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USAID ESP to Modernize Donbas Water Utility and Improve Water Supply

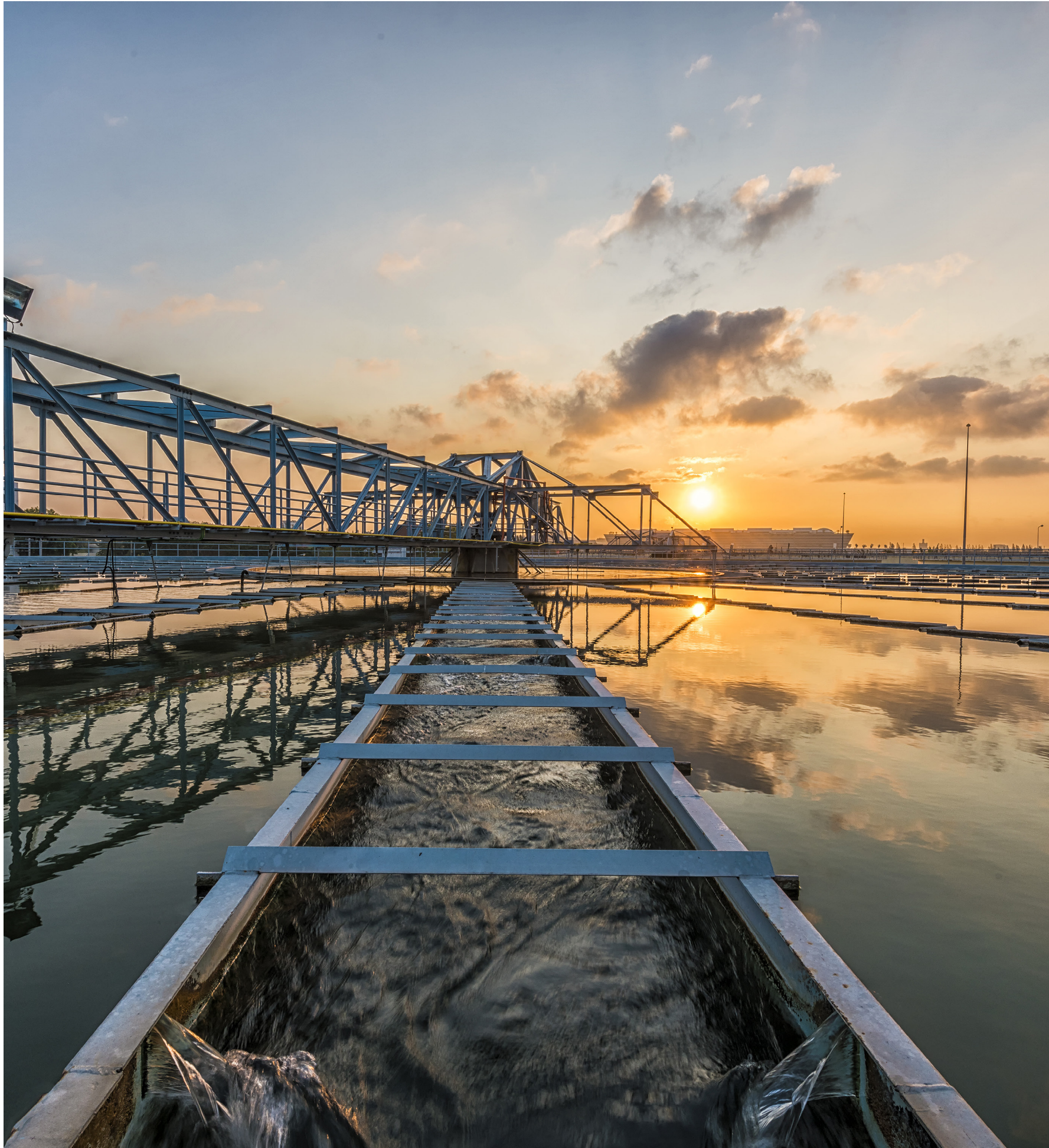


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An estimated 50 percent of Donbas' water supply is lost on its way to consumers. Water purification at filter stations is not up to sanitary standards, and the water utility's electricity consumption remains high. Those are the conclusions of a technical review of the Voda Donbasu Company commissioned by the USAID Energy Security Project (ESP), which aims to modernize the utility and improve Donbas' water supply.

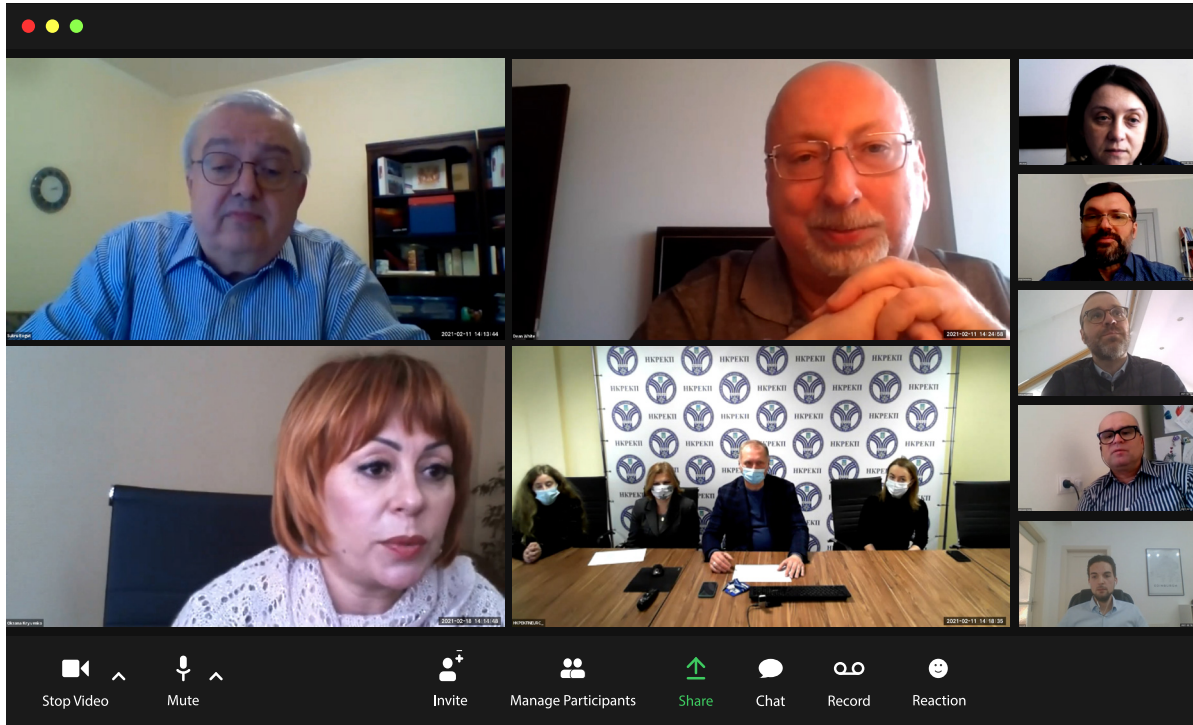
Presenting CDM Engineering Ukraine's report, Fredrik Pitzner-Jørgensen noted that the key causes of water losses in the Siverskyi-Donets-Donbas canal are obsolete equipment, out-of-date water treatment techniques, high power consumption by the pump stations, and leaking pipes.

As a result, the team considered options to reduce energy consumption, in particular by installing frequency converters, making changes at pumping stations and in the supply system, and producing electricity from renewable energy sources to meet the utility's needs.

USAID ESP and CDM Engineering Ukraine proposes a 20-year plan that focuses on installing frequency converters to optimize energy efficiency for the first eight years, starting to replace pumps in the third year, and beginning to install wind turbines in the sixth year. Most costs will occur between years 12 and 17 of implementation.

USAID ESP organized the presentation of the interim report implemented under the project "Technical review of the conditions of the Voda Donbasu Company utility and water conveyances and pre-feasibility" for representatives of the utility, local state administration, and international stakeholders.

Workshops Share Best European Practices for Energy Market Integrity and Transparency



ESP held two workshops for NEURC, AMCU, NSSMC and the Ministry of Energy on best European practices for ensuring the integrity and transparency of electricity markets on February 11 and 18. Subject matter experts delivered presentations on the market oversight experiences from the perspective of regulators from the UK (Ofgem) and Austria (E-Control). Two further sessions outlined best practices in market monitoring and

surveillance across other European Union countries (Germany, Hungary, Czechia and Romania, among others).

The workshops aimed to build the capacity of the primary energy market regulator and supporting institutions in Ukraine—NEURC, AMCU and NSSMC—to monitor markets efficiently and combat abuse.

The materials from the workshops are available here:

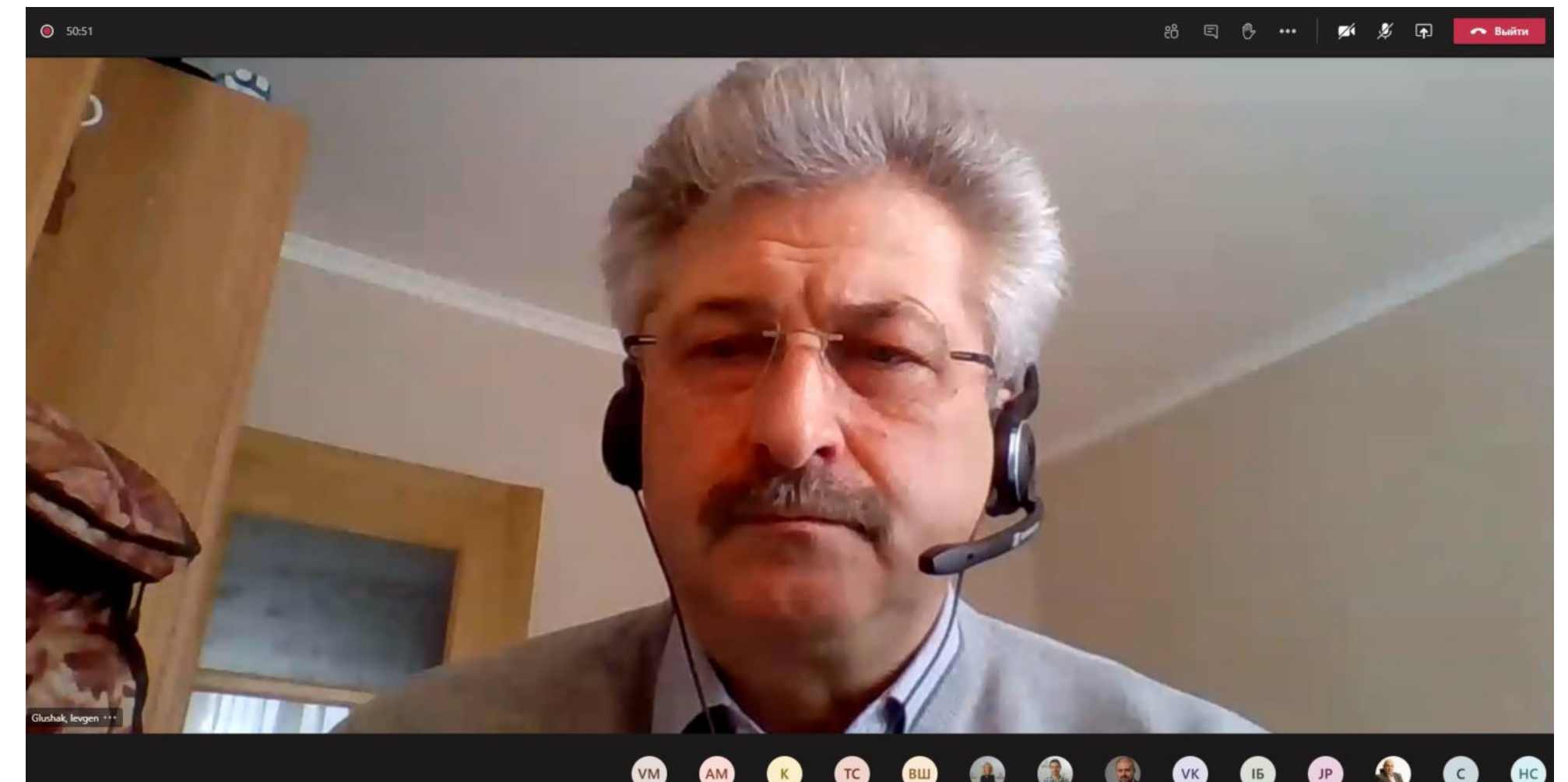
[Part 1 - February 11,](#)

[Part 2 - February 18.](#)

ESP held preliminary trainings for the UA Gas TSO and UkrEnergo, introducing both organizations to the operators' roles in REMIT implementation on February 4 and 15 respectively.

USAID ESP Helps Ukrainian Cities Improve Heat Supply Systems

In February, USAID ESP led the workshop “Development of Heat Supply Systems for Ukrainian Localities” for the Kropyvnytskyi heat supply company KP Teploenergetyk, the Kropyvnytskyi City Council, and representatives of heating utilities from different cities of Ukraine. The workshop aimed to provide the participants with a better understanding of the new Methodology of the Heat Supply Schemes Development for Ukrainian Localities. Workshop participants learned about the Methodology's structure and its key provisions, current district heating problems and European heat supply development trends. Read more [here](#).



Technical assistance in adoption of EU gas metering and quality standards

To advance integration with European markets, USAID ESP is helping Ukraine's Gas Transmission System Operator (UA GTSO) harmonize its gas metering and quality standards with the EU's. This will enable the Ukrainian gas market to develop by:



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- Setting the same technical requirements as in the EU, which will allow Ukraine to integrate more with the EU gas market;
- Meeting Ukraine's commitments under the Association Agreement with the EU;
- Making Ukraine's gas sector more attractive to international investors; and
- Facilitating UA GTSO cooperation with other EU transmission system operators, which will improve energy security and pricing and make it easier to access modern equipment and technologies.

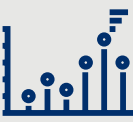
Amending gas standards is a highly technical, complex process that can take a long time. USAID ESP has helped UA GTSO finalize five standards, which were adopted in February. With only six months allocated for this work, adopting five standards is a major achievement: in the past, it has taken several years for Ukraine to adopt even one standard. The remaining six standards are expected to be finalized in September.

For information on next steps, read more [here](#).

Challenges and Recommendations for Gradual Gas PSO Lifting for DH companies

During a recent donor coordination meeting, USAID ESP presented upcoming challenges and recommendations for heating utilities in the light of the forthcoming GAS PSO removal.

CHANGES IN TERMS OF DHCS OPERATIONS



	GAS PSO IN DH: EXISTING	GAS PSO IN DH: REMOVED
Guarantee of gas supply	% payment level: 90+ DHCs; 60+ CHPs	no guarantees of supply
Imbalances. Settlement of imbalances	Imbalances are settled at PSO price. Planning accuracy not required. No imbalance payments. No impact on gas price.	Planning at each metering point required on medium-term (quarterly / monthly) and daily basis. Financial responsibility for imbalances.
Gas price (commodity)	Price is linked to TTF; Naftogaz mark-up is 1,9%. Gas price is public & equal.	Price determined contractually, on individual basis. Supplier markup is not regulated.
Privileged terms to pay for gas transportation	No financial collateral required. Infrastructure capacities guaranteed for DHCs. Post payments for infrastructure services. Disconnections are not possible. Special accounts used to make payments; special accounts are protected from blocking.	Requirement to provide financial collateral. Need to book transportation capacities for DHCs on nomination basis. Pre-payment for infrastructure. Disconnections are possible. Special accounts are removed; no protection from accounts blocking.
Privileges in terms of payments for gas (commodity)	Post payment for gas. Special accounts used to make payments; special accounts are protected from arrest.	Pre-payment for gas required or additional payments guarantees. Special accounts are removed; no protection from accounts arrest.

PRESENTED BY THE USAID ENERGY SECURITY PROJECT

The five main technical and economic areas that need to be addressed before lifting the PSO are gas supply, imbalances and their settlement, the price of gas (as a commodity), preferential conditions for gas transportation and payment for gas (as a commodity).

When the PSO ends, heat supply companies will have to independently buy gas on the market, which means medium-term and daily planning at metering points. They will also need to book capacities to transport gas for their own needs and make sure they have enough financial support.

Lifting the gas PSO is an important step toward integrating the Ukrainian system into European energy markets, but a gradual transition can help ease the way for heating companies and their consumers.

Using the roadmap developed by USAID ESP and with ongoing USAID support, Ukraine will be able to make the necessary legislative changes and ensure a smooth shift to a freer market.

USAID ESP Launches a Competitive Selection for Partner Cities to Support Heat Supply Reforms

As part of USAID ESP's support to heat supply reforms in Ukraine, the Project has launched a competitive selection of partner cities which will receive support from USAID to implement reforms aimed at optimizing and developing their heat supply infrastructure.

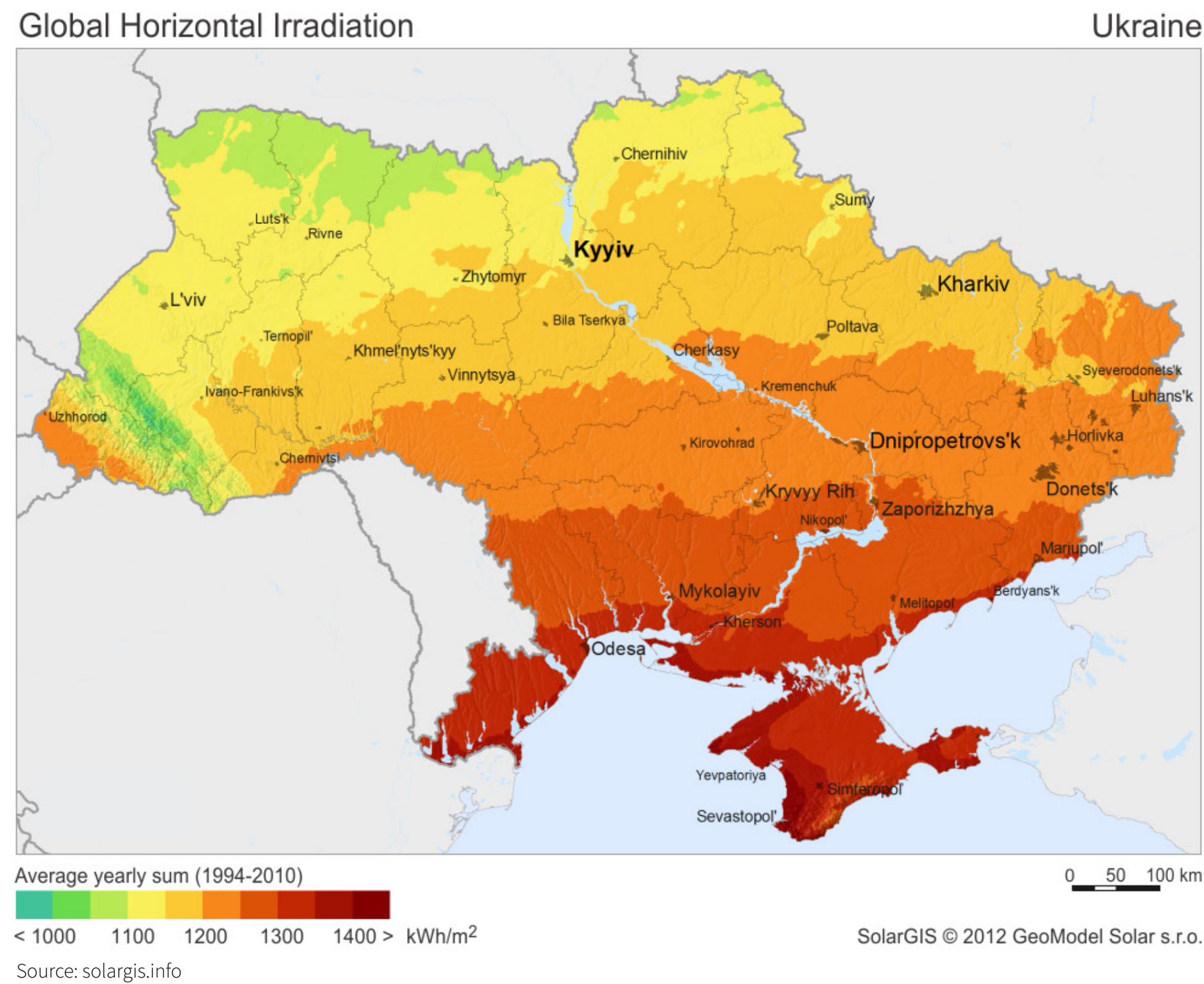
Under a framework of cooperation, USAID ESP plans to:

- Develop a heat supply scheme for each partner city;
- Work out a strategy for long-term heat supply system development and draft a list of investment projects to improve each heat supply system; and
- Prioritize essential investment projects by developing a plan and cost estimate, assessing impact and identifying potential financing sources for each project.

In each partner city, the project will sign a technical assistance agreement with either the city council or both the city council and the local heat supply company, which will be decided at the local level.



Helping Local Communities Understand Small-Scale Renewable Energy



In western Ukraine, communities are working to become energy self-sufficient. USAID ESP is building local awareness around small-scale renewable energy with its grantee NGO Ecosphere through consultations with ESPs renewable energy team (RES).

While small-scale renewable energy has an important role in the world, stand-alone mini-grids are often unfordable at scale for lower-income populations.

ESP’s RES lead Allen Eisendrath shared a map of Ukraine’s solar and wind resources, highlighting optimal locations for solar and wind generating capacities. With RES, cost is directly related to the quality of sun and wind resources: places with intense sun and strong wind tend to have lower generation costs, and the cost of energy rises when there is less sun or less wind.

A stand-alone mini-grid needs multiple energy sources in order to provide electricity around the clock. If it uses a solar energy system, it needs a battery for the night. If the area has several days with no sun, it needs a diesel backup generator unless it connects to another grid. Having three sources of energy, all of which are idle part of the time, is more expensive than consolidating renewable energy generation in the windiest and sunniest spots in the country.

Ukraine does not have a uniform approach to RES: some areas have little wind and sun. A solar mini-grid in the southernmost part of the country is likely to be affordable, the cost of solar will rise the further north and west the mini-grid is.

Dr. Eisendrath encouraged participants to seek the most cost-effective approaches to develop Ukraine’s considerable renewable energy potential.

“How can we get young women interested in energy careers?” A Hackathon for Female Students in Energy

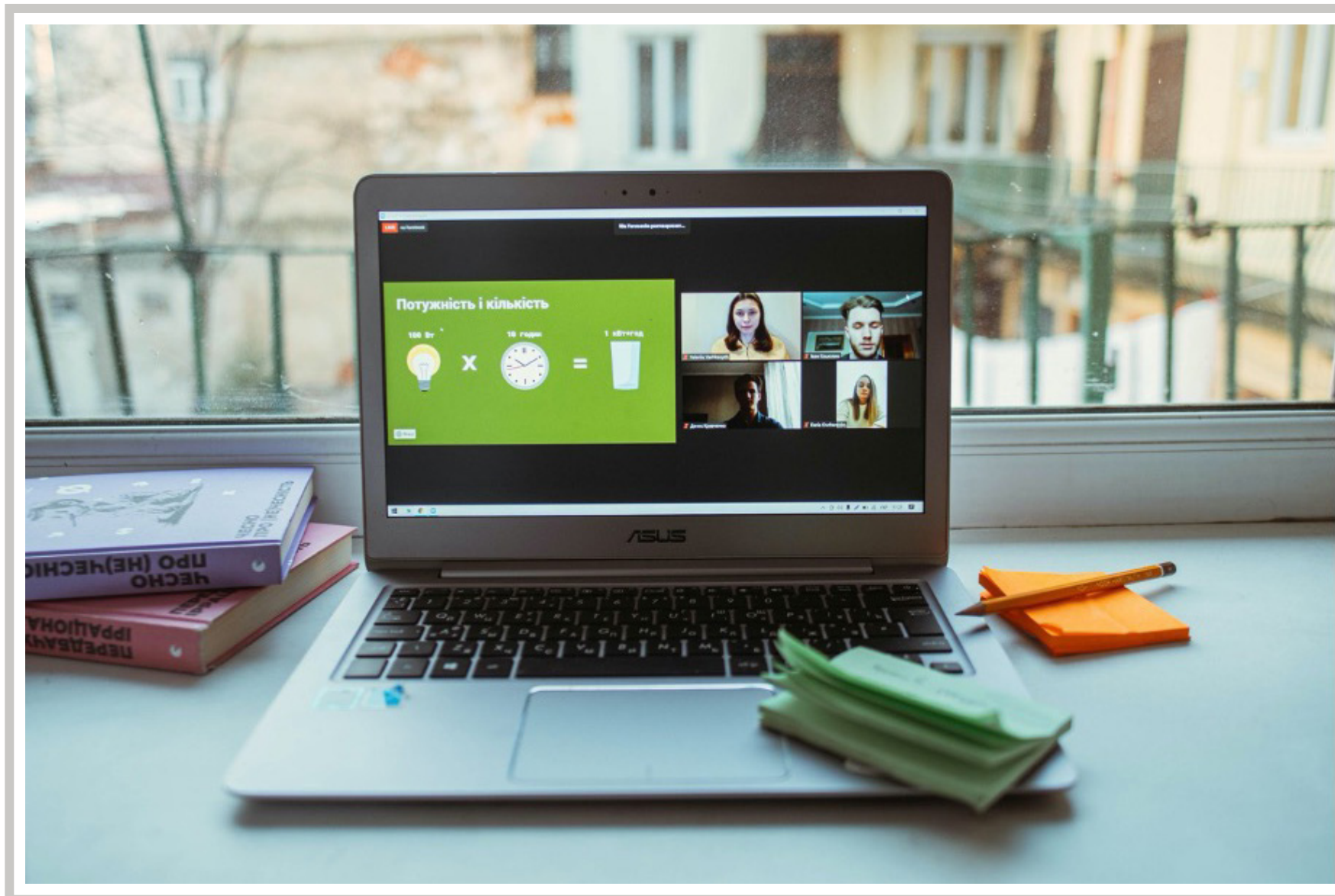


Photo: Ksenia Yanko

On February 24-26, USAID ESP supported CSR Ukraine to lead an online hackathon for female university students specializing in energy related subjects. The event was targeted to raise young women’s awareness about gender equality issues and encourage them to choose jobs in the energy sector as a future career.

Women make up only a quarter of employees in Ukraine’s energy sector, signaling a clear need to spark their interest starting from school age. Current female energy students know better than anyone why young women might choose to pursue energy studies, so hackathon participants were invited to share their views through their projects.

Students worked on their own projects throughout the hackathon, with seven teams making it to the finals to present their work to the jury. All the projects aimed to create interest in female high school students in the subject and dispel stereotypes about women in energy.

Hackathon participants learned the basics of design thinking and working with teams and mentors. Then, they had the opportunity to demonstrate their new skills including how to create presentation materials and deliver a pitch.

A team called «G-energy» won the hackathon, presenting a plan to produce commercials that would disprove stereotypes about women in the energy sector.

Women who took part in the hackathon noted that the concentration on one particular task enabled them to look at gender inequality in the energy sector from a different angle, which helped them propose a variety of interesting solutions.

At a separate session of the hackathon, participants had the opportunity to meet with prominent women in the energy sector, such as Olena Kobets, General Director of Ukgazvydobuvannia JSC, and Olga Belkova, Head of International Activities and Government Affairs at GTS Operator Ukraine.

New Resources from USAID ESP Grantees

Current Trends in the Nuclear Sector: Shutting Reactors or Building New Ones?



Today, there are 440 operational nuclear power reactors across 32 countries worldwide. Fifty more are currently being built, primarily in Asia. The International Atomic Energy

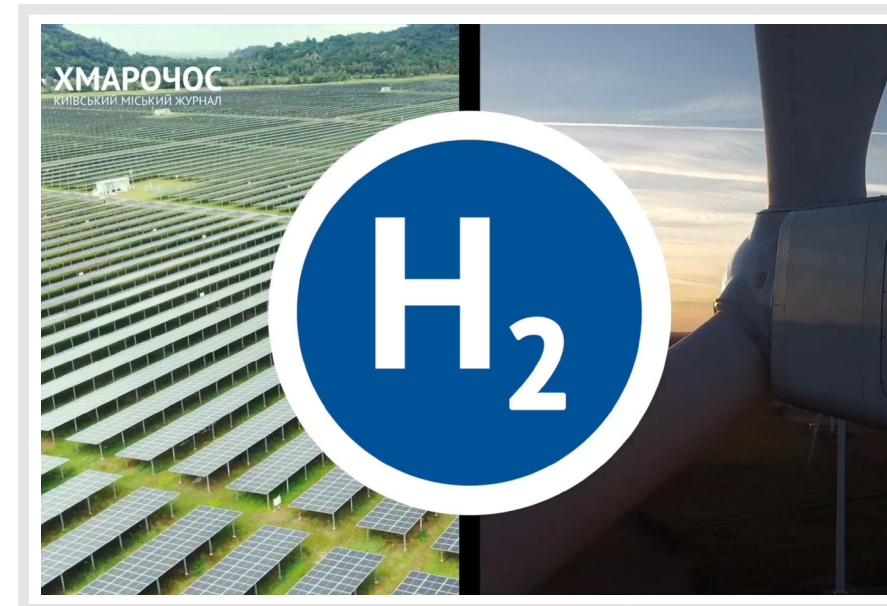
Agency (IAEA), however, can give no definitive projection about the future of nuclear plants and nuclear energy.

This future will mainly depend on whether new facilities will be built to replace the old ones that are being retired. More than half of nuclear power plants in operation have been running for more than 30 years.

Currently, nuclear power plants generate 10 percent of the world's electricity. According to the IAEA's most pessimistic projections, this figure will decrease to 6 percent by 2050; its "best case" forecast sees a decrease to only 12 percent.

More information about the global trends in nuclear energy can be found in an [article](#) by USAID ESP grantee Hmarochos.

Can Hydrogen Energy be an Environment-Friendly Alternative?



Hydrogen can help resolve critical energy concerns by heating buildings powering transportation and energy generation. It offers a way to decarbonize several sectors where it

is difficult to reduce emissions significantly: long-distance transportation, the iron and steel industry, and chemical production. Hydrogen can also improve air quality and strengthen energy security.

Hydrogen can create new and greater opportunities for renewable energy, making it possible to accumulate energy from renewable sources. This is a promising option for energy storage lasting days, weeks or even months.

What is hydrogen energy and why is it seen as promising? A [video](#) by USAID ESP grantee Hmarochos.

The Future of Gas Transit Via Ukraine



Ukraine has significant gas transportation and storage facilities, but until recently they were underused. However, the country has now adopted most EU gas legislation

and signed agreements enabling efficient transportation of gas to and from the EU.

As a result, European suppliers have started actively using the Ukrainian gas transportation system, mainly due to new transport services such as shorthaul and an improved customs warehouse procedure.

For more information about gas transportation and its role in Ukraine's energy security, check out this [video](#) by USAID ESP grantee Hmarochos (subtitles in English).

New Grant to Survey Consumer Perspectives



In February, USAID ESP signed a grant agreement with the LLC Info Sapiens to survey household customers about their experiences switching gas suppliers. The survey will reach out to customers who have already switched suppliers and those who have considered it.

Tender



USAID ESP has released a [tender](#) for a consultative survey of heat consumers in Kropivnitskiy City in preparation to develop a new heat supply scheme.

Vacancies



ESP is looking for two Experts to strengthen its electricity team: an Electricity Market Expert and a Senior Electricity Market Expert. Detailed information about the positions' responsibilities and qualifications is available via the [link](#).

