

6th St Gallen Forum for Management of Renewable Energies

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Olma Messen, St Gallen
Switzerland

“De-risking investment in renewable
energy & UNDP experience investing
in wind energy projects in Europe &
CIS Region’



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About UNDP

Formed: 1965

Staff: 6,400 f/t staff + consultants

Offices: 177 countries

HQ: New York

Regional Hubs: Panama, Addis Ababa,
Bangkok, Cairo, and Istanbul

Annual Budget: approx. \$5 billion

Core Areas: From 7 to 3

In Europe & CIS Region:

\$150 million USD and 50 projects

dealing with energy-efficiency, renewable energy and energy efficiency

Provide technical assistance to reduce barriers and to promote new and additional investment.

Wind Energy: Belarus, Kazakhstan

Main donors: GEF, EU, Green Climate Fund (GCF)



UNDP De-Risking Renewable Energy Investment

Policy De-Risking and Financial De-Risking & compensating for risk



www.undp.org/DREI

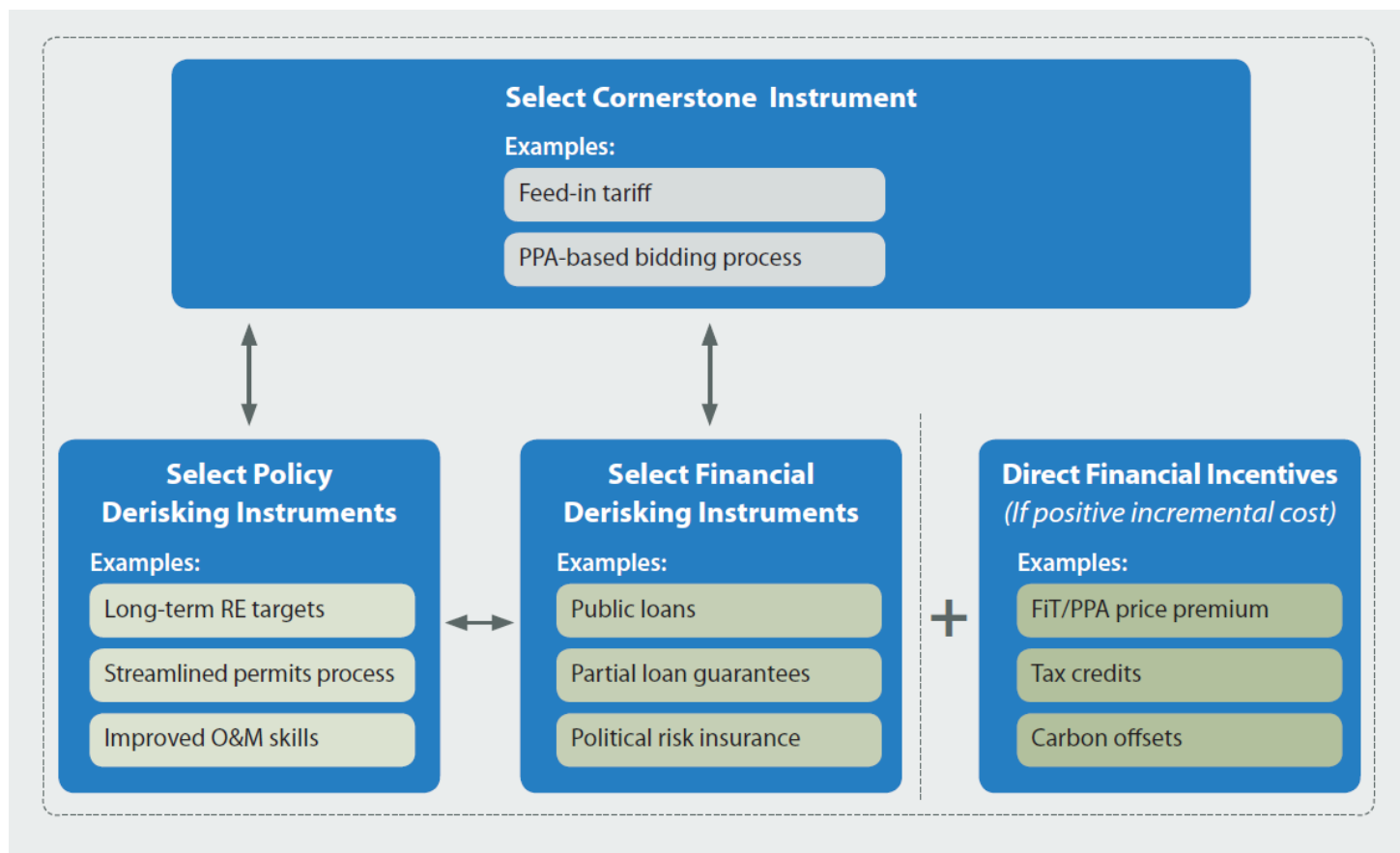


	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	UNDP, VERSION 1.0 (APRIL 2013)																
2																	
3	DERISKING RENEWABLE ENERGY INVESTMENT																
4	FINANCIAL TOOL																
5																	
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10	A. OVERVIEW																
11																	
12	This financial tool supports the framework presented in UNDP's <i>Derisking Renewable Energy Investment</i> report to assist policymakers in selecting public instruments to promote renewable energy investment. The financial tool calculates the levelised cost of electricity (LCOE) for a given country's baseline energy mix and the LCOE of onshore wind energy, before and after the introduction of public instruments.																
13																	
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15	Please go to UNDP's website to download the report, latest versions of this financial tool and other materials:																
16	http://www.undp.org/content/undp/en/home/brapage/environment-energi/low_emission_climate/realised/development/derisking-renewable-energy-investment/																
17																	
18																	
19	B. TABLE OF CONTENTS																
20																	
21	This financial tool is organised into the following eight sheets:																
22																	
23	I. Summary Outputs																
24	II. Inputs, Baseline Energy Mix																
25	III. Inputs, Wind Energy																
26	IV. LCOE, Baseline Energy Mix																
27	V. LCOE, Wind Energy																
28	VI. Additional Data																
29	VII. Supplementary Information																
30	VIII. User Notes																
31																	
32	C. IMPORTANT GUIDANCE																
33																	
34	The following modelling conventions are used throughout this tool:																
35																	
36	Input cells																
37	- Input cells require the user to enter numeric data or to select an option from a drop-down menu.																
38	- Input cells are formatted in blue font. An example of the format is as follows: <input type="text" value="\$0"/>																
39	- Sometimes input cells may be formatted in purple font. This signifies that default input data is inserted to act as an initial guide. Users are invited to input their own data.																
40																	
41	Output cells																
42	- An output cell consists of a pre-existing formula. Do NOT enter data into an output cell. If the formula is overwritten, this could compromise the financial tool.																
43	- Output cells are formatted in black font.																
44																	
45	Guidance comments																
46	- The input sheets have a column with guidance comments. These comments provide explanatory notes, definitions and address common issues.																
47	- The column with guidance comments is initially hidden from view. To view the comments click on the ungroup symbol (which appears as a "+" sign) in the top right-hand corner of the sheet.																
48																	
49	Checks																
50	- Check cells will appear when there is an invalid entry of some sort. Check cells are formatted in red font. If it appears, the check cell provides guidance on how to rectify the invalid entry.																
51																	
52	Protected sheets and cells																
53	- In order to ensure that the tool maintains its functionality and formulae are not accidentally deleted and/or compromised, this tool is distributed with sheets and cells in 'protected' mode.																
54	To protect sheets and cells, users are invited to unprotect sheets and cells. The unprotect symbol appears in the top right-hand corner of the sheet.																
55	Introduction I. Summary Outputs II. Inputs, Baseline Energy Mix III. Inputs, Wind Energy IV. LCOE, Baseline Energy Mix V. LCOE, Wind																
56	Ready																

Most large scale investment in renewable energy is in developed economies. Through de-risking UNDP aims to support investment in developing economies.

Derisking Renewable Energy Investment

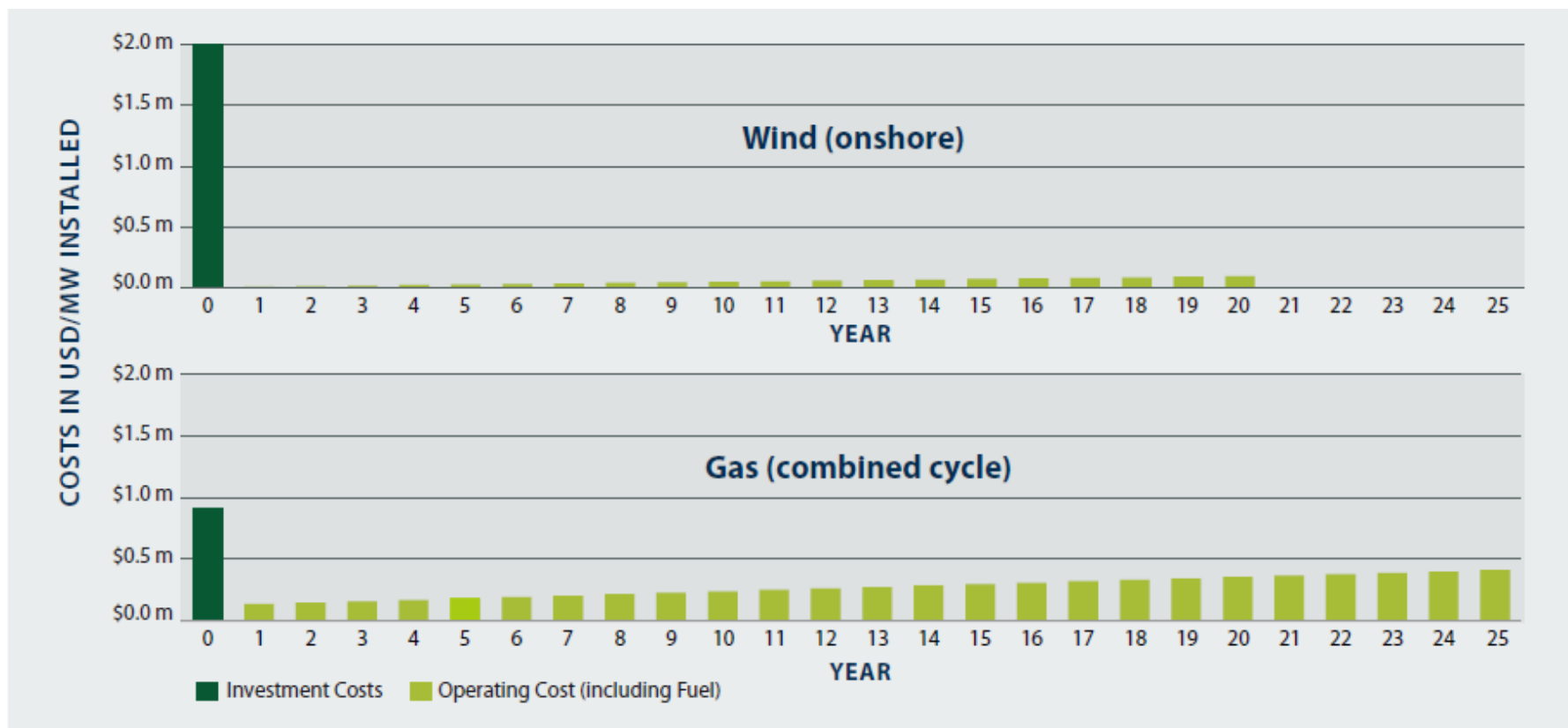
Public instrument packages



Derisking Renewable Energy Investment

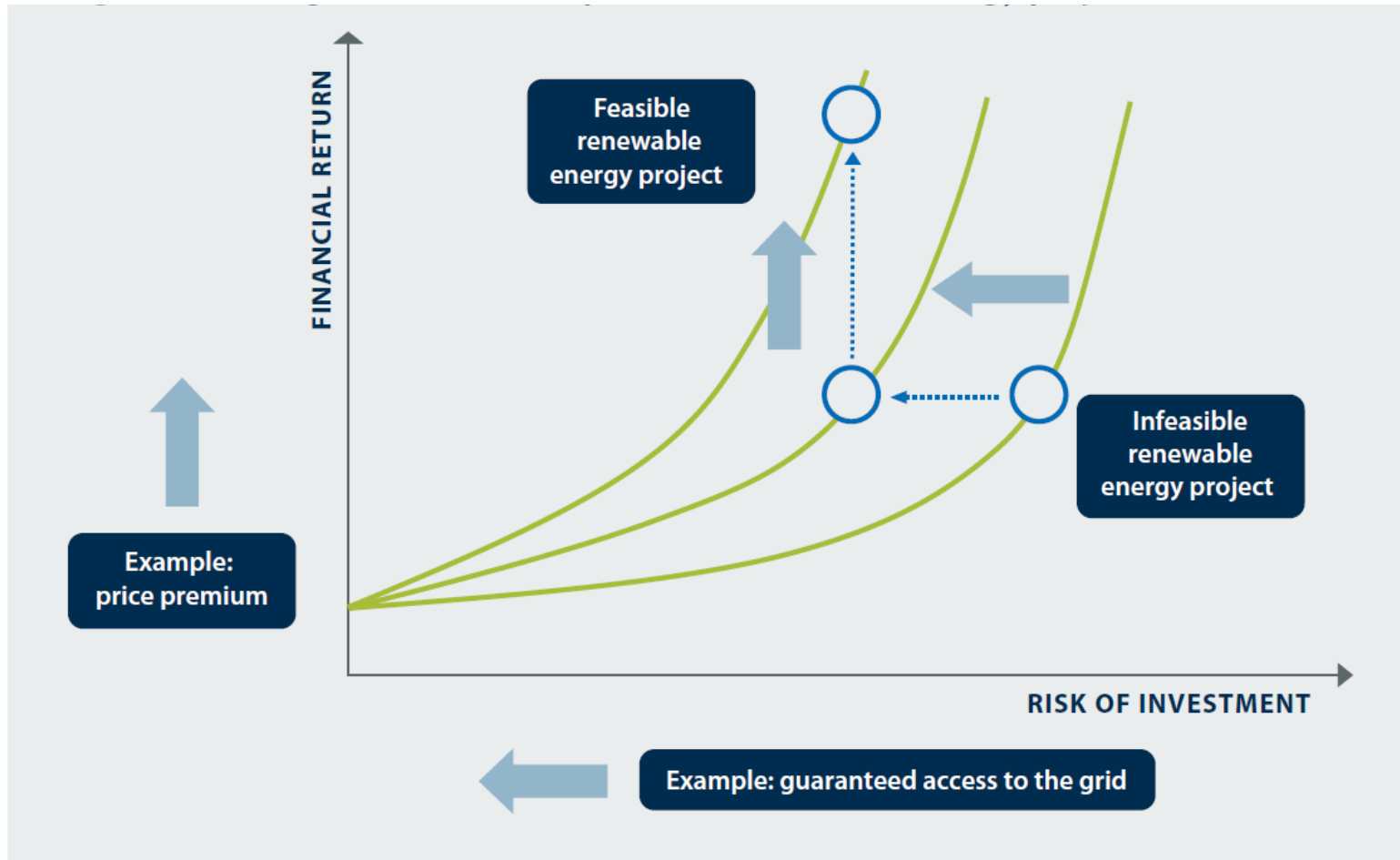
The high capital intensity of renewable energy

LIFE-TIME CASH FLOW PROFILE
OF RENEWABLE ENERGY VS FOSSIL-FUEL ENERGY



De-risking

Shifting the risk-return profile of investments

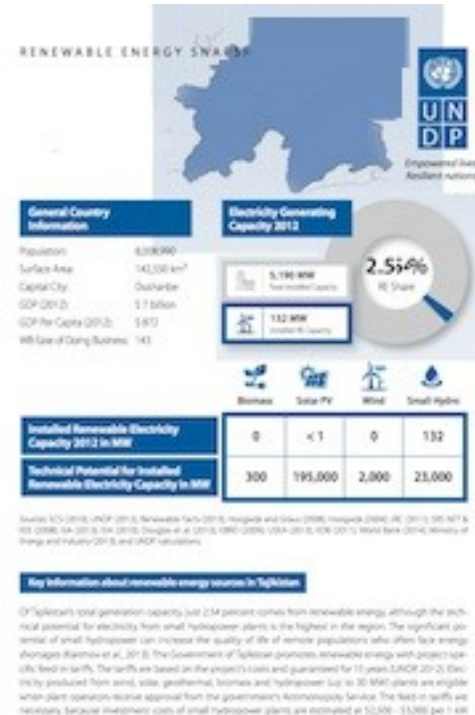


UNDP: Renewable Energy Snapshots *all countries of eastern Europe & CIS*

- **Key information on RE technologies**
 - Biomass
 - Solar PV
 - Wind
 - Small Hydro

- **Legislation and Policies**

- **Opportunities for Financing**



Google: UNDP Renewable Energy Snapshot

http://www.eurasia.undp.org/content/rbec/en/home/library/environment_energy/renewable-energy-snapshots.html

UNDP GEF: Wind Energy in Kazakhstan

2004 – 2011 – 7 years, project and \$7.0 million USD project

2013 – New legislation on RE adopted with feed-in tariff of 9.5 cents per Kwh for wind projects and 15 years PPA

Current Installed Capacity (2012): 2MW

Wind Energy Potential: 354,000 MW

Key Lessons Learned:

- Main focus needs to be on strong legislative & regulatory framework , in advance of investment
- Strong investment climate to attract FDI is also important (feed in tariff on its own not enough)
- Long-term policy certainty is absolutely essential making it more difficult to invest in countries with higher levels of political risk
- It took longer to de-risk the policy environment than was expected

UNDP: Wind Energy in Belarus

Installed Capacity (2012): 1.9 MW

Potential: 98,800 MW

Wind Speeds: 1840 locations with 7.5 – 8.5 m/s at height of 10m

Feed In Tariff: 18.4 euro cents/MwH (first 10 years), then 12.2 euro cents/MwH (next 10 years)

Complimentary Grid Access for all RE projects

Huge difference between potential and reality

UNDP has developed a wind energy project over the period 2012-15



UNDP GEF removal of barriers to wind energy in Belarus.

GEF Budget: \$3.0 M

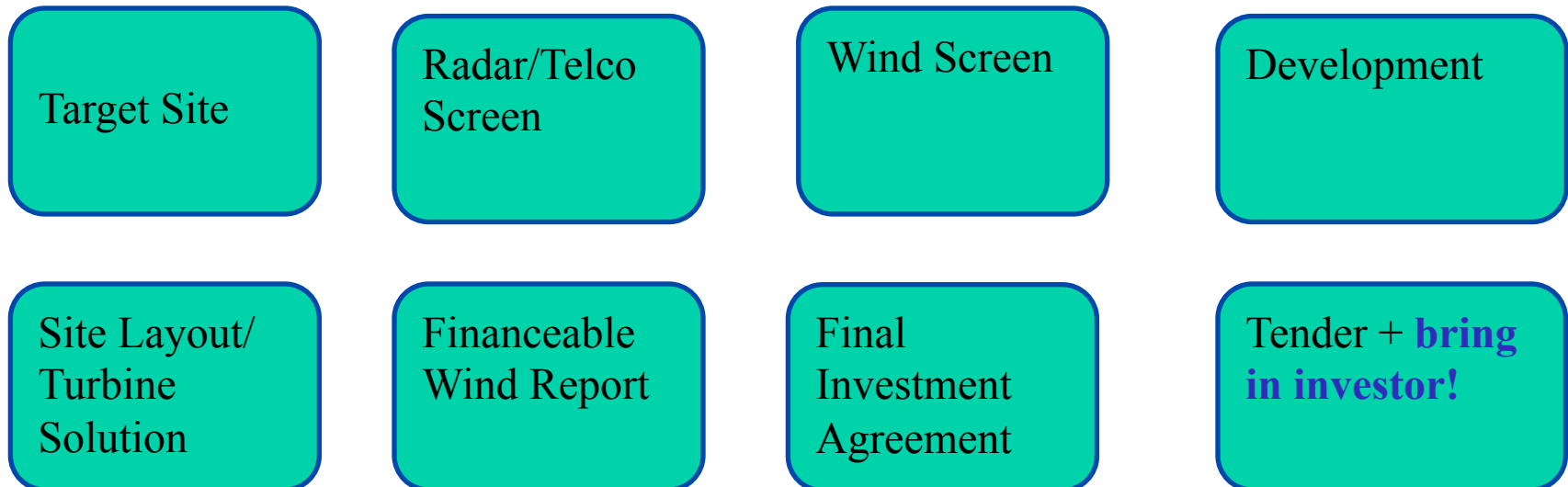
Aim: The project supports removal of barriers to the adoption of wind energy in Belarus pragmatically with a goal to support at least >25Mw by end of project

Implementing Partner:

Min Natural Resources & Environmental Protection

Start Date: June 2015 **Finish Date:** June 2019

UNDP GEF Project will launch a wind private finance initiative ...



Conclusions

- ❑ Risks are much higher in emerging markets making the risk-return profile less attractive than in developed markets
- ❑ Financial and policy de-risking is critical in order to leverage significant investment
- ❑ Regulatory risk is a key concern when investors make a long-term investment (e.g – Ukraine)
- ❑ Political risk is also a key factor
- ❑ Key drivers of de-risking include energy security & climate change which means RE has a bright future!

Thank you!!!!