

Key findings from UNDP's Derisking Renewable Energy Investment report

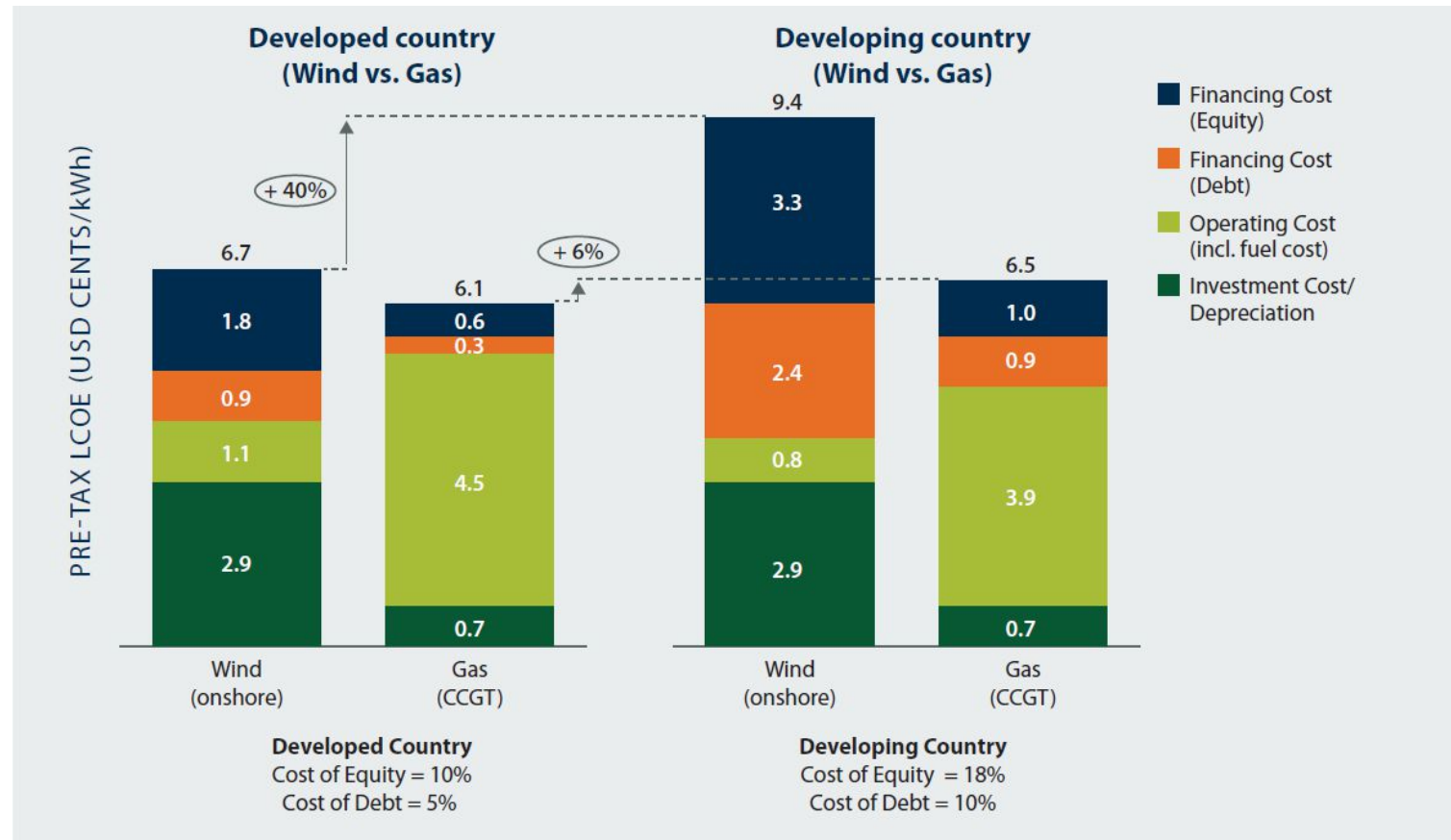
Marcel Alers

Head, Energy, Infrastructure, Technology and Transport
United Nations Development Programme

IRENA/CPI WFES Side Event: Risk Coverage for Renewable Energy Investments
Monday 20 January 2014

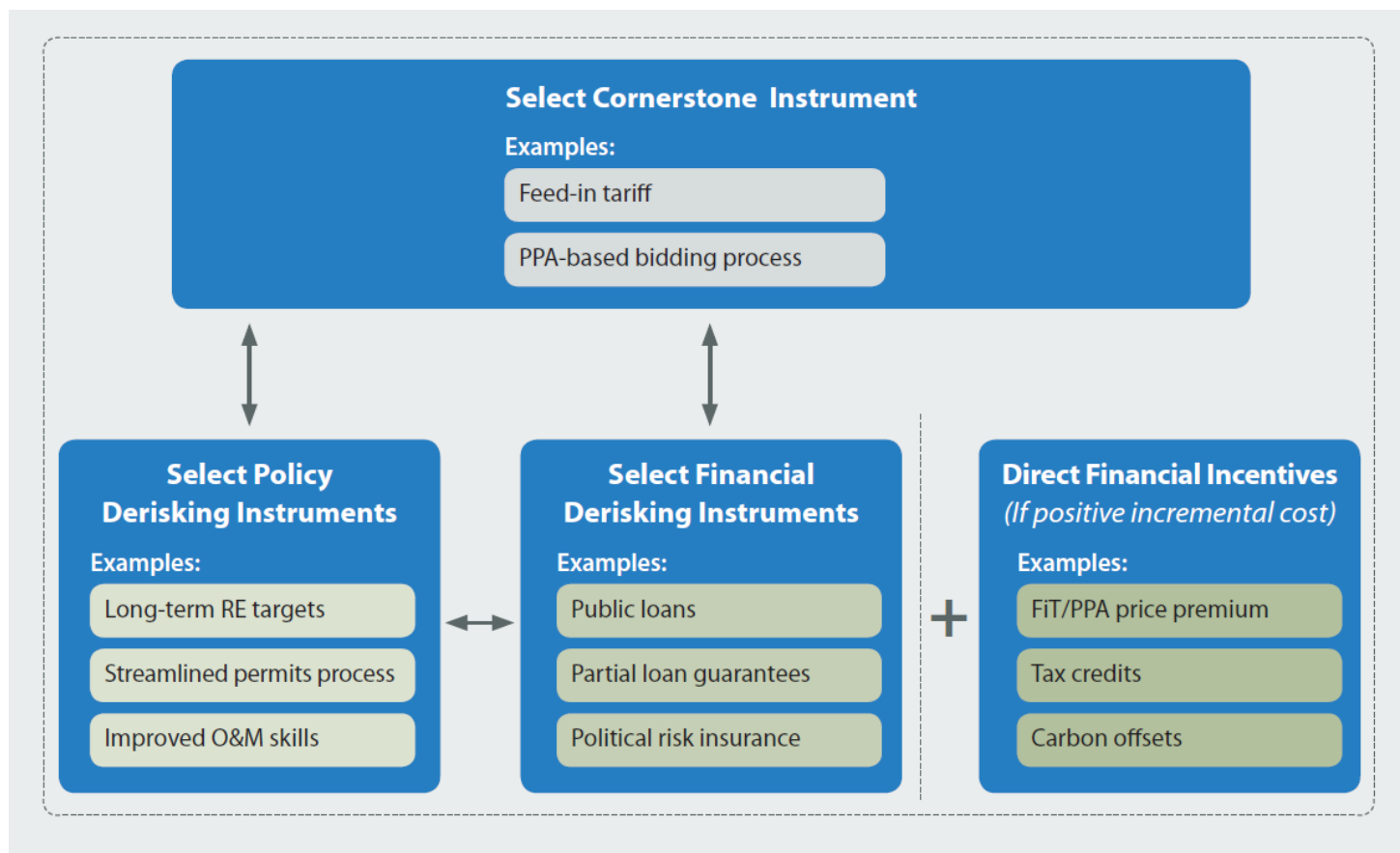


Promoting renewable energy: The impact of high financing costs

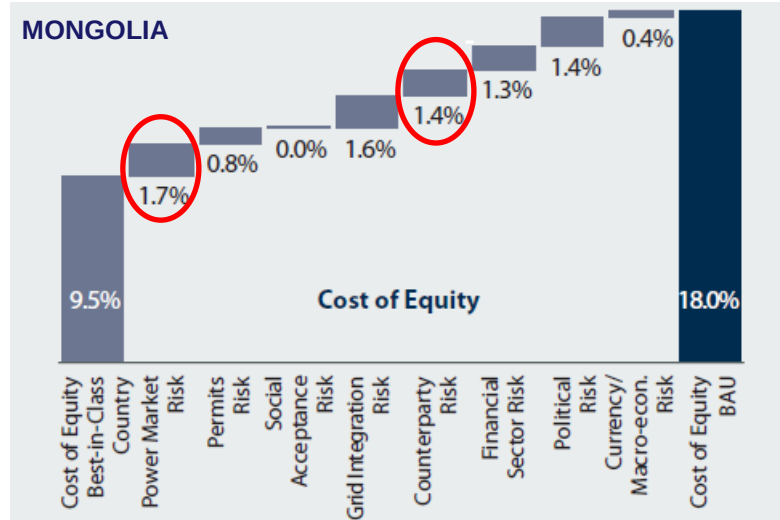
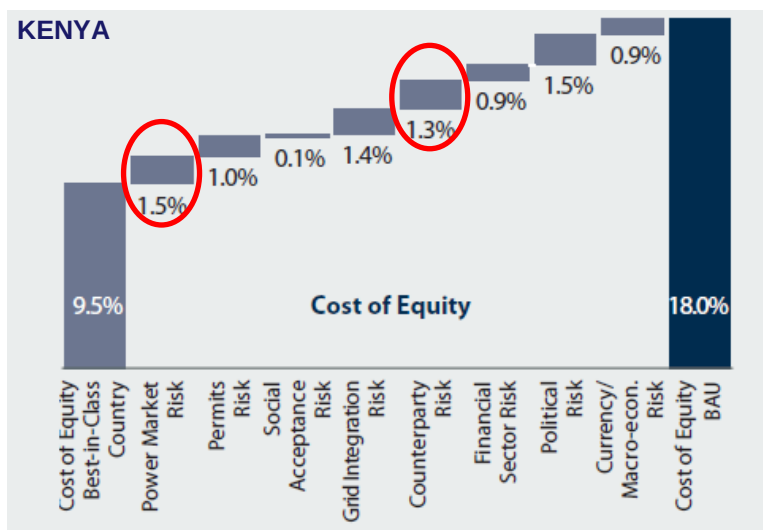
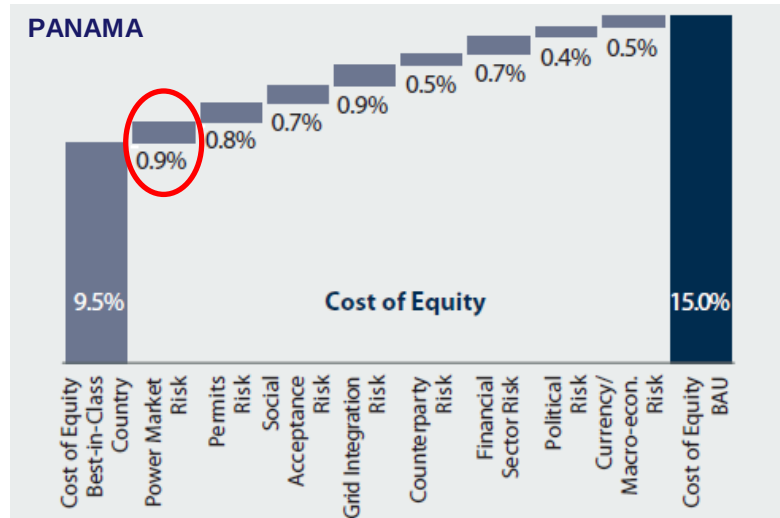
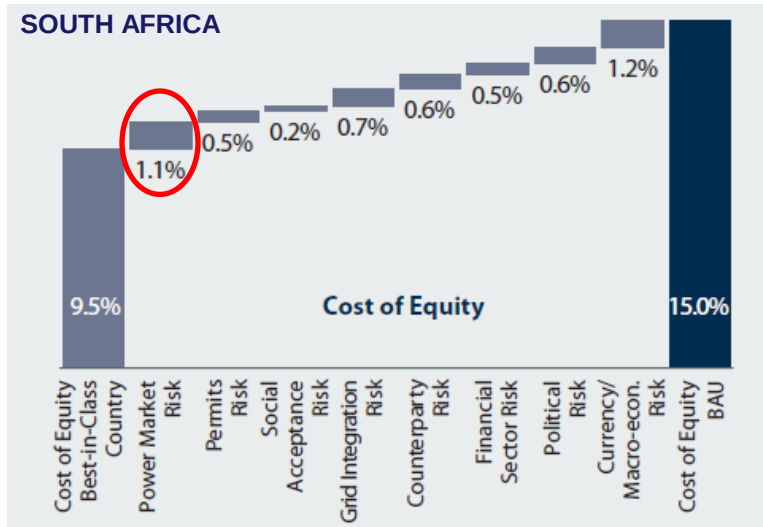


Source: UNDP, *Derisking Renewable Energy Investment* (2013). See Annex A of the report for full assumptions.
All assumptions (technology costs, capital structure etc.) except for financing costs are kept constant between the developed and developing country.
Operating costs appear as a lower contribution to LCOE in developing countries due to discounting effects from higher financing costs.

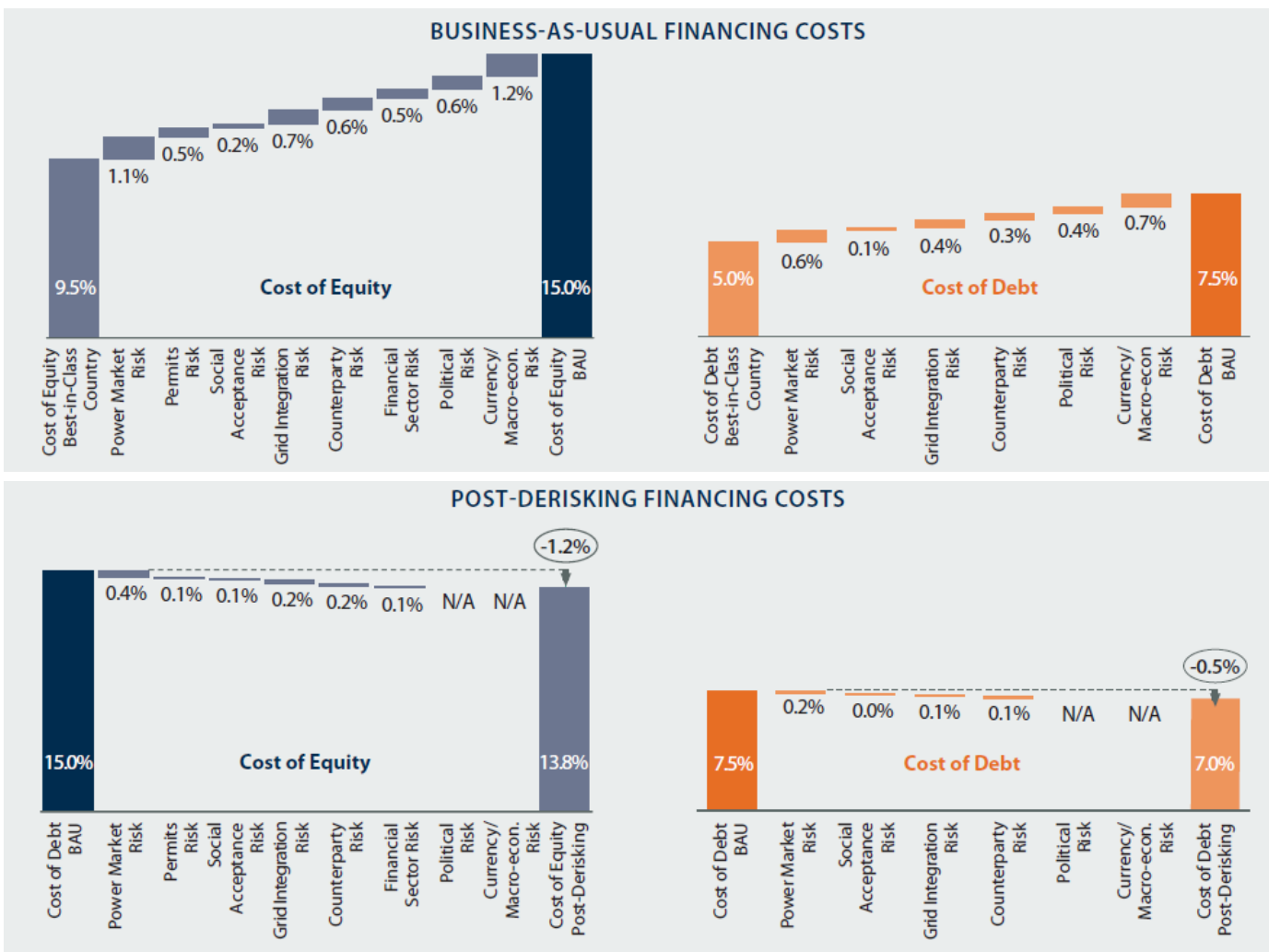
Public instrument packages: (i) reducing, (ii) transferring and (iii) compensating for risk



Case-studies (onshore wind): Financing cost waterfalls

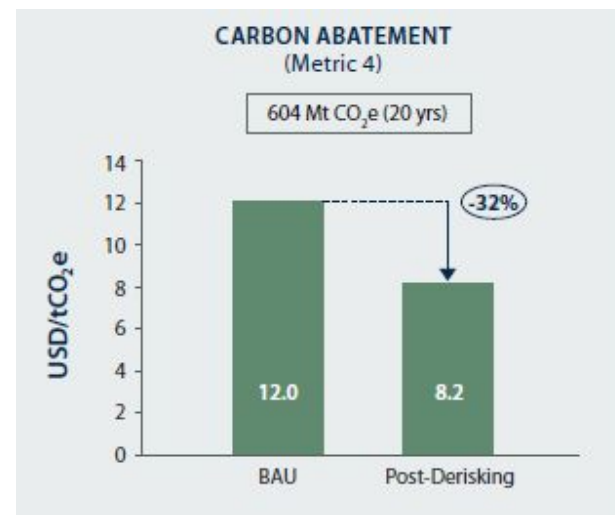
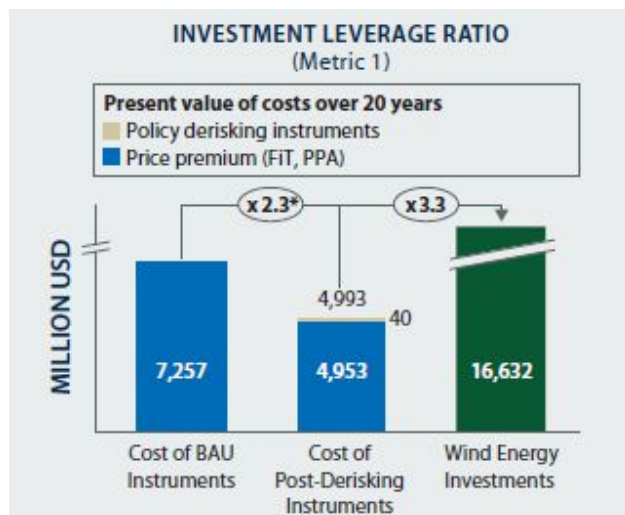
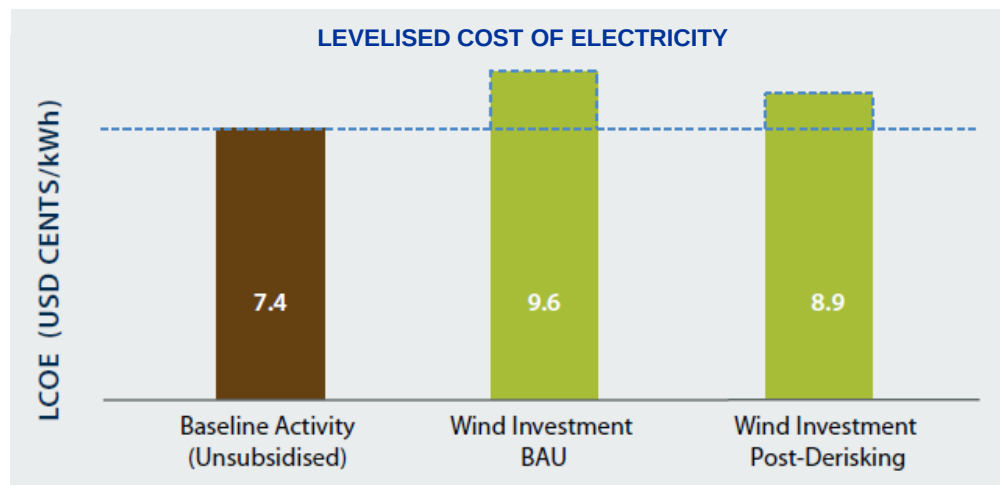


Case-study South Africa (8.4 GW, wind): Risk waterfalls



Source: UNDP, *Derisking Renewable Energy Investment* (2013). Data obtained from interviews with wind investors and developers. See Annex A of the report for full assumptions. The post-derisking cost of debt and equity show the average impacts over a 20 year modelling period, assuming linear timing effects.

Case-study South Africa (8.4 GW, wind): Modelling results



Conclusions

- Given renewable energy's sensitivity to financing costs, derisking is a key opportunity for policymakers to attract private sector investment
- Investing in derisking appears to be cost effective when measured against paying direct financial incentives, such as a FiT premium
- The best outcomes occur when policymakers address the risks to renewable energy investment in a systematic and integrated way
- Opportunity to combine risk reduction *and* risk transfer in key risk areas
 - *Power market risk*: implement well-designed, high quality policy *and* policy risk insurance
 - *Counterparty risk*: best practice operations, cost recovery *and* loan guarantees/partial risk guarantees

Reports & Financial Tool



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	WIND, VERSION 1.0 (APRIL 2013)																
2																	
3																	
4	DERISKING RENEWABLE ENERGY INVESTMENT FINANCIAL TOOL																
5																	
6																	
7																	
8																	
9																	
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																	
14																	
15																	
16	Please go to UNDP's website to download the report, latest versions of this financial tool and other materials:																
17	http://www.undp.org/content/undp/en/home/library/page/environment-energy/low_emission_climate/realised-development/derisking-renewable-energy-investment/																
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: \$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																	
55	Introduction / I. Summary Outputs / II. Inputs, Baseline Energy Mix / III. Inputs, Wind Energy / IV. LCOE, Baseline Energy Mix / V. LCOE, Wind																
56	Ready																

Available at www.undp.org/DREI