

# UNDP-GEF projects role in green funding in Kazakhstan: policies, institutions and practices

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# UNDP support of the Government of Kazakhstan in promoting energy efficiency and RES



- UNDP provided assistance to Kazakhstan since 2004.
- A project approach based on piloting technical and organizational solutions.
- Projects implemented led to a reduction of fuel and energy consumption, as a proxy for the greenhouse gases emissions reduction.
- More than 90 different pilot initiatives were implemented.
- Other benefits from the implemented pilot initiatives were: improving the quality of life (health and comfort), reducing gender inequality, creating jobs, improving the energy management system of buildings.

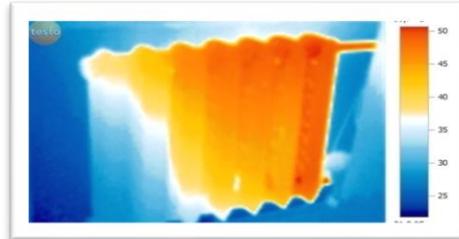
# Prerequisites and challenges for the implementation of energy efficiency projects and the introduction of renewable energy in Kazakhstan



- The energy sector is the largest source of GHG emissions in Kazakhstan (about 80% of all annual GHG emissions in Kazakhstan are accounted for by the energy sector, of which 32% are for the production of heat and electricity generation).
- On the demand side, direct burning of fossil fuels covers 69% of the final energy use, the rest is accounted for by electricity and heat generated from fossil fuels (mainly coal).
- High losses of electricity and heat (up to 35% in some regions) due to obsolete energy distribution systems.
- Investments in energy infrastructure remain economically unattractive due to the existing low tariff policy.



# Prerequisites and challenges for the implementation of energy efficiency projects and the introduction of renewable energy in Kazakhstan (2)



- The average level of energy consumption in the buildings is about 270 kWh/m<sup>2</sup>.
- More than 60% of buildings were built more than 25 years ago (31% - older than 50 years), which requires improvement of thermal insulation, upgrades and repairs of heating systems.
- The existing system of management and maintenance of residential buildings, and the lack of control over energy conservation, do not incentivize investments in thermal modernization of multi-apartment buildings.

**The activity of the UNDP projects traditionally targets 3 levels of the organization of the society**

- |                            |  |   |
|----------------------------|--|---|
| <b>Regulatory level</b>    |   | <i>New / amended laws, by-laws and regulations</i>  |
| <b>Institutional level</b> |   | <i>Institutions: functionality and capacity development</i>   |
| <b>Practices level</b>     |  | <i>Pilot projects, tests and experiments, manuals and handbooks, training and knowledge management / transfer</i> |

## **UNDP-GEF Project “Nationally Appropriate Mitigation Actions for Low-Carbon Urban Development” 2015 – 2021**

- Assistance to municipalities in creation low-carbon urban development plans
- Development of schemes and solutions for energy efficiency projects (PPP, trust management, ESCO/EPS models)
- Financial support mechanism for energy efficiency: subsidies, guarantees, factoring
- Testing modernization schemes for multi-apartment buildings, including ESCO, testing verification of emission reduction units for sale, awareness building

## **UNDP-GEF Project “Derisking Renewable Energy Investment” 2018 – 2022**

- Site-specific renewable energy auctions with documentation
- 1<sup>st</sup> green bonds issuance by Damu Fund in Kazakhstan facilitation in 2020
- Support of policy and institutional de-risking measures for investments in renewables, including standards for renewable energy devices

# UNDP experience in organizational shaping of ESCOs in Kazakhstan – the history and the outlook



- Energy Service Companies (ESCOs) are still rare in Kazakhstan: low energy tariffs are the major challenge
- 1<sup>st</sup> Kazakhstani ESCOs were found by the UNDP-GEF Project - “Removing barriers to energy efficiency ...” in 2009, and the 1<sup>st</sup> 5 EPCs in the sector of multi-apartment buildings were tested – this was the official birth of the ESCO industry in Kazakhstan
- The Energy Conservation and Efficiency Law institutionalized ESCOs in 2012, with the inputs by the UNDP
- ESCOs are still missing from the public procurement regulation and the Budget Code, and the public sector uses formats of PPP or trust management, or others, as in most cases the energy modernization costs are too high to cover by a down payment (PPP and TM models also developed with the UNDP-GEF projects help)
- ESCOs are active with the private sector and the communities of home owners
- ESCOs invest long-term in somebody else’s assets retrofitting, and they badly need cheap long-term funding and collaterals to take it – this is one of the main barriers for the sector, along with the low tariffs for energy
- There is more political will in Kazakhstan to decarbonize recently, the internal policies are supportive to ESCOs, which are rare at present, but they are alive and are accumulating skills and experience

# UNDP experience in establishing site-specific renewable energy auction with documentation in Kazakhstan



- 1<sup>st</sup> case of site-specific auction with documentation:
- Falling price auction (to win, the bidder has to offer the lowest long-term price per 1 kWt\*h of green energy)
- November, 2019, 50 MWt solar power plant, Turkestan region
- The starting price for 1 kWt\*h was KZT 29, it fell 2.3 times to KZT 12.47 (USD 0.032 per 1 kWt\*h)



The proceeds from the auction (payment by investor for the documents set) cover preparation of more similar projects for more auctions, making the system sustainable.

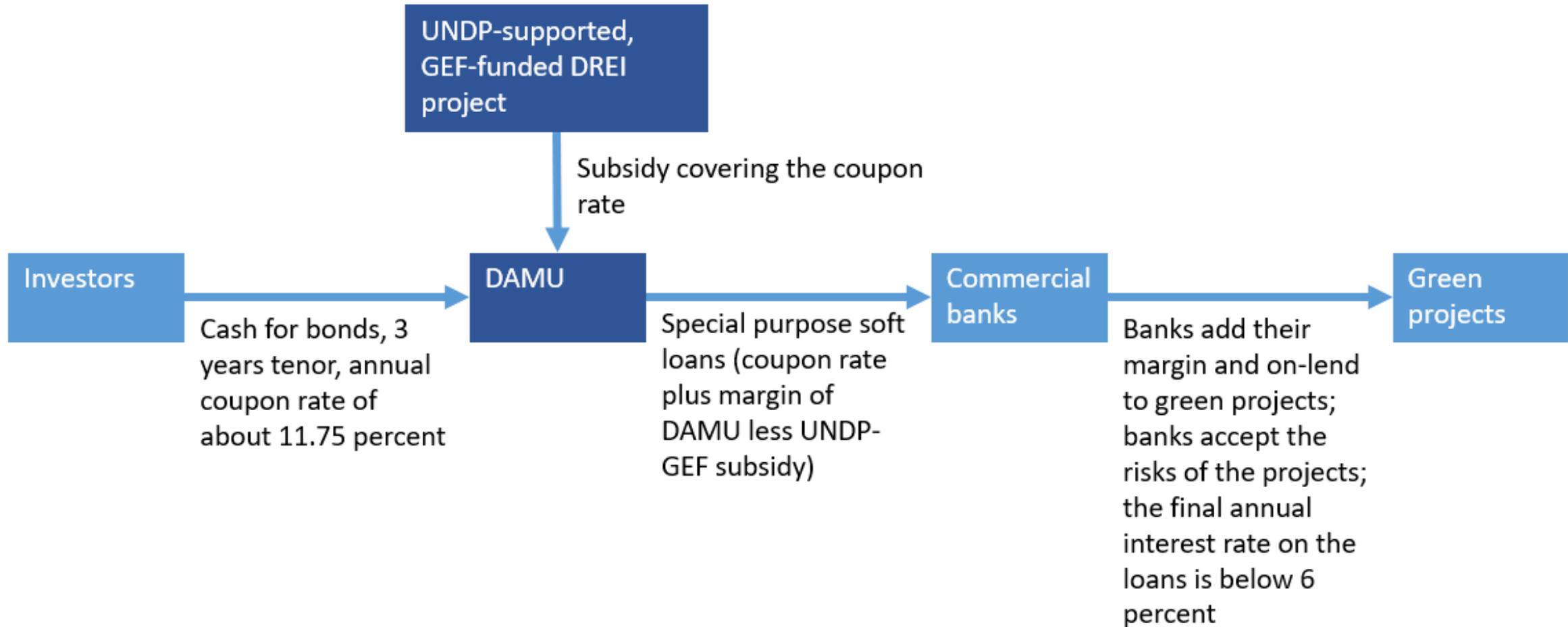
The auctions are followed by long-term power purchasing agreements, that are significantly reducing the risks of projects and help to raise the debt part of funding

# UNDP experience in facilitating the 1<sup>st</sup> green bonds issuance by Damu in Kazakhstan



- 1<sup>st</sup> case of green bonds in Kazakhstan – green taxonomy developed internally by Damu with assistance from the UNDP, while the national green taxonomy is under construction
- UNDP-GEF DREI project covered the coupon payments
- AIFC provided most services for free for the pilot bonds
- August, 2020, KZT 200 M (~\$0,5M), 11,75% p/a, 3 years tenor
- On-lending the proceeds to green projects via commercial banks, that take the lending risks (actually a solar power plant construction was funded)
- Damu received 6th Annual Climate Bonds Award in 2021 for the pioneering issuance of the green bonds in Kazakhstan
- The largest issue is finding the pipeline to allocate the issuance proceeds

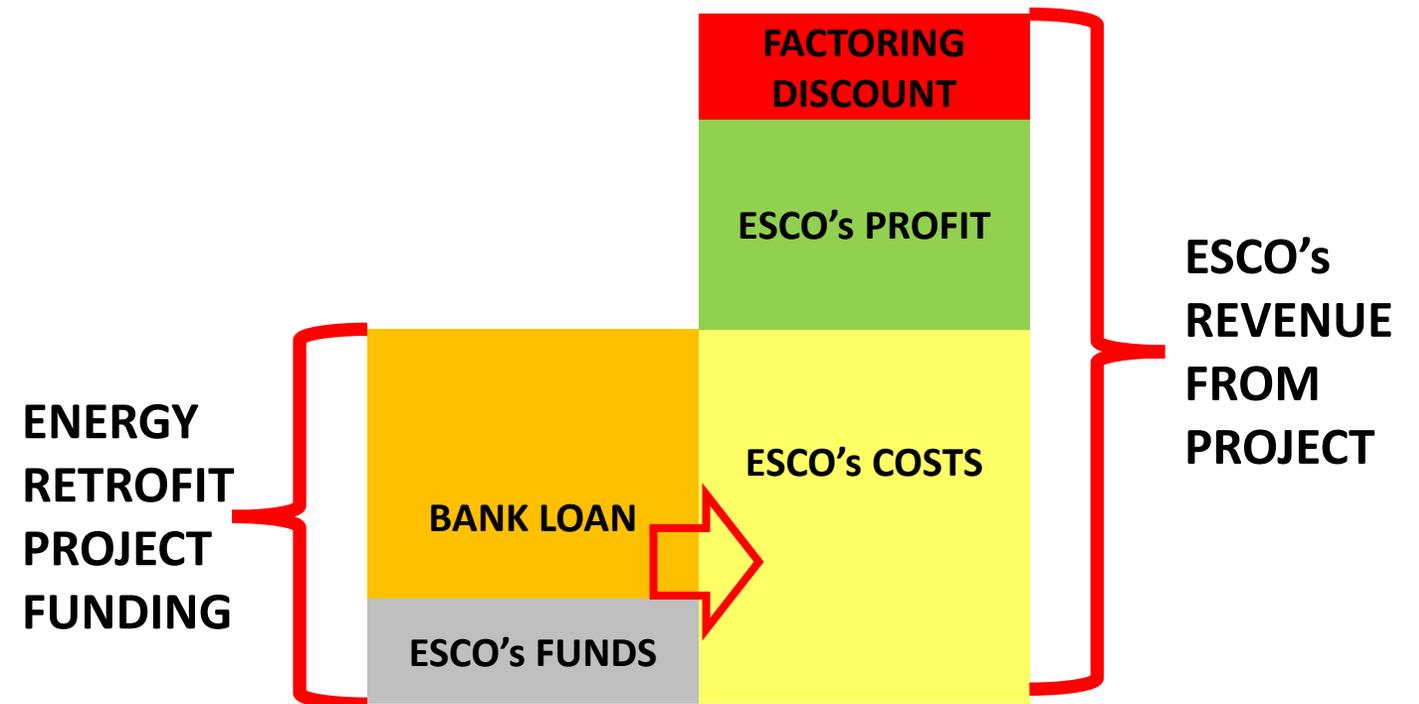
# UNDP experience in facilitating the 1<sup>st</sup> green bonds issuance by Damu in Kazakhstan (2)



# UNDP experience in testing factoring for ESCOs in the sector of multi-apartment residential buildings in Kazakhstan



- ESCOs invest in modernization of somebody else's assets and have only future cashflows – this limits their ability to borrow, because banks require liquid collaterals (real estate, vehicles, etc.)
- Factoring companies purchase future cash flows from ESCOs, thus providing immediate funding for new projects. The key is the profit of ESCOs has to provide for covering a discount, which is the payment for funding from factoring companies
- In 2020 the UNDP facilitated experimental real-life small-scale factoring deals, involving ESCOs servicing residents communities in multi-apartment buildings – this is the 1<sup>st</sup> case when this segment was ever involved in factoring in the CIS and Ukraine: experience is fixed for replication
- Over 300,000 such buildings in Kazakhstan, a large-scale modernization of may be supported with this new funding scheme



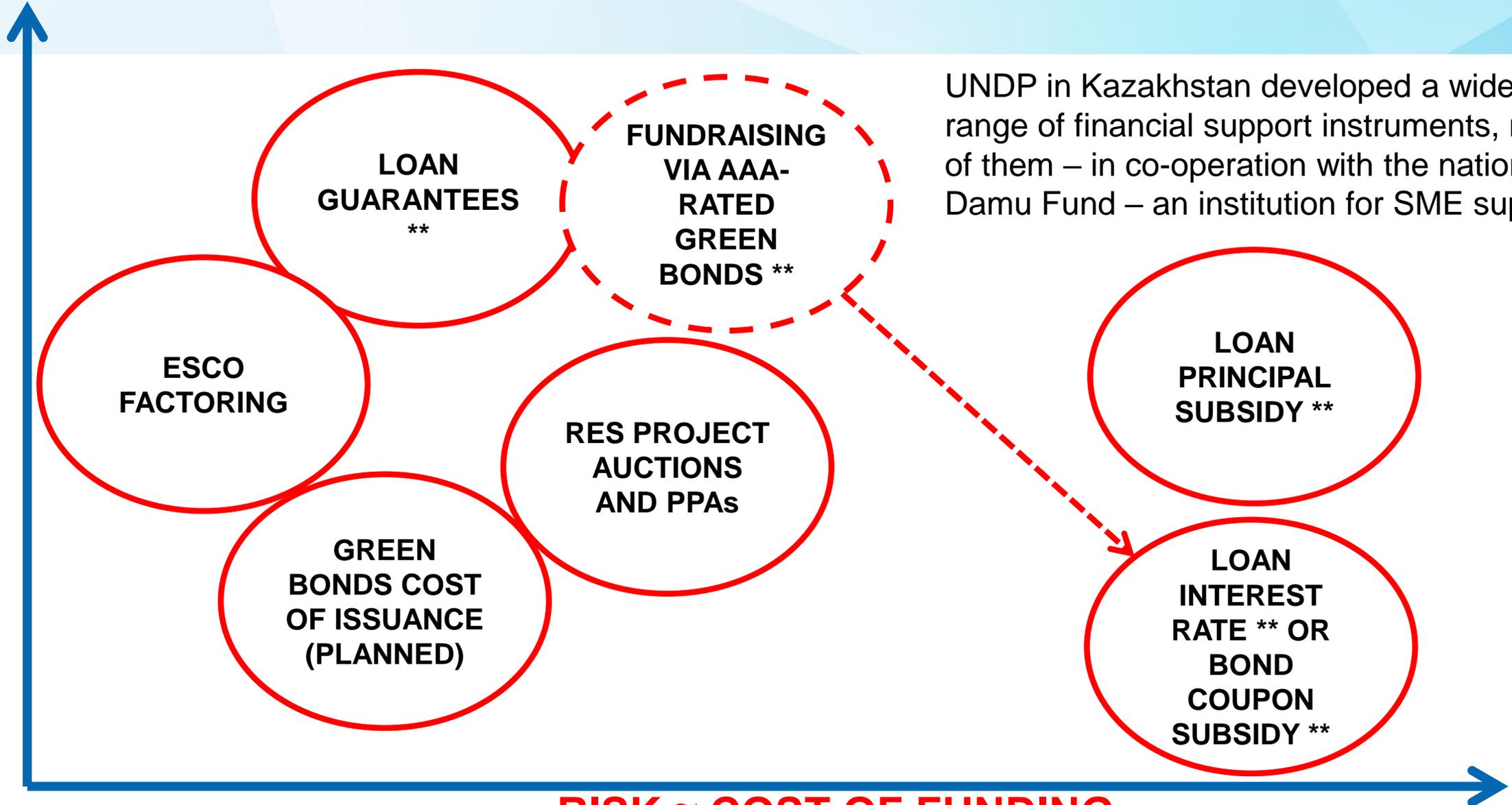
# UNDP experience in development of financial support mechanism for private investments in energy efficiency and small-scale renewable energy in Kazakhstan



- While the energy tariffs in Kazakhstan are low, the interest rates and the cost of funding in general is high, so the UNDP designed several instruments and tested some of them to deal with the issue. Direct grants were typical for the early projects by the UNDP-GEF, and now, at a later stage, a financial support mechanism was developed for the investments (both public and private)
- Interest rate subsidies for projects in energy efficiency and renewable energy, subsidizing green bonds coupons and loan principal subsidies (prepared for testing) – were all decreasing the cost of funding while leveraging of the donor funds with other types of funding, to reach the leverage factor of 7-10
- Damu – a national SME support Fund – became a trusted partner of the UNDP in Kazakhstan, and it is expected Damu will take over many of the schemes developed. Green bonds were issued by Damu, while the UNDP-GEF project subsidized the coupon payments, to use soft funding for projects in renewables
- Loan guarantees were tested and are a perspective development area, as they are removing the loans accessibility barrier (as distinct from the subsidies, that reduce loans affordability barrier), and are expected to open opportunities for businesses that were previously totally excluded from funding (including many ESCOs). Besides, the guarantees reduce the cost of funding to a certain extent.

# TYPES OF POSITIVE IMPACT OF DIFFERENT FINANCIAL SUPPORT TOOLS: ACCESSIBILITY VS. AFFORDABILITY

**RISK -> ACCESSIBILITY OF FUNDING**



UNDP in Kazakhstan developed a wide range of financial support instruments, many of them – in co-operation with the national Damu Fund – an institution for SME support

\*\* with Damu Fund

**RISK ≈ COST OF FUNDING**

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**Thank you!**

