

UNDA PROJECT ON “PROMOTING RENEWABLE ENERGY INVESTMENTS FOR CLIMATE CHANGE MITIGATION AND SUSTAINABLE DEVELOPMENT”

UNDA PROJECT CLOSING WORKSHOP:

“Renewable Energy UNDA project conclusions and way forward”

13-14 December 2017, Beirut - Lebanon

Economic And Social Commission For Western Asia / United Nations Economic Commission for Europe

UNDA RENEWABLE ENERGY ESCWA PIPELINE PROJECTS



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Renewable Energies Authority of Libya (REAOL)-Libya
Hoon Solar PV Grid Connected
Power System (14 MWp)

Mr. Khaled Dadesh
Board Member

Renewable Energies Authority of Libya

UN Development Account Project

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Project Information

Project type	Energy supply contracting (ESC)
Technology	Photovoltaic
Project commencement	1/1/2019
Project termination	31/12/2043
Project period	25 years (300 months)
Construction period	12 months

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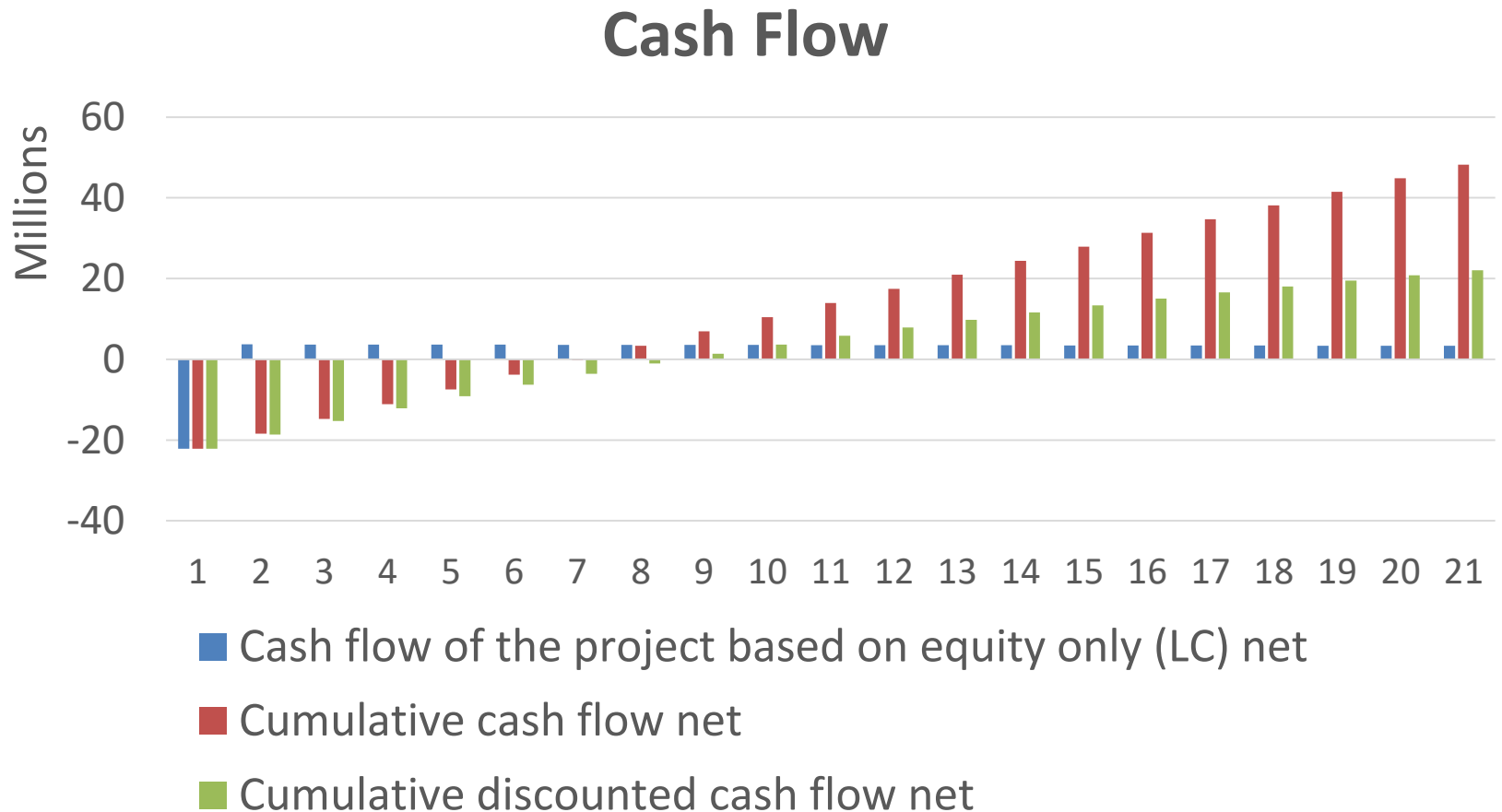
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Financial inputs

Electricity costumer	The city of Hoon
Power demand	Grid utility
PV electricity feed-in tariff	0.140 \$/KWh
Annual electricity feed-in	27,622 <i>MWh/year</i>
Annual degradation	0.5%
Discount rate	5%
Productivity	1,973 <i>KWh/KWp</i>
Investment, planning and commissioning	22,120,000 \$
Total equity share	22,120,000 \$

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Key Performance Indicators after Project's Period (Outputs)

Net Present Value of cashflow based on tot. Investment	21,018,107	US\$
IRR project (based on total investment)	15%	
IRR Investor (based on equity part of investment only)	15%	
Simple Payback period	6	Year
Discounted Payback period	7	Year
Capital Enrichment Ratio	2.00	

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Project Summary

- ✓ A 14 MWp solar PV project in the city of Hoon, Libya, to be implemented by the Renewable Energy Authority of Libya (REAOL).
- ✓ The project to be financed by the Government of Libya with the aim to:
 - Apply feed-in electricity to the grid using PV, to demonstrate this technology; and make use of available high radiation
 - Improve the availability of the grid; Save fuel; Convince off-takers with PV technology;
 - Preliminary feasibility study on the radiation has been conducted and indicates 1970 MWh/MW.
- ✓ The land and grid connection is provided by the government.
- ✓ The project is intended to be financed by the government.
- ✓ Main risks include political instability, weak legal framework, vandalism and low energy prices .

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Concluding Comments

- The project is technically feasible, and would result in a 15% return on the money invested by the government at current electricity prices.
- However, current inflation rate is in excess of 27%. The government can leverage its money by borrowing at a lower rate, as indicated by the alternative scenario.

Link to UN DA project: <https://www.unescwa.org/node/94046>

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