CO₂ emission, although the very creation of biomass consumes this substance (photosynthesis of plants), so it is assumed that the balance is neutral. Additionally, agricultural biomass production is linked to biodiversity threats.

Other renewable energy sources. Work is underway around the world to harness other natural energy sources. An interesting direction is harvesting energy from the tides of the seas and oceans, or even energy from waves on the sea surface. Scientists are working on ways of harvesting energy from algae and even from the heat generated by crowds of people in public places.

A HYDROGEN FUTURE?

- Hydrogen is already being used today in buses, locomotives and industry. Poland is the 3rd country in Europe and 5th in the world in terms of hydrogen production. We will need electrolyzers, windmills and photovoltaics to produce zero-emission hydrogen. BGK created the 3W concept to initiate discussion on harnessing the potential of hydrogen, water and coal in the economy. We want Poland to build its competitive advantage in the coming decades on discovering new possibilities of these resources. – says **Beata Daszyńska-Muzyczka, President of the Management Board of Bank Gospodarstwa Krajowego.**

Many people believe that the most effective tool for generating energy will be hydrogen, the simplest substance in existence, a lightweight, common element found in nature. Hydrogen can be produced from water by applying energy (a simple experiment familiar to anyone in physics or chemistry class) and burned to produce energy and emit... water vapor. Hydrogen is therefore a perfect candidate to replace oil or gas in transport (also in Polish cities there are already first hydrogen vehicles), as well as to play the role of energy storage for RES.

- The “Fit for 55” package aims to sell only zero-emission cars in the European Union from 2035. Many manufacturers are already ahead of schedule with their declarations. We’re still searching for answers to questions like how to provide electric car charging to residents on blocks, how much we’ll be able to drive on a single charge when electric car prices drop to the level of their conventionally powered counterparts. And finally, from what sources will come the electricity that will flow from the socket to power the batteries of the “EVs”. – says **Marcin Walków, Managing Editor at money.pl/mobility**

- We assume that future efficient RES will work together with such hydrogen storage, consisting of an electrolyser and a hydrogen tank. However, the matter is not so simple: the processes of hydrogen generation and energy recovery are still too inefficient and too slow for the needs. – says **Artur Beck, producer and organizer of the TOGETAIR Climate Summit, President of the Foundation for Positive Ideas**

- Moreover, hydrogen has two fundamental disadvantages: as an ultralight substance, it “leaks” through ordinary tanks, and therefore requires more complicated and more expensive technologies to make them. And it explodes easily on contact with air, so the security systems also requires a lot of investment.

- After the outbreak of the pandemic, the European Union, contrary to initial assumptions, took an even more pronounced green turn. Great reforms collected in the Fit for 55 package were developed. Today, questions about climate and energy policy have returned with doubled force. How can photovoltaics and wind power plants strengthen Polish energy security? What might stand in the way of their development in the face of moral and environmental arguments? How important are economic factors? This is what we are going to discuss during one of the panels of TOGETAIR 2022. – announces **Marta Wierzbowska-Kujda, editor-in-chief of the trade internet journal Teraz Środowisko.**

INTERNATIONAL TOGETAIR SUMMIT 2022

The Climate Summit will be held on 20-21-22 April, so as to honour 22 April, the International Earth Day. The event, realized in hybrid formula and broadcast from TV studio, will be available for free and without registration on the main pages of the most important Polish Internet portals.

In 2022 the event will have an international dimension, strengthening cooperation between Poland – the countries of the Three Seas Initiative and the European Union. Each day of the Summit will begin with a panel in English on global and European topics.

The organizers of the international Climate Summit have invited representatives of ministries, local governments at the rank of marshals, representatives of state-owned companies, non-governmental organizations as well as international corporations and smaller businesses committed to climate protection.

- To emphasize the substantive and scientific background of the Summit, as every year, we asked for patronage and participation all major universities and research institutions. Our main partner will be the University of Warsaw, which will provide us with the space of its library in the Powiśle district of Warsaw. We will host the debaters and media there. At the same time, we are committed to reaching out to residents as broadly as possible. That is why **TOGETAIR 2022 will be available live, free of charge, without registration in streaming at our media partners websites and in social media** – invites **Agata Śmieja.**



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TOGETAIR Climate Summit

Polish Multimedia Climate Report

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