

SOCIO-ECONOMIC IMPACT OF THE IMPLEMENTATION OF RENEWABLE ENERGIES IN LEBANON



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ADVISOR

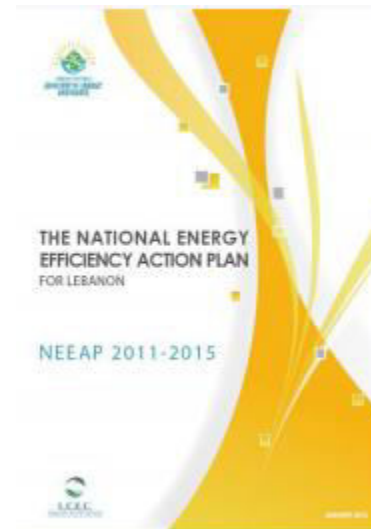
MINISTRY OF ENERGY AND WATER

June 1, 2016

The Socio-Economic Benefits of Sustainable Energy: Opportunities, Approaches and Instruments for Local Value and Employment Promotion through RE and EE in the Middle East and North Africa

NEEAP 2011-2015

- The first NEEAP for Lebanon was adopted by the Council of Ministers of Lebanon on 10 November 2011 (Decision N° 26)
- It includes 14 initiatives that tackle energy efficiency and renewable energy



NEEAP INITIATIVES

Energy Efficiency

- 1 Banning the Import of Incandescent Lamps to Lebanon
- 5 Design and implementation of a national strategy for efficient public street lighting
- 13 Paving the Way for Energy Audit and ESCO Business
- 14 Promotion of Energy Efficient Equipment

Renewable Energy

- 3 Promotion of PV and Wind Applications in the Residential and Commercial Sectors
- 4 Solar Water Heaters for Buildings and Institutions
- 6 Electricity Generation from Wind Power
- 7 Electricity Generation from Solar Energy
- 8 Hydro Power for Electricity Generation
- 9 Geothermal, Waste to Energy, and Other Technologies

Legal and Awareness

- 2 Adoption of Energy Conservation Law and Institutionalization of the LCEC
- 10 Building Code for Lebanon
- 11 Financing Mechanisms and Incentives
- 12 Awareness and Capacity Building

THE NEW ERA: 2016-2020

NREAP 2016-2020
RE

NEEAP 2016-2020
EE

METHODOLOGY OF DEVELOPMENT OF NREAP



WHAT IS NEEREA?

- ❖ Financing EE and RE projects all over Lebanon.
- ❖ Lebanese commercial banks offering both technical and financial support.
- ❖ Subsidized interest rates: 0.6%
- ❖ Long repayment period: 14 years
- ❖ EU grant: 15%

ACHIEVEMENTS OF NEEREA

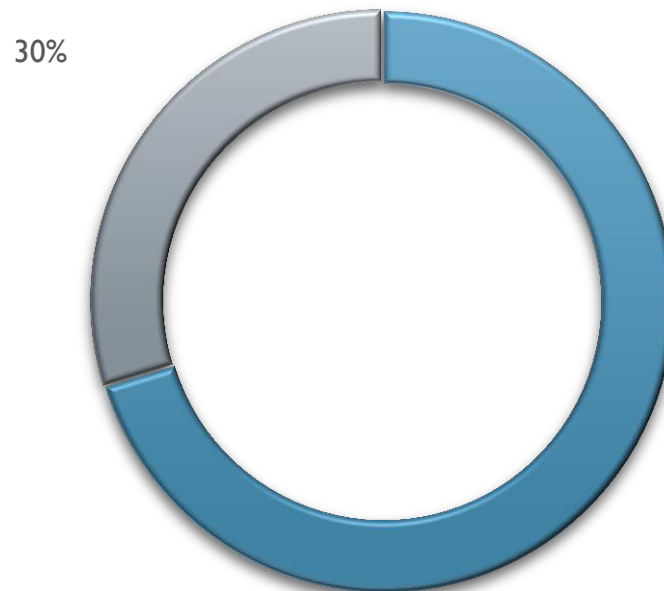
- ❖ More than 295 Million USD granted loans.
- ❖ 402 projects by the end of November 2015.
- ❖ 19 projects profited from the EU grant.
- ❖ More than 20 banks involved.
- ❖ 74 companies implementing.
- ❖ Reach out to several sectors (Residential, Industrial, Educational, ...)

SCOPE

- ❖ Impact of the implementation of the NREAP on the job creation opportunities
- ❖ Selecting PV because of data availability

CREATING THE BENCHMARK

- ❖ 74 companies profiting from NEEREA
- ❖ 52 companies working on PV projects



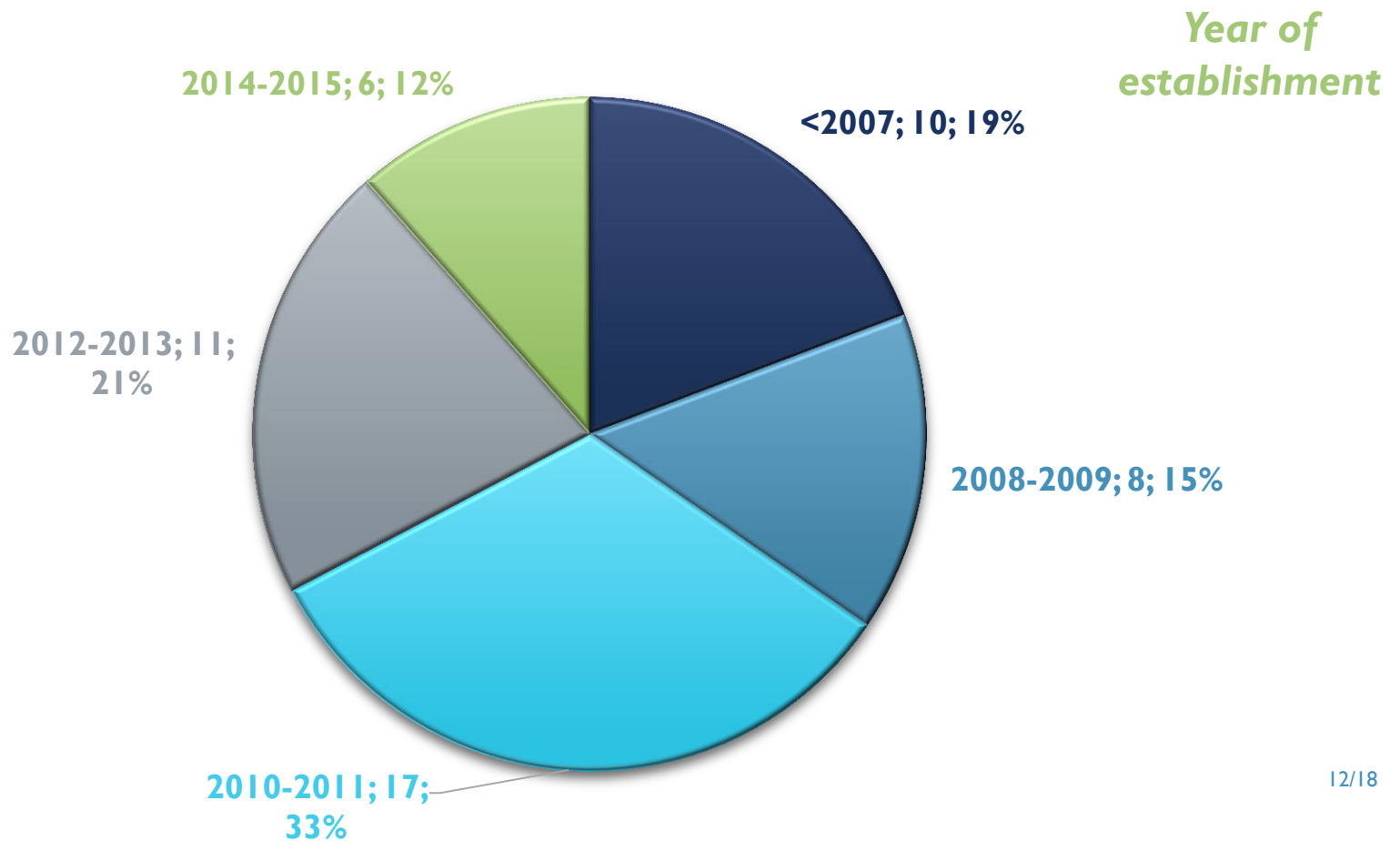
NEEREA AND PV

- ❖ 226 projects
- ❖ Around 9.8 MW_p
- ❖ 14.7 Million USD
- ❖ Around 15 GWh production per year
- ❖ 1.5 Million USD/MW_p
- ❖ 0.049 USD/kWh (including backup in most cases - over 20 years)

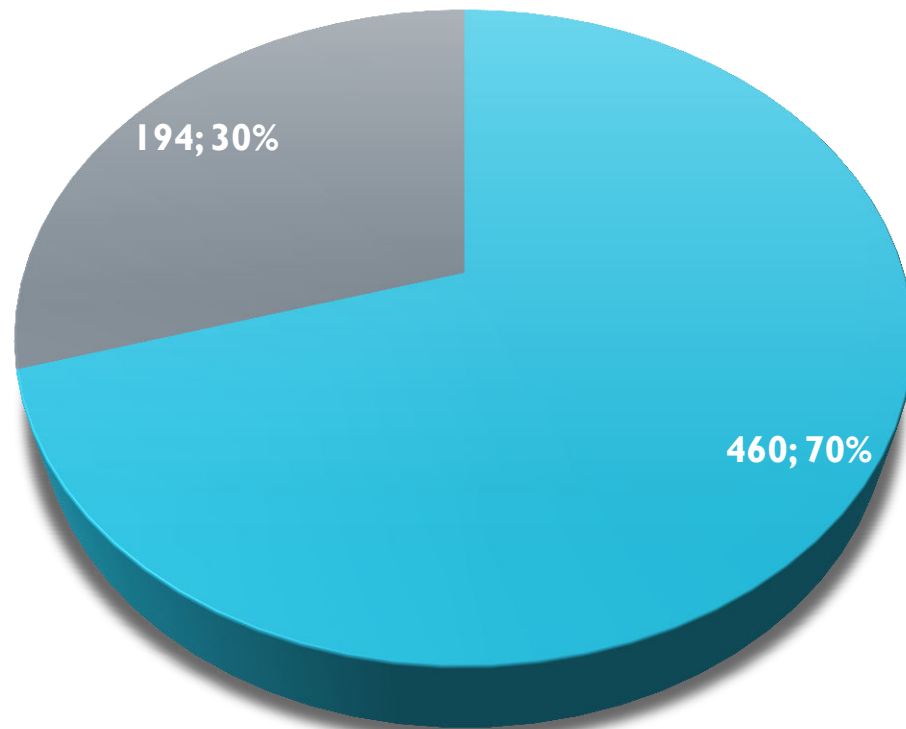
STATISTICS

- ❖ Questionnaire covering year of establishment, administrative and technical jobs
- ❖ Out of the 74 companies, 52 replied, out of which 50 working on PV projects

IMPACT OF LCEC AND NEEREA ON THE MARKET



TYPE OF CREATED JOBS



■ Technical ■ Admin

RESULTS

- ❖ 654 job opportunities created
- ❖ 67 opportunities per MW of installations
- ❖ 47 technical opportunities per MW
- ❖ 20 administrative opportunities per MW

PROJECTION...

- ❖ Target for PV installations in NREAP for 2020 is 200-300 MW of installations
- ❖ Considering that technical opportunities will have a linear expansion for new installations

PROJECTION...

- ❖ 8,930 to 13,630 technical opportunities to be created
- ❖ 285 to 435 Million USD market
- ❖ Considering 30% achievement rate: 2,680 to 5,358

CONCLUSION

- ❖ Development of RE is creating jobs directly but also indirectly.
- ❖ Market dynamics created by the implementation of key pilot projects (BRSS)
- ❖ Lebanese private sector took the lead in developing RE projects

THANK YOU

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