GREEN ENERGY
EXPORT DAY 2025

WORKSHOP

Ukraine – Green Power

AGENDA

Ukraine energy export market – a deep dive
- Made Holmgaard Meyer, Energy Advisor, Embassy of Denmark in Ukraine

Current needs and developments in Ukraine's power supply
- Jeppe Kofod, Chair of NPC Ukrenergo Supervisory Board

Access to risk capital
- Peder Anker Larsen, Associate Director, EIFO

Moderator
- Thøger Lautrup Knøss, Political Consultant, Danish Chamber of Commerce

GREEN ENERGY
EXPORT DAY 2025

Ukraine energy export market – a deep dive

Mads Holmgaard Meyer, Energy Advisor, Embassy of Denmark in Ukraine

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK

Danish engagement with the Ukrainian energy sector

Mads Holmgaard Meyer, Energy and Climate Counsellor, Embassy in Kyiv

Copenhagen, 27 August 2025

Tiligulska Wind Farm, Mykolaiv Oblast

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK

Agenda:

1. Ukrainian-Danish Energy Partnership (UDEPP)
2. Needs for the Ukrainian energy sector
3. Status on Green Energy Technologies in Ukraine
4. Financial spiralling in the District Heating sector
5. Needs & potentials for investments
6. How to get started

Welding in the open air at a power plant

Ukraine-Denmark energy partnership programme

- **UDEPP** was established in 2014 following Russia's unprovoked and unjustified attack on Crimea, Donetsk and Luhansk
- Anchored in Ukrainian ministries of energy and development, and in the **Danish Energy Agency**
- Aim is through a **government-to-government** approach to ensure solutions for an independent and sustainable energy sector in Ukraine
- COVID-19 and Russia's full-scale invasion attempt has been challenging but ways have been found to adapt and move forward.

Focus areas within UDEPP

Long-term energy planning and modelling

Power market integration

Energy efficiency

District heating

Wind generation (offshore and onshore)

Biogas & green gas systems

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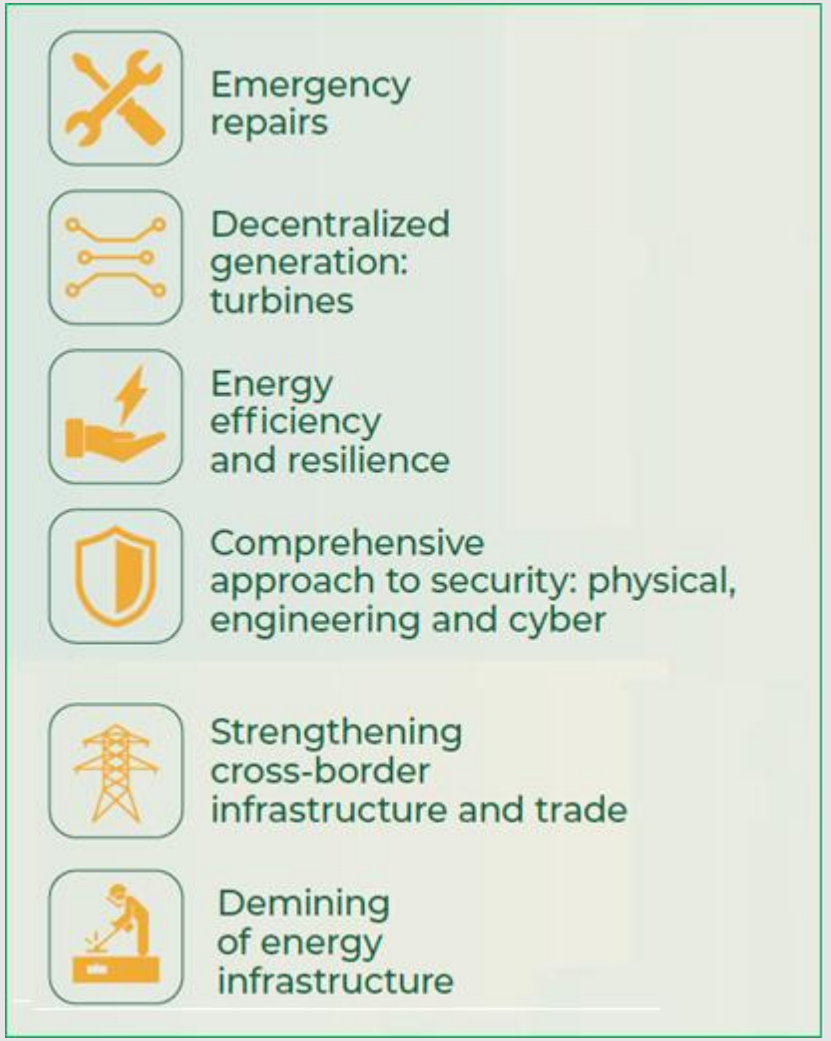
2. Needs for the Ukrainian energy sector

Wanted: New decentralised & resilient system
- an Opportunity for green solutions & EU-integration

- Balancing short-term energy needs with long-term goals is very difficult due to uncertainties
- Immediate recovery in the energy sector is imperative, especially preparation for next winter season in large cities such as Kharkiv
- The war risks also present an **opportunity** to rebuild greener and support EU-integration
- Ukraine wants a decentralised and resilient energy system to replace existing, as huge Soviet-era power plants are “easy targets”
- **Denmark has a lot to offer in this field, e.g.:**
  - Renewable generation and integration
  - Efficient technology and system solutions



Ministry of Energy in Ukraine - strategic priorities

PREPARATION FOR THE **HEATING SEASON**	**EUROPEAN ENERGY INTEGRATION** AND SYSTEMIC REFORMS	**DEREGULATION** AND PRIVATE SECTOR DEVELOPMENT	DEVELOPMENT OF **NUCLEAR TECHNOLOGIES** AND THE URANIUM MINING INDUSTRY
Ensure **stable operation** of the power system during the **winter season** under conditions of peak loads and increased risks, including **physical protection of infrastructure** and capacity reserves.	Opens **access to the EU's** common energy space, ensures **compatibility** of technologies and procedures, and enhances the country's energy security.	For the energy sector to **grow faster** and be **attractive to investors**, the private sector needs to operate under **clear rules**, with access to financing and **minimal administrative barriers**	Creation of a **national nuclear fuel production chain** - from uranium mining to the launch of domestic nuclear fuel production, improving the safety of existing nuclear power plant units, and introducing advanced technologies, in particular small modular reactors (SMRs)

Rebuilding ukraine with Renewable Energy: Priorities & Challenges

Nuclear remains backbone baseload.

Gas – short-term flexibility and backup capacity

Wind & **solar** central to growth; decentralized = resilience.

Biomethane potential (~20 bcm) ≈ domestic gas demand.

Biomass as a complementary resource **–** best used in local, flexible applications.

System integration: risk of negative prices → storage, balancing & ENTSO-E integration.

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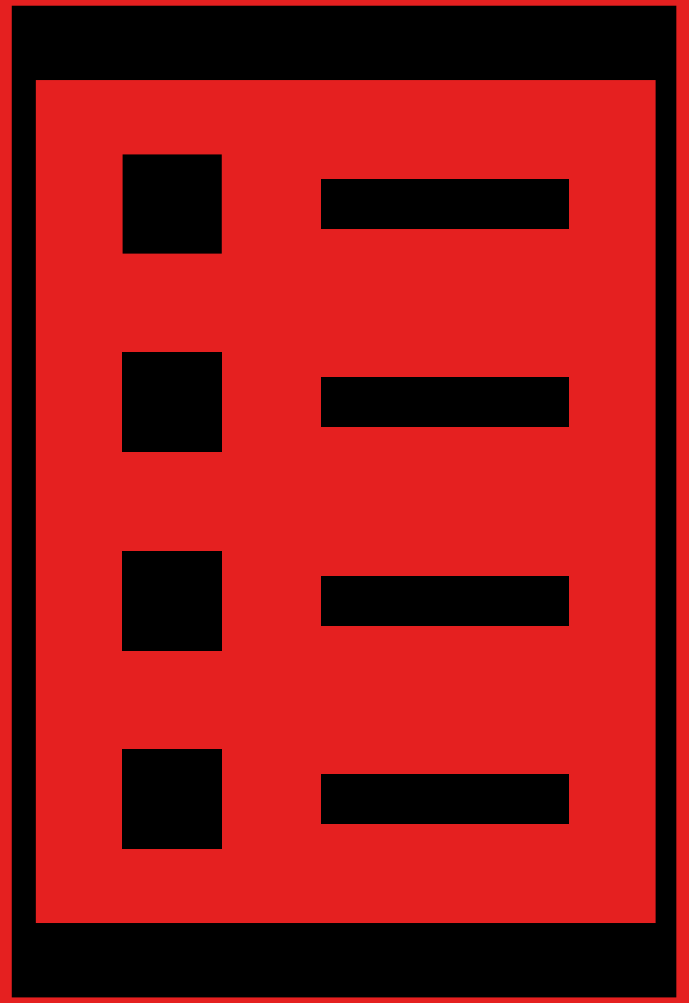
3. Status on primary RE- technologies



Wind

Strong domestic demand, cost-competitive generation

Attractive for private investment & EU exports

Local manufacturing capacity (e.g. blades)

7 projects under development, ~4 GW in pipeline — financing crucial

Solar

High demand — especially for decentralized generation (rooftops, microgrids)

Forecasting challenges increase grid stress

Needs balancing alternatives beyond gas (storage, interconnections)

Bioenergy

Huge potential from agricultural/forestry residues

Key barriers: grid connectivity, price caps, no national strategy

Requires *(some)* legislative reform to unlock investment

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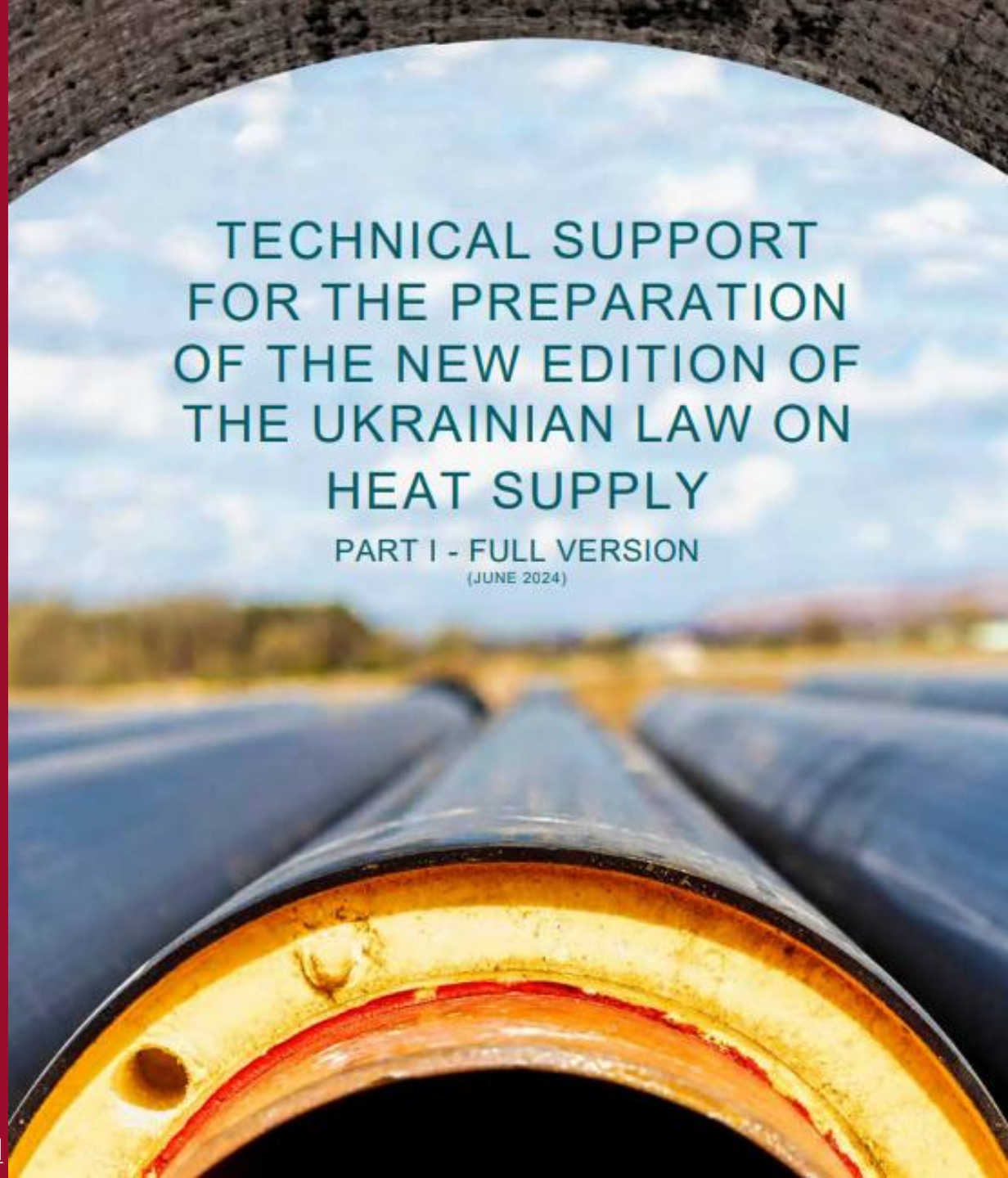
4. Financial downwards spiraling



Link to Report: https://ens.dk/media/6861/download

The vicious circle

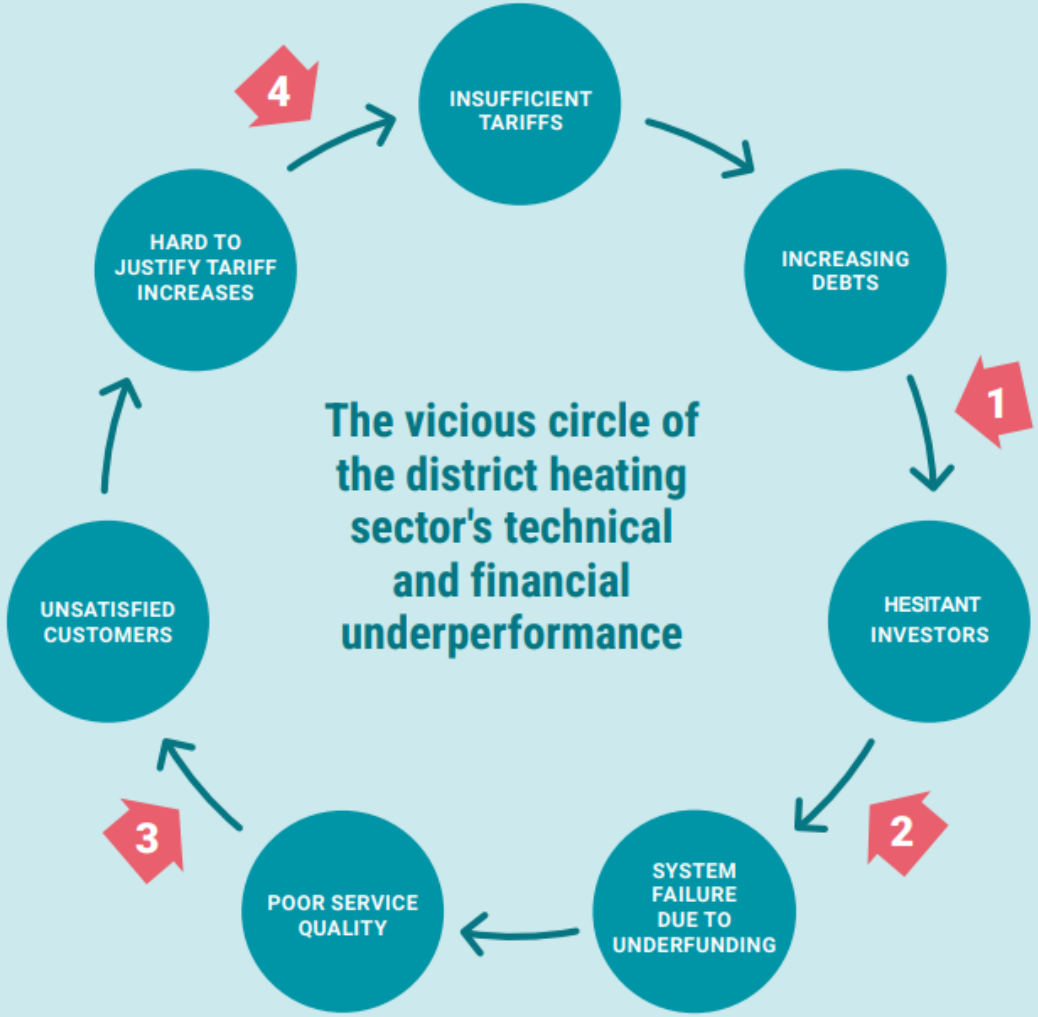
District heating sector

- Danish drivers for development of DH sector

- Breaking the cycle:
  - Cost effective tariffs
  - Attraction of investments
  - Dept restructuring

Focus on Mykolaiv

Ukrainian water sector sees similar issues



PROPOSED INITIATIVES TO BREAK THE CIRCLE

1. Tailored and flexible debt restructuring
2. Attracting IFIs, international donors and PPPs to implement modernization based on concessional financing and grants
3. Mandated performance benchmarks linked to debt restructuring
4. Implementation of cost-reflective tariffs along with seperation from social subsidies.

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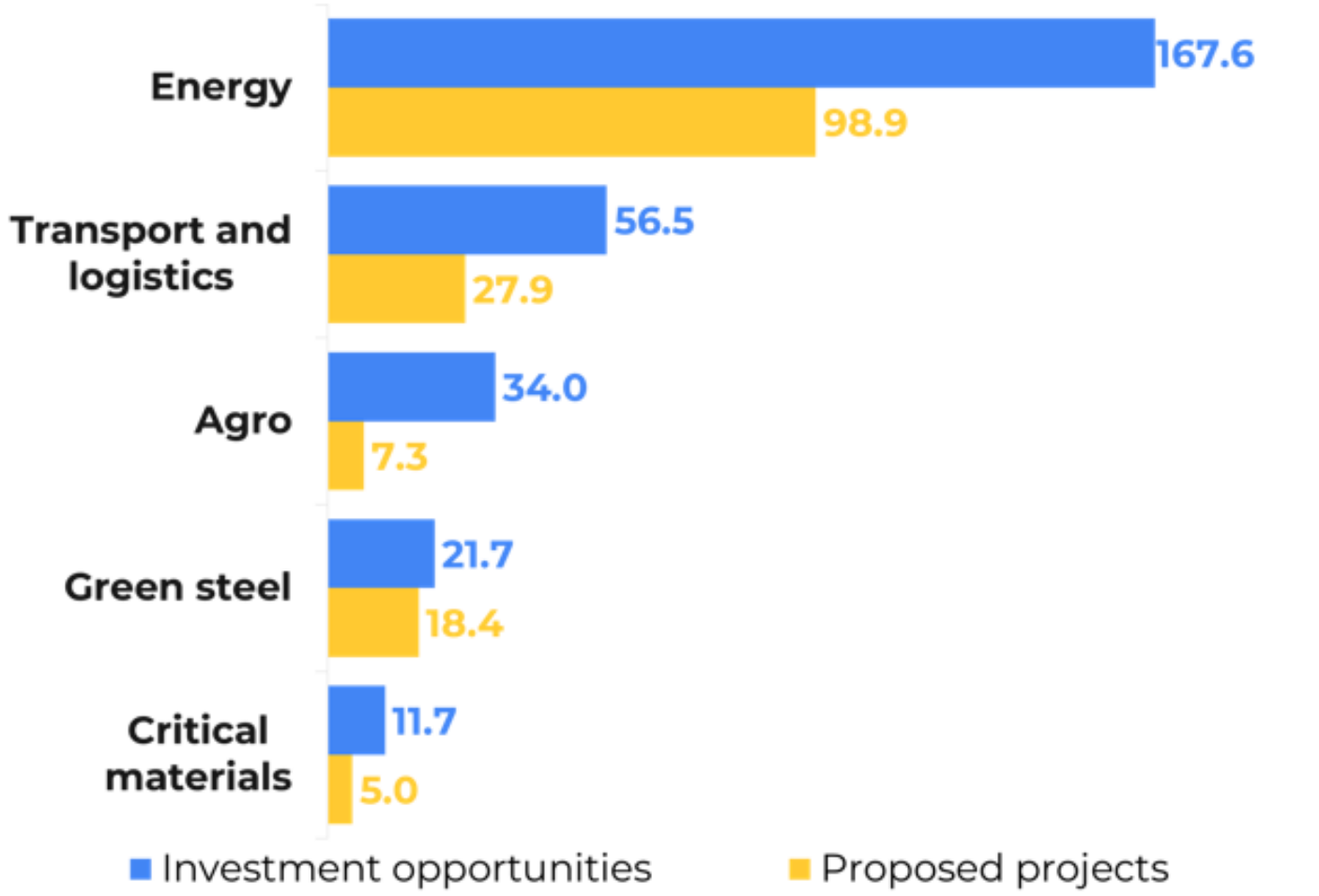
5. Needs for investments

UKRAINE'S INVESTMENT OPPORTUNITIES IN THE NEXT 10 YEARS ARE MORE THAN $292 BN

MINISTRY OF ECONOMY OF UKRAINE



Source: Kyiv School of Economics

HIGHLIGHTS

Key subsectors: Wind generation; Oil and gas; Biofuel and biomethane; Nuclear power; Peaking power including cogeneration; Wind and Solar generation; Hydrogen; Grids and interconnectors; Hydro energy; Storages

Key subsectors: Construction and restoration of roads, bridges and tunnels; Development of railway infrastructure, electrification; Renewal of passenger and freight rolling stock; Air transport; Public transport; Sea and river transport; Export logistics

Key subsectors: Irrigation systems; Storages; Fruits & Vegetables production; Seeds; Plant protection products; Complex fertilizers; Nitrogen fertilizers; Dairy products; Meat products; Eggs & Chicken; Logistics; Oil & Fat; Vegetable proteins; Corn starch & Gluten; Machinery & equipment

Key subsectors: Green steel products; DRI/HBI; DR-pellets; Improvement mining and processing technology; Recycling of waste ore processing

Key subsectors: Lithium; Titanium; Graphite; Rare-earth elements; Cobalt, Nickel, Beryllium, Aurum, Polymetal

Key energy subsectors development by 2033

Wind generation
- Construction of new wind power plants with total capacities of 65.4 GW

Oil and gas
- Restoration and modernization of refineries, exploration and development of the potential of new deposits, reconstruction of compressor stations, etc.

Bioenergy and bioenergy
- Construction of alternative biofuel capacities – 0.3 GW;
- Increasing capabilities to produce 10 bn m^3 of biomethane

Nuclear power
- Construction of new nuclear power units (3.7 GW)

Peaking power including cogeneration
- Construction of new capacities with total capacities up to 13 GW

Solar generation
- Construction of new solar power plants with total capacities of 15.6 GW

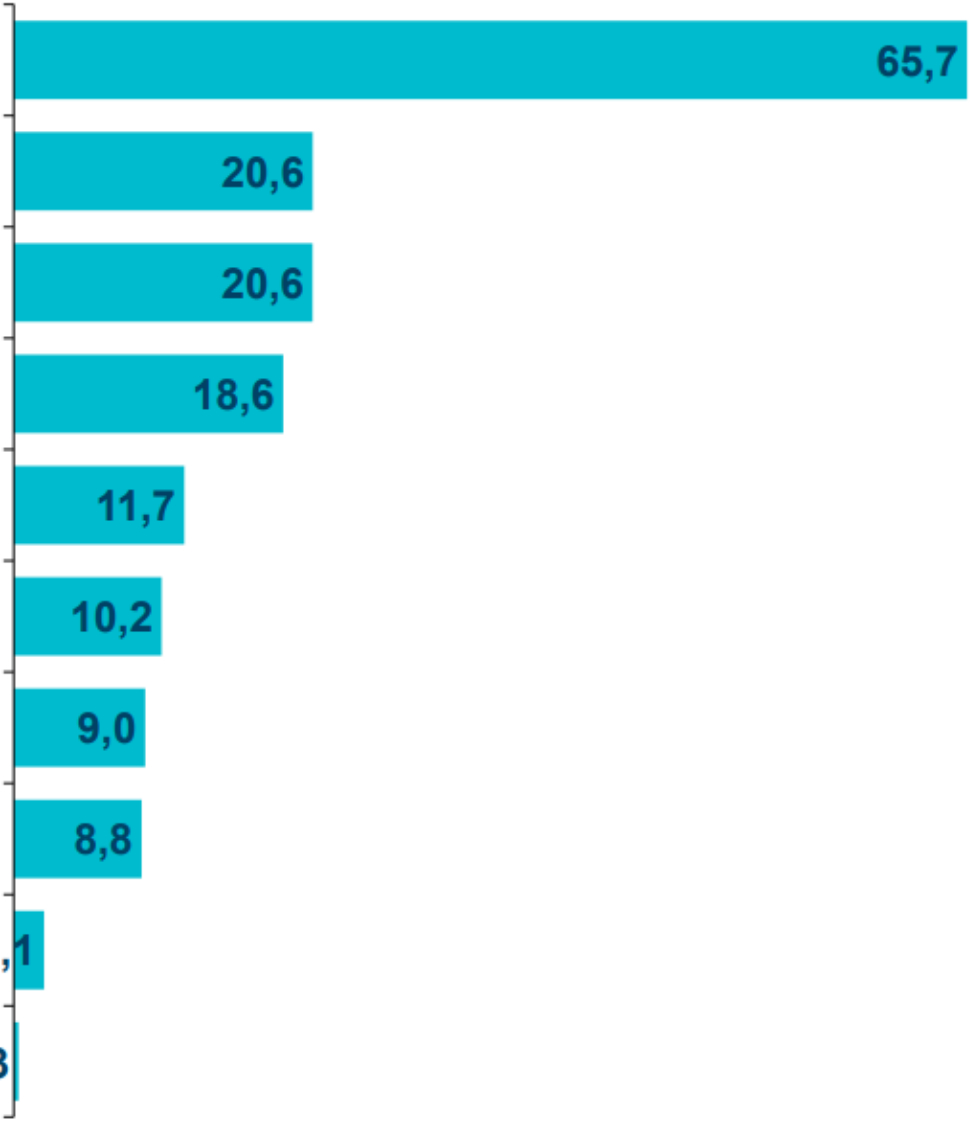
Hydrogen
- Carrying out technical studies on the readiness of Ukraine's GTS for hydrogen; export to the EU countries (1 m tonnes); internal production for green steel manufacturing (0.375 m tonnes)

Grids and interconnectors
- Modernization of the transmission system to increase transformer capacity and development of networks

Hydroenergy
- Construction of pumped-storage hydroelectric power stations (2.1 GW)

Storages
- Construction and instalment of 0.5 GW

Potential investment opportunities, $ bn



Source: Ministry of Energy, Kyiv School of Economics

Energy Efficiency - FIRST

- Energy efficiency delivers the cheapest & fastest "energy resource"
- €50 billion efficiency market potential across sectors of Ukraine
- Denmark supports the transitioning to efficiency needs policy tools & incentives
  - Energy savings campaign
  - Voluntary agreements
  - Ect.
- PV is *not* energy efficiency

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OF DENMARK

6. Danish investments instruments with offices in Ukraine

EIFO

IMPACT FUND DENMARK

Trade council

- Helps small and large Danish enterprises who wish to do business or invest in Ukraine.
- Offer export counselling in the form of various services, customized solutions and subsidized programs.
- Deep knowledge of the Ukrainian business environment.

Danish companies are welcome to contact our trade team regarding support for new or ongoing activities in Ukraine.

Energy | Water & Environment | IT & Tech

Serhii Gerasymov

Commercial Advisor

- Market and legislation analysis
- Search for insurance products for investments in Ukraine
- Partner search
- Delegation visit to Denmark
- Delegation visit to Ukraine & conference organisation
- General troubleshooting

Serhii Gerasymov

E-mail: serger@um.dk
Direct phone: +38 067 122 81 88.

ROYAL DANISH EMBASSY IN UKRAINE
The Trade Council

GREEN ENERGY
EXPORT DAY 2025

Current needs and developments in Ukraine’s power supply

Jeppe Kofod, Chair of NPC Ukrenergo Supervisory Board

UKRENERGO
National power company

Recovery in Motion: Stronger, Greener and Smarter Investments

Jeppe Kofod,
Chairman of the
Supervisory Board

ABOUT THE COMPANY

22 010 km
total length of high-voltage lines

95
220-750 kV substations (in the territories controlled by Ukraine)

109 bln kWh
annual transmission volume (in wartime)

entsoe
full member of the European energy association ENTSO-E (from 01.01.2024)

One of the largest transmission system operators in Europe

A private joint-stock company with 100% of state-owned shares, which belongs to the sphere of management of the Ministry of Energy of Ukraine

UKRENERGO PROVIDES:

- balance of generation and consumption of electricity and capacity in the power system
- operation and development of trunk and interstate power grids
- parallel operation of the power system of Ukraine with the power systems of neighbouring countries
- technical feasibility of electricity import/export

UKRENERGO'S KEY STRATEGIC PRIORITIES IN INVESTMENT ACTIVITIES

NPC Ukrenergo's investment activities are focused on recovery from attacks and long-term development of power infrastructure, despite russian aggression and considering commitments to ENTSO-E

Promoting the restoration, development and transformation of the power system of Ukraine, its sustainable functioning

Ensuring the physical protection of the company's facilities and a balanced and cost-effective model of operation of the IPS of Ukraine

Creating conditions for increasing the volume of electricity exchanges with European countries and expanding the capacity of interstate connections

Elimination of bottlenecks in the power system of Ukraine to ensure reliable and stable power supply

RUSSIAN ATTACKS ON UKRAINE'S POWER SYSTEM

11.09.2022 - 26.08.2025

The war and the targeted attacks on transmission system facilities by the russian federation, which led to large-scale destruction, forced the redirection of funding, previously purchased equipment for the modernisation of the power grid, and administrative and human resources to restore the transmission system.

≈ 1200
launched drones and missiles

around 50%
of Ukrenergo's infrastructure has been affected

MASS DESTRUCTION OF THE COMPANY'S ASSETS

~2 BLN EUR

Estimated cost of damage (including losses in the occupied territory)

URGENT NEEDS OF NPC UKRENERGO

▲ **Autotransformers**

▲ **Special equipment**

▲ **Relay protection and automation**

▲ **Outdoor switchgear equipment (circuit breakers, disconnectors, instrument transformers)**

Required voltages:

- **750 kV**
- **330 kV** (400 kV is applicable as well)
- **220 kV**
- **150 kV**
- **110 kV**

ADVANCED GRID INTERCONNECTION TECHNOLOGIES

Due to russian aggression and damage to infrastructure, Ukraine is facing a power shortage. Increasing imports from the EU is vital, but traditional methods of network expansion are time-consuming and costly.

SOLUTION: Implementation of an innovative technology (Controlled Series Capacitor) on 400 kV OHL Khmelnytsky NPP – Rzeszów. This will allow us to efficiently use the available capacities and optimise the energy flow.

ADVANTAGES:

Increase in import/export volumes to 2.5 GW (additional 400 MW)

Cost-effective: significantly cheaper than building new lines and upgrading existing ones

Implementation speed: 15-18 months

POTENTIAL EQUIPMENT MANUFACTURERS:

HITACHI SMART WIRES GE VERNOVA

PROSPECTS FOR THE DEVELOPMENT OF THE SECTOR (GENERATION)

CURRENT ANALYSIS OF THE POWER SYSTEMS:

Insufficient level of generating capacity due to the following factors:

- over 50% of capacities are outdated/worn out
- high dependence on centralised generation
- significant share of traditional (coal) generation
- loss of control and destruction of the IPS facilities as a result of military operations
- balance constraints, insufficient manoeuvrable capacities
- insufficient cross-border capacity

PRIORITY AREAS OF DEVELOPMENT:

STRENGTHENING THE DECENTRALISATION PROCESS

Development of small and local power plants, mainly GTU and GPU (gas turbine and gas piston units)

GROWTH IN THE SHARE OF RES

Development of power sources of solar power plants, wind farms, bioenergy

INCREASING MANOEUVRABILITY

Commissioning of highly manoeuvrable semi-peak and peak capacities, including small hydroelectric power plants, energy storage systems (ESS)

DECARBONISATION (IN THE LONG TERM)

Transition from coal to transitional fuels - natural gas and RES. Development of nuclear generation

INFRASTRUCTURE RESTORATION

Restoration of damaged equipment, modernisation of thermal power plants and hydroelectric power plants

EXPANSION OF ELECTRICITY EXCHANGE CAPACITY WITH ENTSO-E COUNTRIES

Measures to develop interconnectors and strengthen internal connections

UKRENERGO
National power company

THANK YOU FOR ATTENTION!

Jeppe Kofod,
Chairman of the
Supervisory Board

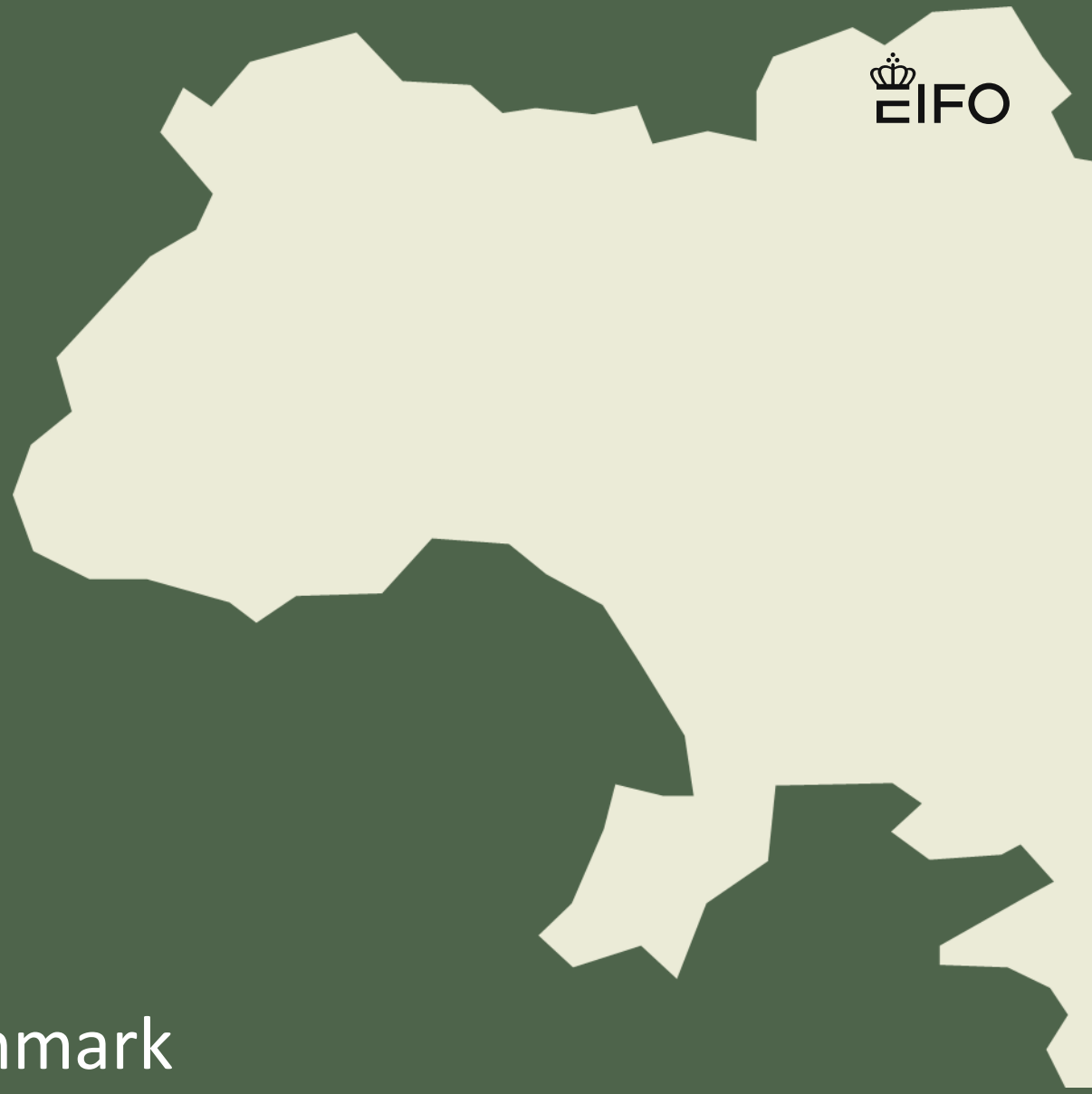
Access to risk capital

Peder Anker Larsen, Associate Director, EIFO

Green Energy Export Day

EIFO Export & Investment Fund of Denmark

March 2024



The Export and Investment Fund of Denmark (EIFO)

- The national promotional bank (NPI) and official export credit agency (ECA) of Denmark
- Merger of **Vækst Fond** (VF) & **Eksport Kredit Fonden** (EKF)
- AAA-rated independent public company guaranteed and owned 100 percent by the Danish state
- A single point of access for Danish companies and international buyers
- Provides risk tolerant and competitive government financing
- EIFO steps in, when the market hesitates!

Transactions

4 bn EUR

Portfolio

23 bn EUR

Balance

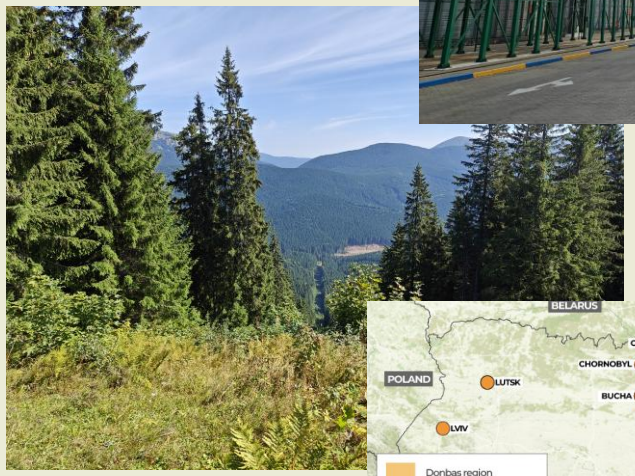
10 bn EUR

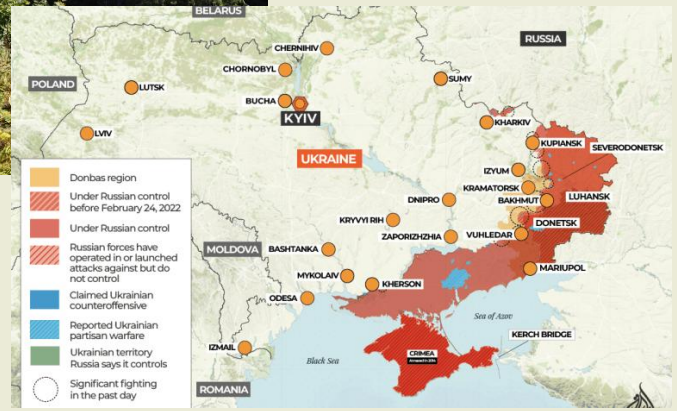
Customers
approx.

3,500

EIFO’s Ukraine Facility

- The Export and Investment Fund of Denmark (EIFO) has been allocated EUR 755 mil. to finance the rebuilding of Ukraine. (*Tyligulska wind farm* EUR 380 *mil.)*
- EIFO provides financing and guarantees on commercial and semi-commercial terms for export and investment in Ukraine
- EIFO’s financial solutions function as a loan and guarantee scheme backed by the government of Denmark.
- Commercial and political risk cover including damages of war.
- Guarantee up to 100% of the financed amount, with a tenor over 6 months.
- Cover of the pre-shipment phase plus up to 15 years credit. The credit can be extended up to 22 years for projects within renewable energy and water treatment.





EIFO’s Ukraine Facility

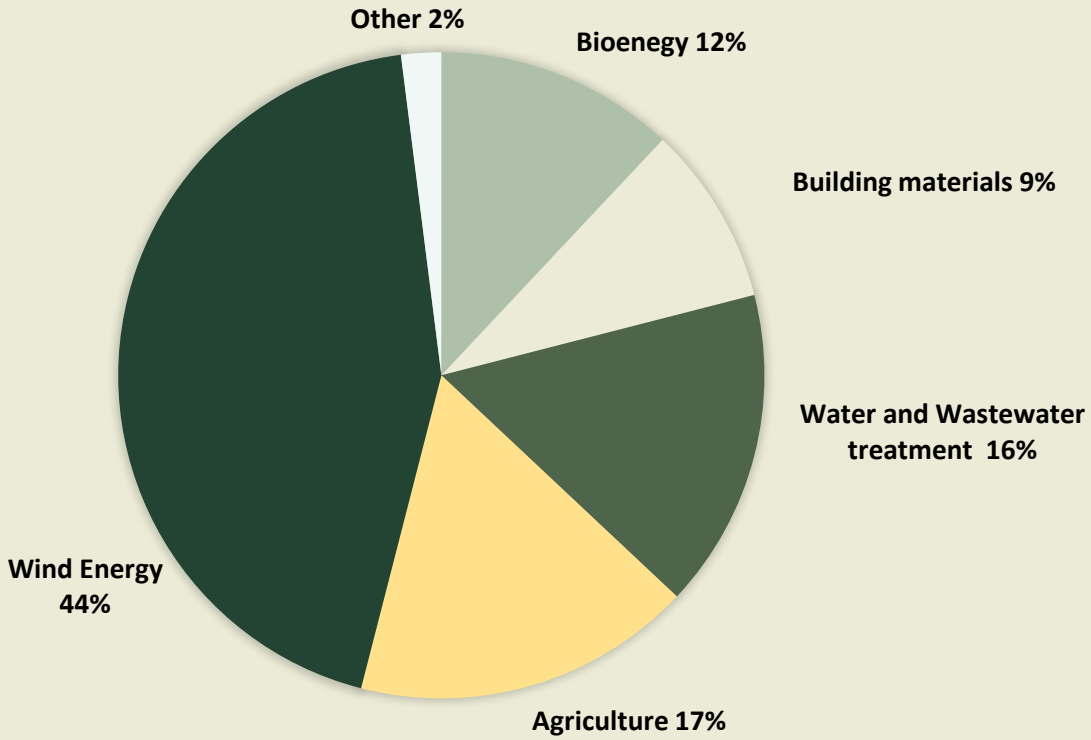
❑ **Ukrainian central and local governments (EUR 107 mil)**

- Attractive financing terms, including a donation/grant element from the Danish state
- Grant element (up to 40%) can consist of
  - - Elimination/reduction of interest
  - - Initial grace period
  - - Longer repayment period
  - - Reduction of loan principal

❑ **Private companies (EUR 268 mil)**

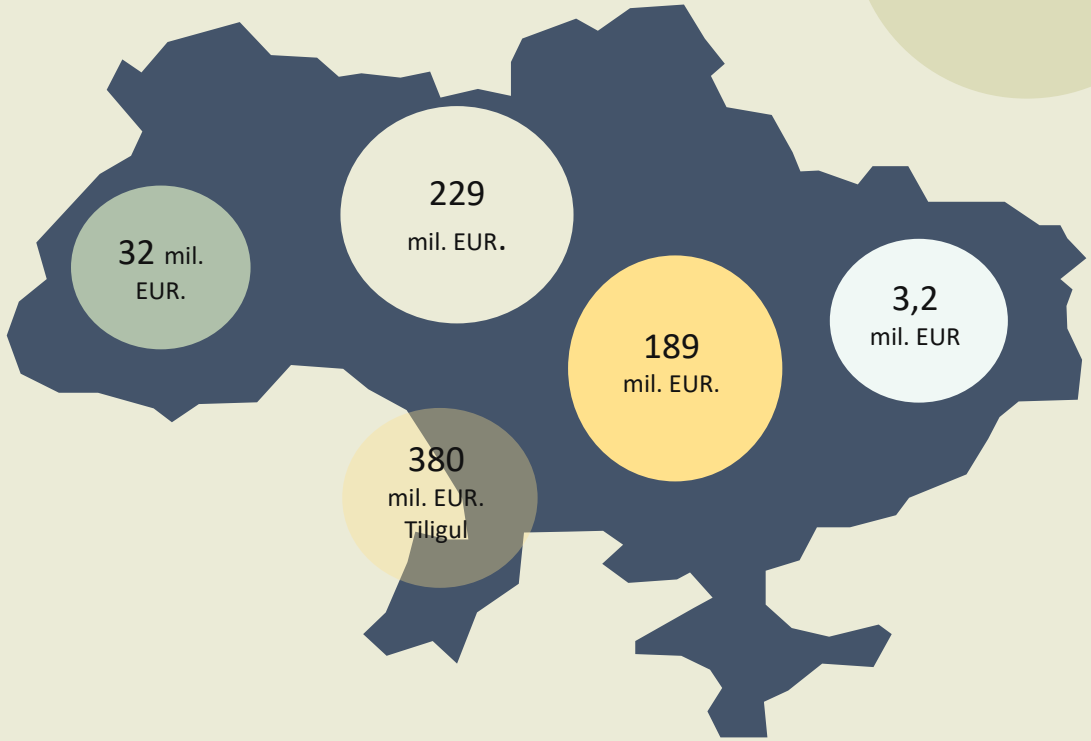
- Covers Ukrainian companies purchasing from Danish suppliers and Danish companies investing in Ukraine
- No grant element, but attractive, hard currency financing
- Considerable risk due to Ukraine being at war (Risk class 7 premium)

All over Ukraine – and in different sectors



39,6 mil
mil. EUR
deployed

20 transactions

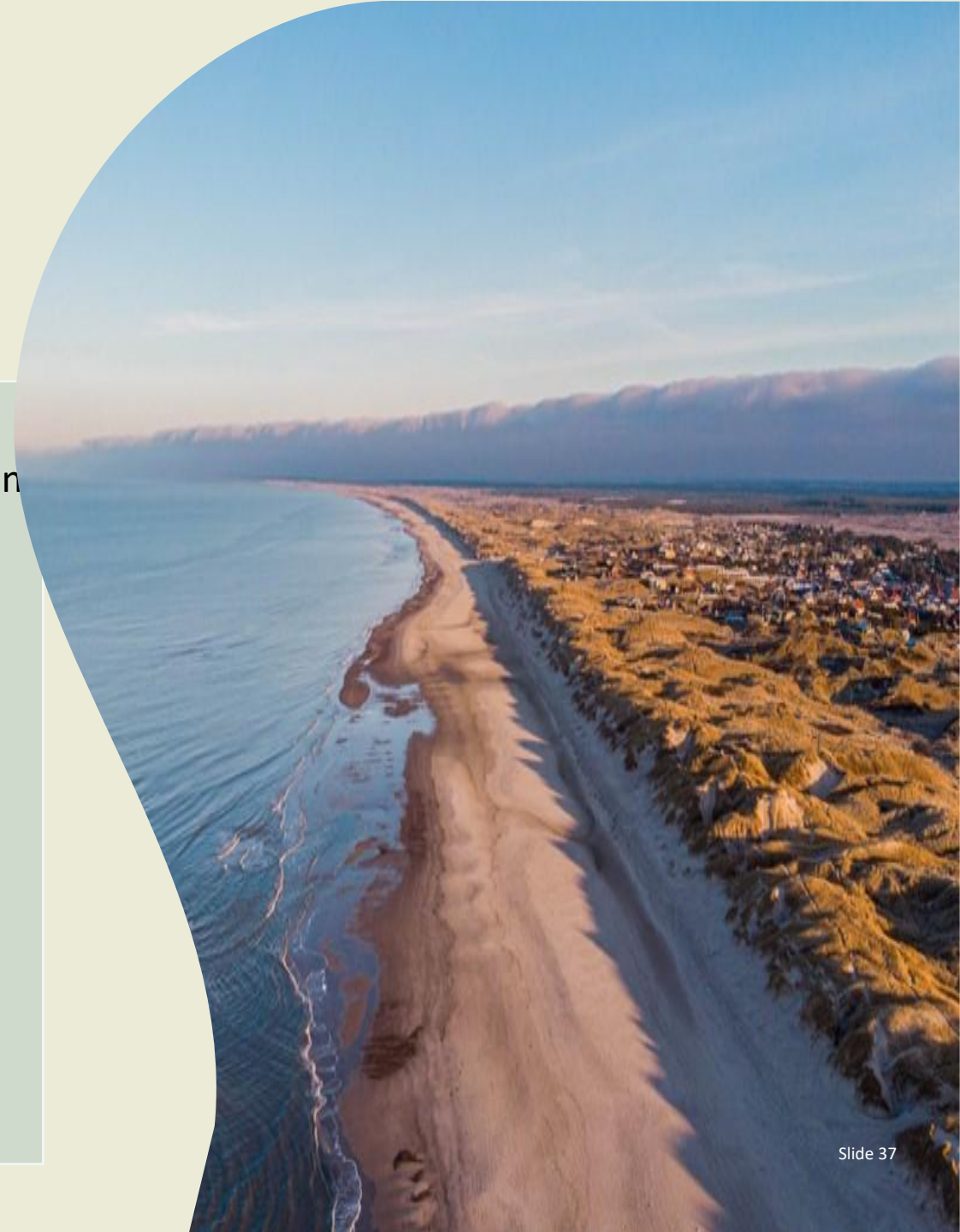


Pipeline and current deployed capital

Guiding principles

The transactions should create development in Ukraine and export out of Denmark

- ❑ Financing for projects within infrastructure and basis production
- ❑ Danish content constitutes a minimum of 30% of the financed amoun
- ❑ The borrower to provide 5 years audited financial reports
- ❑ Share capital 3x the loan amount
- ❑ Maturity of the project must be advanced
- ❑ Experience with trade and finance with western countries
- ❑ Risk of war damage
- ❑ Credit risk
- ❑ The Danish exporter must submit EIFO's Expression of Interest (EoI)



EIFO’s product range in Ukraine

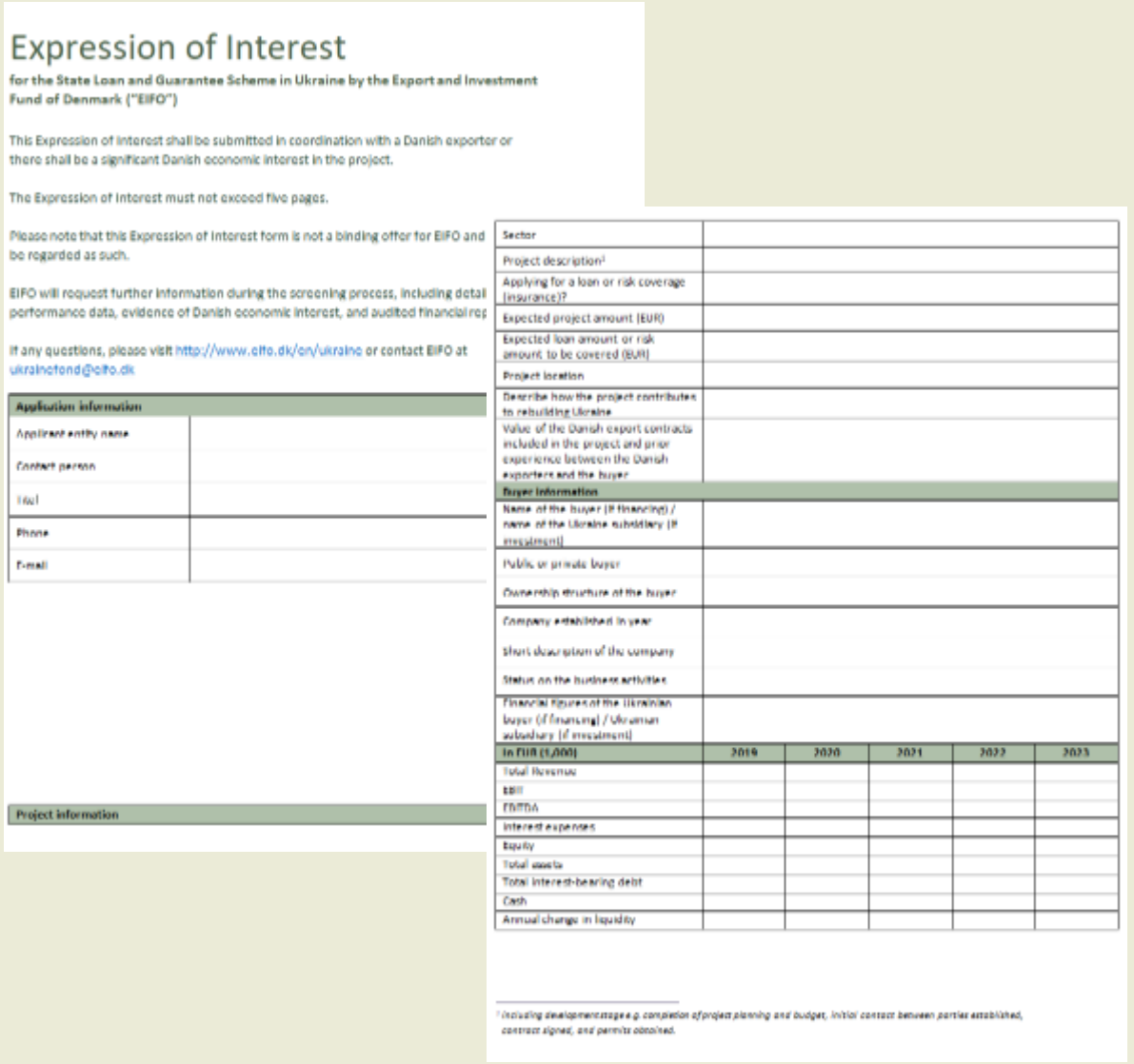
FINANCING FOR UKRAINIAN BUYERS

- ❑ Direct loan from EIFO with 40% grant element to public buyers
- ❑ Direct loan from EIFO to private Ukrainian companies
- ❑ Buyer Credit Guarantees with 100% EIFO risk cover
- ❑ Supplier Credit Guarantees with 100% EIFO risk cover
- ❑ Leasing Guarantees with 100% risk cover
- ❑ Short term and Long term L/C with 100% EIFO risk cover
- ❑ Project Finance guarantees with 100% EIFO risk cover
- ❑ Private credit insurance companies’ short terms guarantees with 100% EIFO risk cover

GUARANTEES FOR DANISH EXPORTERS

- ❑ Investment Guarantees with 100% EIFO risk cover
- ❑ Contract Guarantees with 100% EIFO risk cover
- ❑ Bond Guarantees with 100% EIFO risk cover

Loan and guarantee scheme for the reconstruction of Ukraine



Expression of Interest

for the State Loan and Guarantee Scheme in Ukraine by the Export and Investment Fund of Denmark ("EIFO")

This Expression of interest shall be submitted in coordination with a Danish exporter or there shall be a significant Danish economic interest in the project.

The Expression of Interest must not exceed five pages.

Please note that this Expression of Interest form is not a binding offer for EIFO and be regarded as such.

EIFO will request further information during the screening process, including detail performance data, evidence of Danish economic interest, and audited financial rep

If any questions, please visit http://www.eifo.dk/en/ukraine or contact EIFO at ukrainefond@eifo.dk

Application information	
Applicant entity name	
Contact person	
Title	
Phone	
E-mail	

Project information					
Sector					
Project description[1]					
Applying for a loan or risk coverage (insurance)?					
Expected project amount (EUR)					
Expected loan amount or risk amount to be covered (EUR)					
Project location					
Describe how the project contributes to rebuilding Ukraine					
Value of the Danish export contracts included in the project and prior experience between the Danish exporters and the buyer					
Buyer information					
Name of the buyer (if financing) / name of the Ukraine subsidiary (if investment)					
Public or private buyer					
Ownership structure of the buyer					
Company established in year Short description of the company Status on the business activities					
Financial figures of the Ukrainian buyer (if financing) / Ukrainian subsidiary (if investment)					
In EUR (1,000)	2019	2020	2021	2022	2023
Total Revenue					
EBIT					
EBITDA					
Interest expenses					
Equity					
Total assets					
Total interest-bearing debt					
Cash					
Annual change in liquidity					

[1] Including development stage e.g. completion of project planning and budget, initial contact between parties established, contract signed, and permits obtained.

Transaction process

I. Origination of transactions in Ukraine and DK – meetings, seminar and conferences with Ukrainian buyers and Danish exporters

II. Reception of Expression of Interest (EoI)

III. Screening of transactions and presentation for the Screening Committee

IV. If accepted – start of structuring the transaction – establishment of a deal team – analyzing DD material

V. Presentation of the transaction in the Ukraine Credit Committee, sometimes several presentations are needed

VI. Issuing of the guarantee, including preconditions for the guarantee and special provisions

VII. If export loan, then the documentation process is initiated including discussion with the counsel of required securities

NOW:
MARKET PLACE AND NETWORKING

NEXT WORKSHOP: UKRAINE – GREEN TENDERS

GREEN ENERGY EXPORT DAY 2025 PROGRAMME

		Room: 17				Room: House of Green
08.30	Workshop #0	**Korea / Japan** Energy Governance Part.				**Australia** Country session
09.00	Market Place Opens					
09.30	**Opening Plenary: Energy Exports in a New Global Landscape** (Room: Salen)					
10.15	Market Place – Quick coffee					
		Room: Salen	*Room: 13+15*	*Room: 1+3*	*Room: 7+9*	*Room: House of Green*
10.30	Workshop #1	**Wind Energy** State of the World	**District Energy** Market View Europe	**Energy Efficiency** Poland	**Green Hydrogen** Spain	**Ukraine I** Green Power
11.15	Market Place – Coffee					
11.45	Workshop #2	**Wind Energy** Developers' Perspective	**District Energy** Germany	**Energy Efficiency** France / buildings	**Green Hydrogen** Technology Export	**Ukraine II** Green Tenders
12.30	Market Place - Lunch					
13.15	Workshop #3	**Wind Energy** Supply Chain Impacts	**Biomass and DH** France	**Energy Efficiency** Germany / digital	**CCUS** Global and Germany	**Brazil / Colombia** Country session
14.00	**Closing Plenary: European Energy Transition** (Room: Salen)					
14.30	Reception at Top Terrace					

OBS: Click hyperlinks for workshop details

Danish Energy Agency · MINISTRY OF FOREIGN AFFAIRS OF DENMARK · STATE OF GREEN · GREEN POWER DENMARK · DBDH · SYNERGI · DANSK ERHVERV · DI Energi