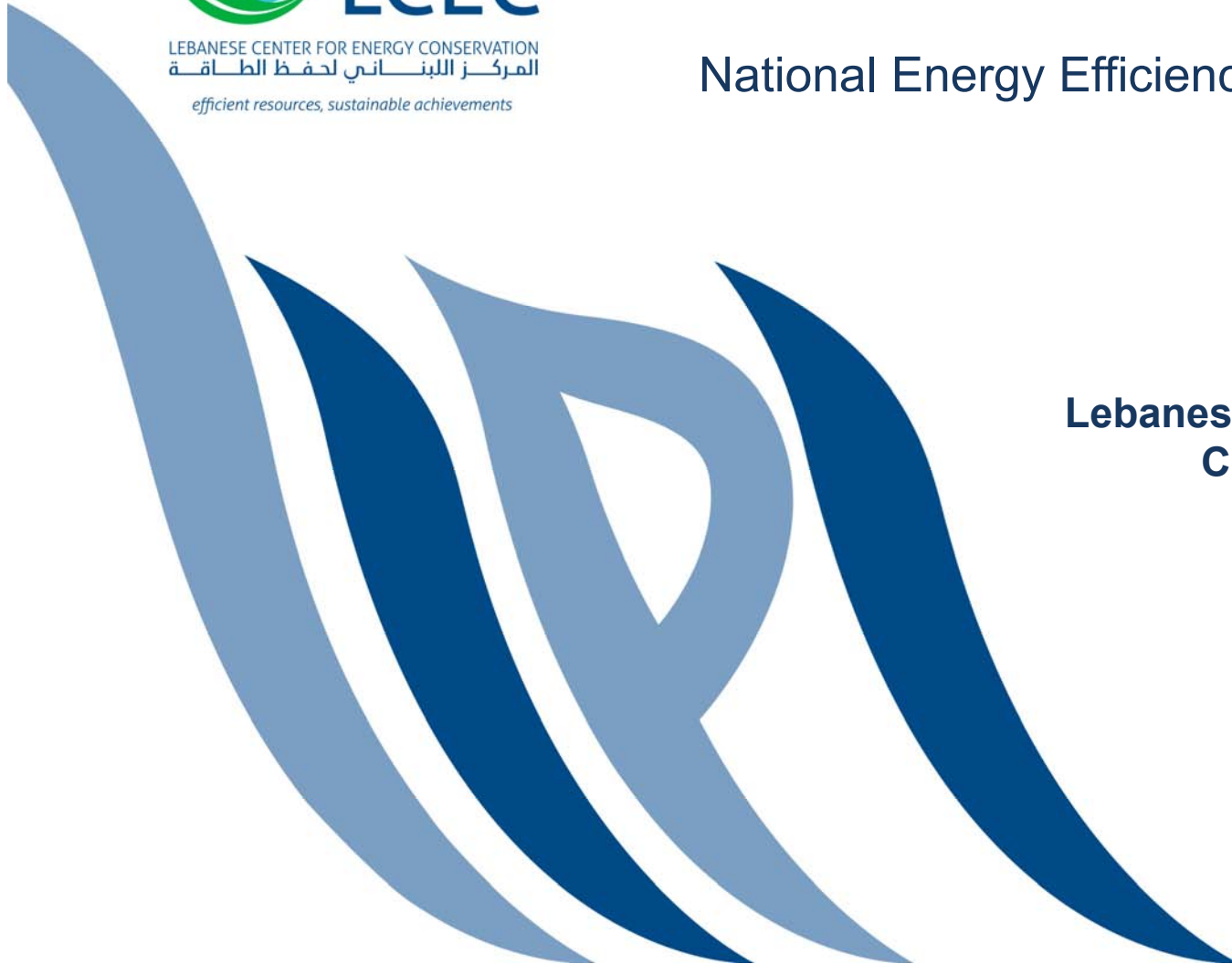




# NEEREA

National Energy Efficiency and Renewable  
Energy Action

**By Melda Jabbour  
Lebanese Center for Energy  
Conservation (LCEC)**



# What is NEEREA?

## NEEREA is the National Energy Efficiency and Renewable Energy Action

- A national **financing mechanism** initiated by the Central Bank of Lebanon in collaboration with the Ministry of Energy and Water, the Ministry of Finance, UNDP, the EU, and the LCEC.
- It was officially launched with the issuance of Circular No. 236 by the Central Bank of Lebanon on 25 November 2010.
- Provides **subsidized loans for any type of EE and/or RE projects** to private sector entities (individuals, SME's, or corporate bodies).
- Covers **loans by any Lebanese commercial bank with 0.6% interest rate and a repayment period of up to 14 years**, in addition to a grant amount released after the project is implemented.

# Architecture of NEEREA



- MEW sets the strategic guidance and priority in energy efficiency and renewable energy



- As the national financing institution, BDL sets the framework of operation and offers benefits to banks



- MoF defines the subsidies on interest rates for the different sectors of the economy



- EU has offered BDL a grant of 12 Million Euros to encourage SME's in applying for NEEREA



- UNDP partnered with BDL to offer technical support, training, marketing, and awareness raising activities



- LCEC is the technical consultant to BDL, reviewing loan applications, and setting quality control criteria

# NEEREA Key Players

- **The Central Bank of Lebanon (BDL)**
- The interested Client
- An ESCO (Energy Service Company) and/or a supplier
- The Commercial Bank chosen
- Technical Committee (LCEC)

*Interested Clients can apply for the green loans at any of the Lebanese Commercial Banks*

*The received loans requests by the technical support unit to BDL at LCEC till date involve most of the Lebanese Commercial Banks*

# Loan Sizes and Types

## Types

- **Existing Facility:** Existing House, Existing Residential Building, Existing Office, Existing Industrial Plant, etc...
- **New Facility:** New Commercial Mall, New Villa, etc...
- **New Certified Facility:** LEED, BREEAM, HQE...
- Solar Water Heaters: 0% interest - 5 years, 200 USD Grant Subsidy

## Loan Sizes

- The ceiling of the green loans is **20,000,000 USD**
- The current ceiling or envelope of NEEREA in 2017 is around **1 Billion USD** subsidized by the Lebanese Government through the Central Bank of Lebanon (BDL)

# Building Projects and Technologies

## **Building Projects**

All Sizes... All Sectors...

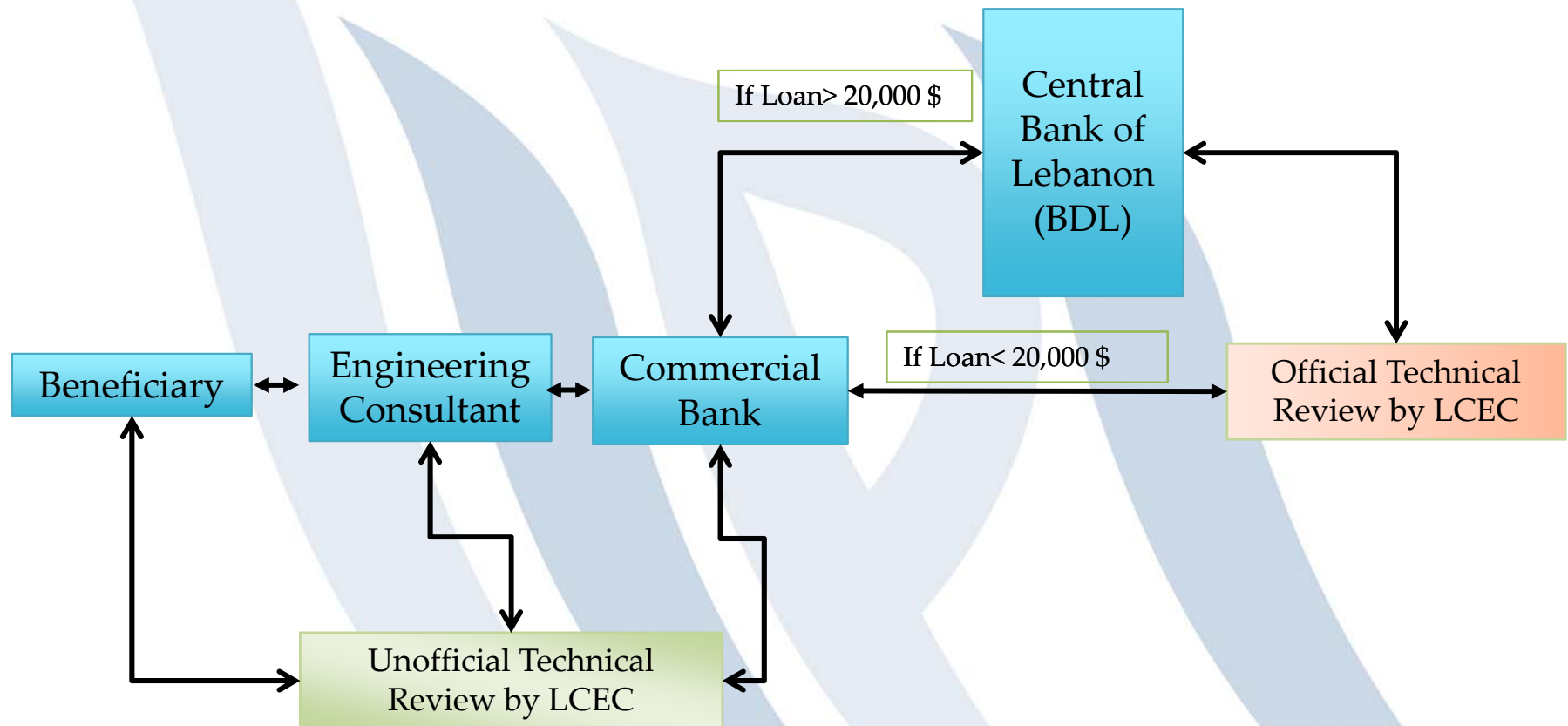
- Individuals, SME's, or Corporate bodies
- Residential, Industrial, Commercial, Non-Profit, etc...
- Real Estate, Offices, Houses, Hospitals, Hotels, Education, etc...

## **Technologies**

- Interior and Exterior Efficient Lighting Systems
- Efficient Ventilation and Heating Systems
- Building Envelope Applications
- Solar, Wind, Hydro, Geothermal and Biomass Applications

# How it works – Application process

## 1- Technical Review of NEEREA Loans





# How it works – Application process

## 2- Loan Amount

<b>Nature of Project</b>	<b>Rating</b>	<b>Loan Amount</b>
Existing Project	Rated or Not Rated	Energy Measure Cost
New Project	Not Rated	Energy Measure Cost
	Certified	<b>15%</b> of the Total Project Budget
	Silver	<b>25%</b> of the Total Project Budget
	Gold	<b>35%</b> of the Total Project Budget
	Platinum	<b>45%</b> of the Total Project Budget



# How it works – Application process

## 3- Technical Quality Control - NEEREA Documents

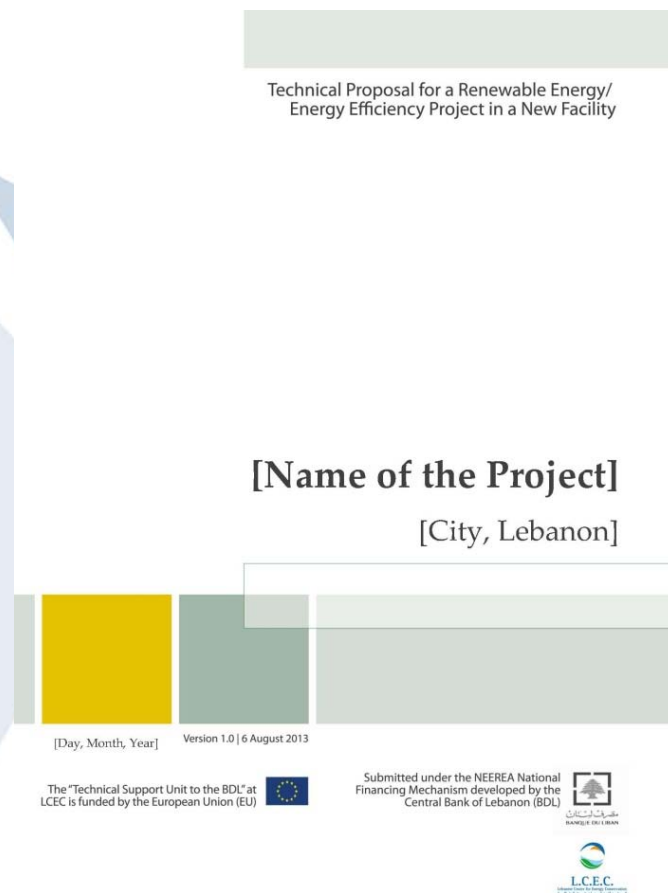
- There are three template reports:
  - The **GREEN** template for EE/RE solutions in existing facilities
  - The **YELLOW** template for EE/RE solutions in new facilities (non-certified)
  - The **RED** template for certified approach in new facilities (International Certifications such as: LEED, BREEAM, HQE)

# How it works – Application process

## 3- Technical Quality Control - NEEREA Documents

- How LCEC Templates looks like?

1. Proposal Contents
2. Contact Details of Involved Parties
  - 2.1 Project Owner Details
  - 2.2 Consultant Details
  - 2.3 Bank Details
  - 2.4 Product Suppliers Details
3. General Description of the State of the New Facility
4. Narrative Description of the Proposed Project
  - 4.1 Rationale and Objective
  - 4.2 Presentation of the Proposed Project
5. Loan Request Summary Sheet (EE measures)
6. Financial Analysis Summary (Cost savings and Payback)
7. Upcoming Situation of Energy Consumption
8. **Detailed Feasibility Study of the Project**  
(Economic, Financial and Environmental Sustainability Analysis)
9. Catalogs and Data Sheets
10. Invoices and Quotations



# How it works – Application process

## 3- Technical Quality Control - NEEREA Documents

- Four LCEC Technical Guidelines:
  - Proposals for **Decentralized Solar Photovoltaic Systems (PV)** Applications
  - Proposals for **Collective Solar Water Heating Systems (SWH)** Applications
  - Proposals for **Light Emitting Diode Systems (LED)** Applications
  - Proposals for Non Certified High Energy Performance Building

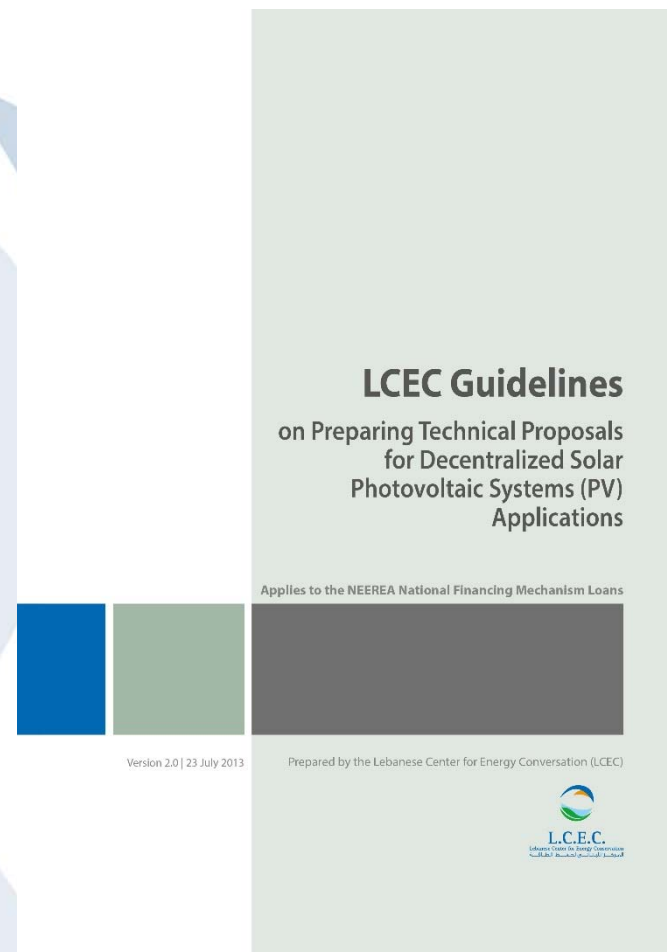
# How it works – Application process

## 3- Technical Quality Control - NEEREA Documents

- How LCEC Guidelines looks like?
  1. PV Study Content
  2. Introduction
  3. Overview of Current Systems in Place
  - 4. Solar PV System Sizing**  
(Site and Meteorological Analysis and Sizing the components)
  5. Financial Analysis
  6. Green House Gas Emissions Reduction
  7. Post-Installation Monitoring
  8. Conclusions
  9. Appendices
  10. General Notes

### ANNEX

1. Solar Irradiation Data per climatic zone according to TSBL
2. Tilt Angle Conversion Table



# How it works – Application process

## 4- NEERA Process Time

- This process takes around two months based on the quantity of applications and availability of information
- The LCEC conducts a site visit to check the implemented energy conservation measures of the approved project
- Action would be taken if final execution diverges from original plans



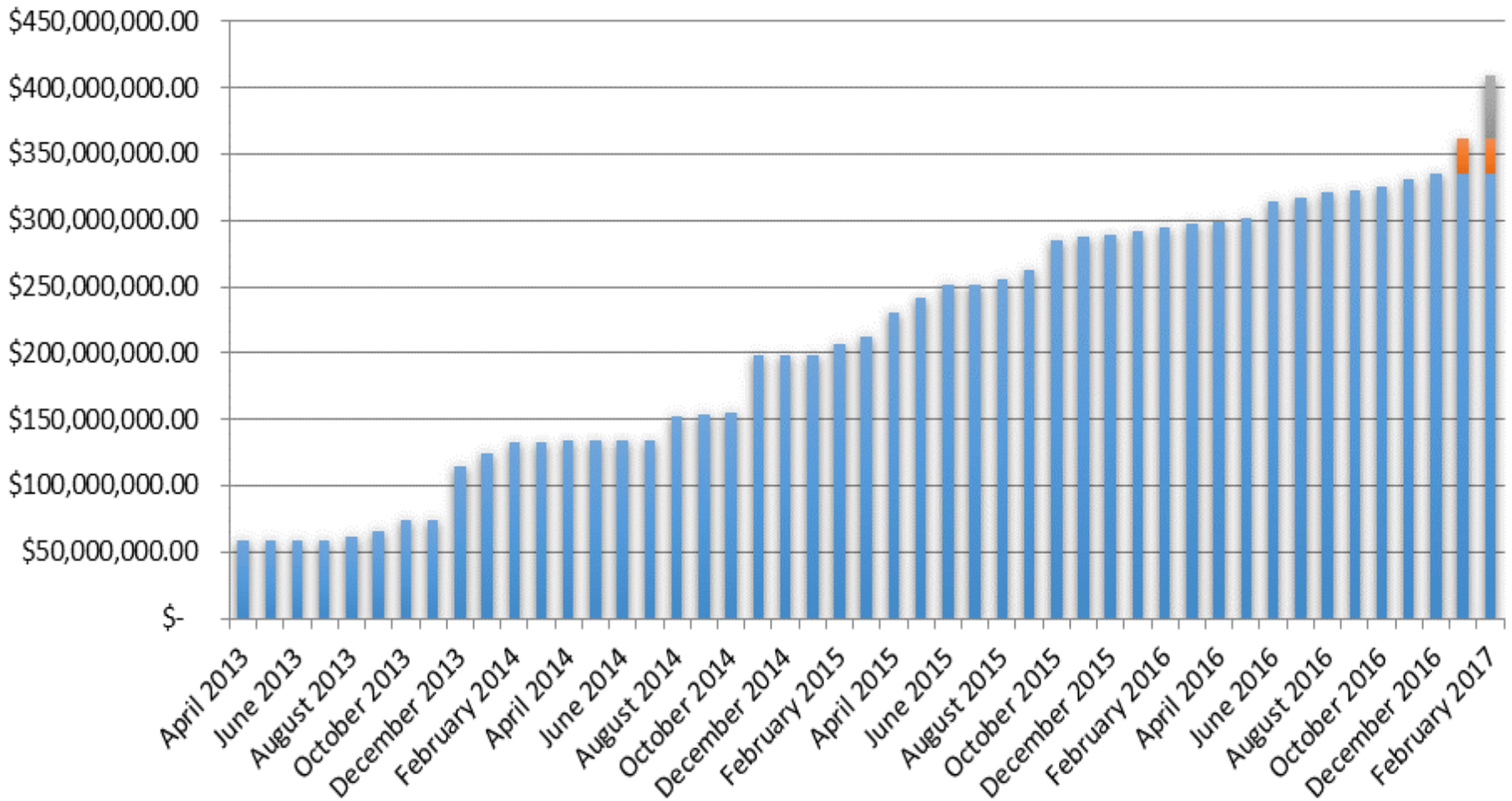
# NEEREA Projects

- More than **514** loans approved with a total of **333 million USD**
- Around **42** projects in the pipeline with a total of **12 million USD**
- **395** PV projects of a total installed capacity of **16.8 MWp**
- Green building loans took the biggest part with a total budget of **223 million USD**





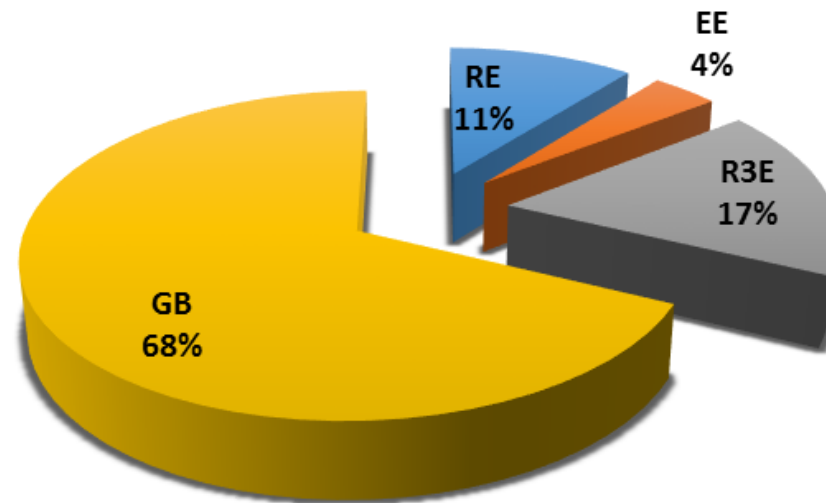
# Investments Under NEEREA



# NEEREA Indicators - Statistics

## Distribution of Investments Under NEEREA

Loans Amount per Category



*RE: Renewable Energy Projects*

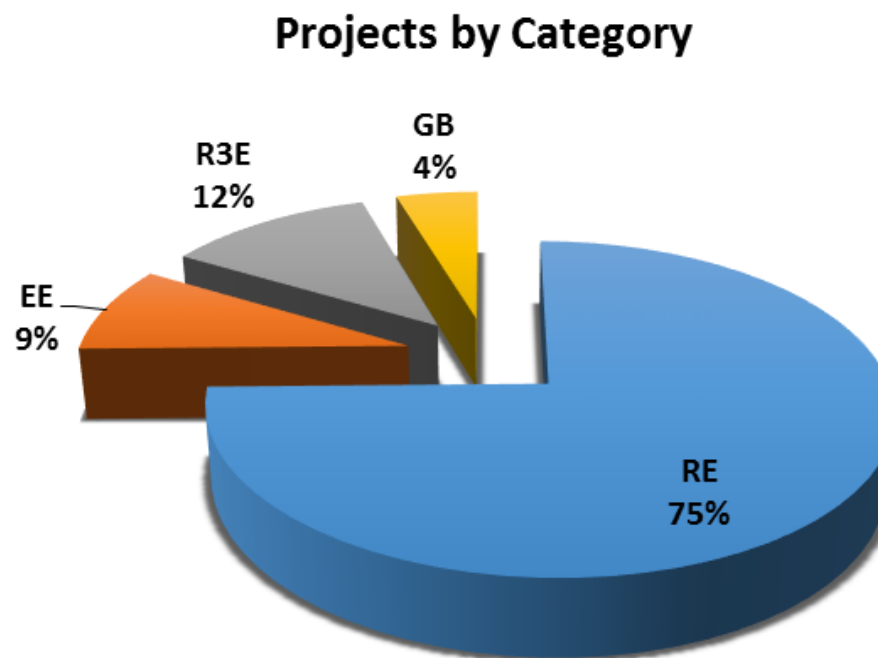
*EE: Energy Efficiency Projects*

*R3E: Renewable Energy and Energy Efficiency Projects*

*GB: Green Certified Buildings Projects*

# NEEREA Indicators - Statistics

## Distribution of Projects Under NEEREA



*RE: Renewable Energy Projects*

*EE: Energy Efficiency Projects*

*R3E: Renewable Energy and Energy Efficiency Projects*

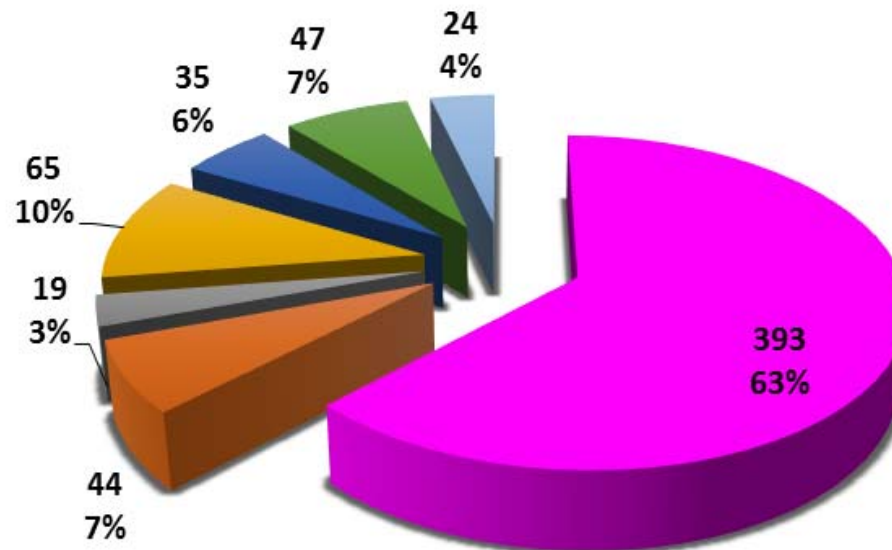
*GB: Green Certified Buildings Projects*

# NEEREA Indicators - Statistics

## Distribution of Projects Under NEEREA

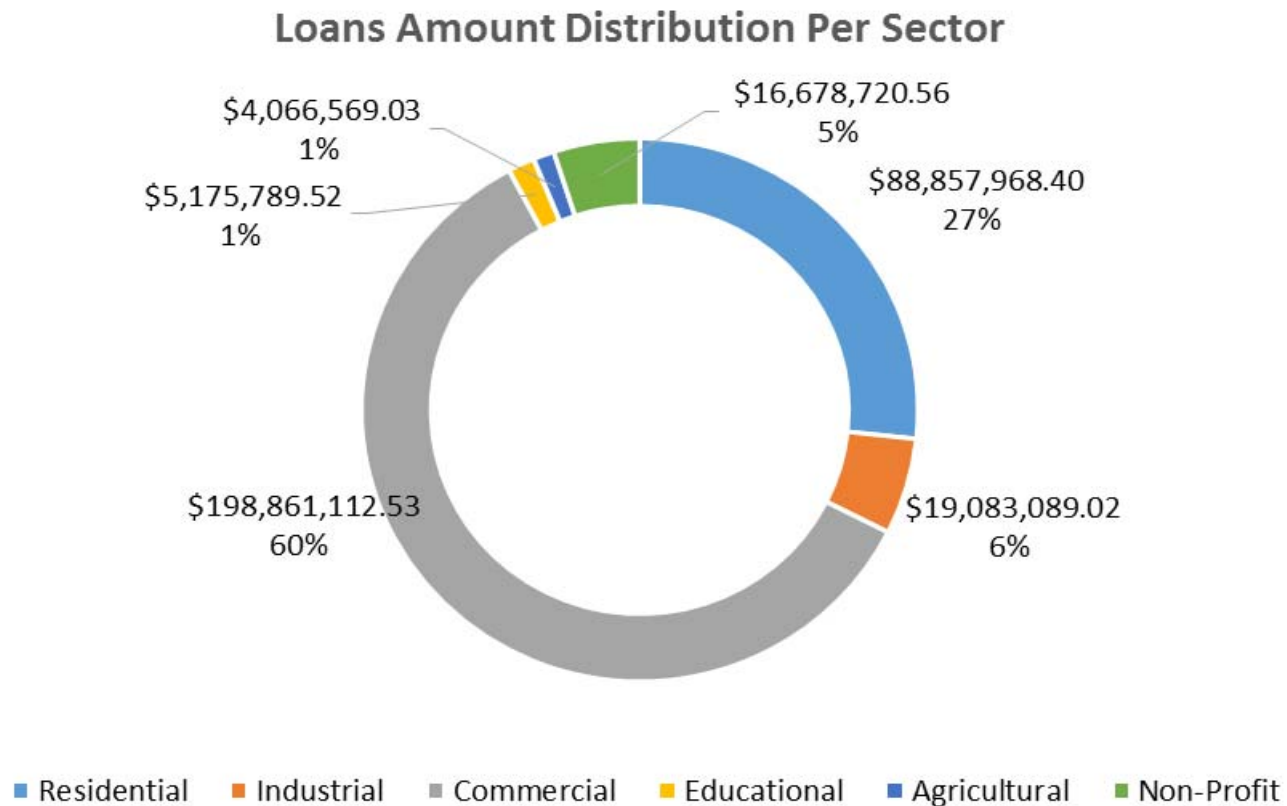
Number of Projects by Technology

■ PV ■ SWH ■ Biomass Boiler ■ LED ■ Building Envelope ■ Other ■ Green Certified Buildings



# NEEREA Indicators - Statistics

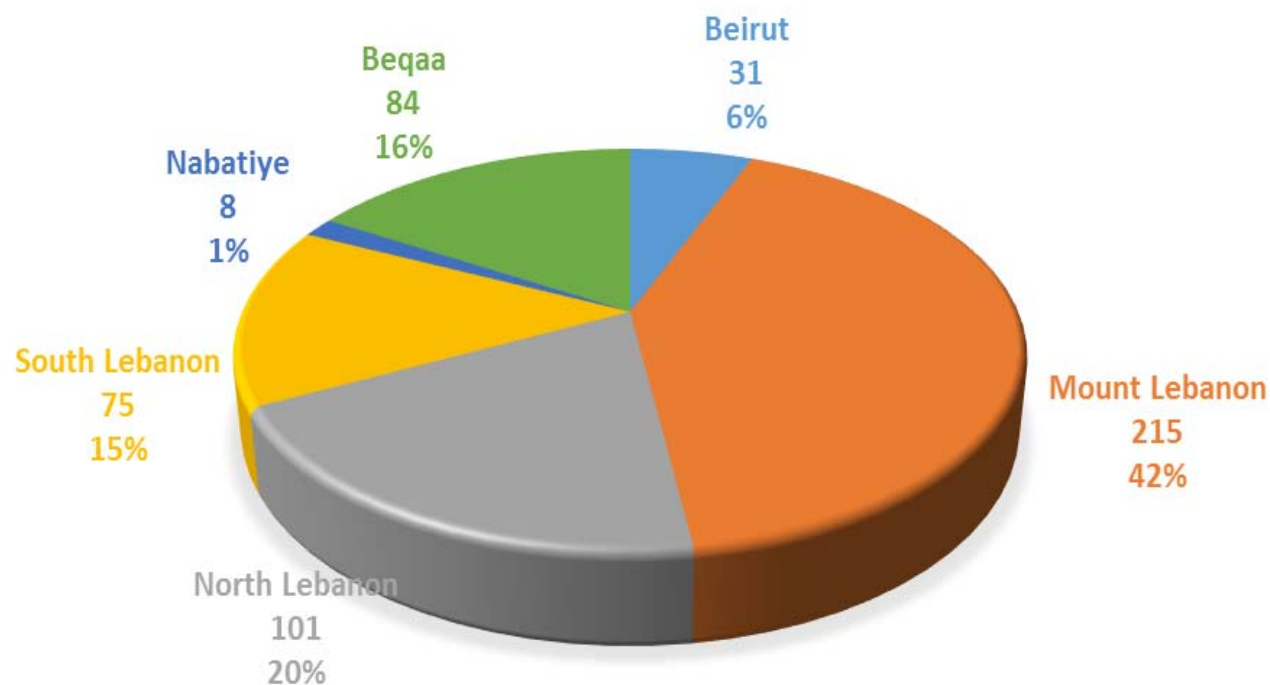
## Loans Amount Distribution of Projects Per Sector



# NEEREA Indicators - Statistics

## Distribution of Projects Per Governorate

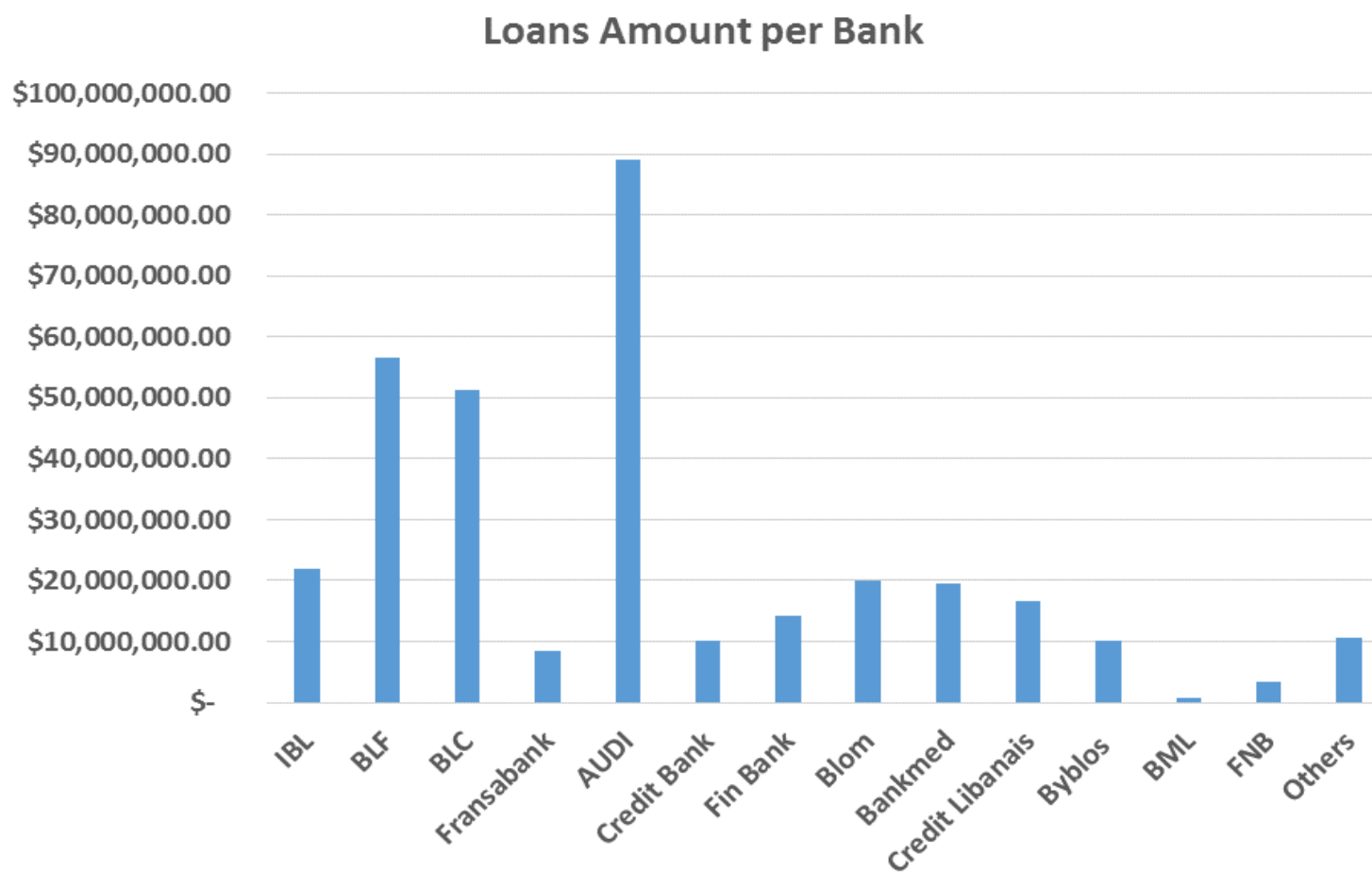
NUMBER & PERCENTAGE OF PROJECTS PER GOVERNORATE





# NEEREA Indicators - Statistics

## Distribution of Projects Per Bank





# Q&A

# Thank You!

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