

Market Assessment and Characterization  
of  
Energy Battery Storage Technologies

Indo German  
Energy Forum



**IGEF Workshop**  
**13<sup>th</sup> January 2017, Mumbai, India**

# »» KfW Renewable Energies Programme – Storages

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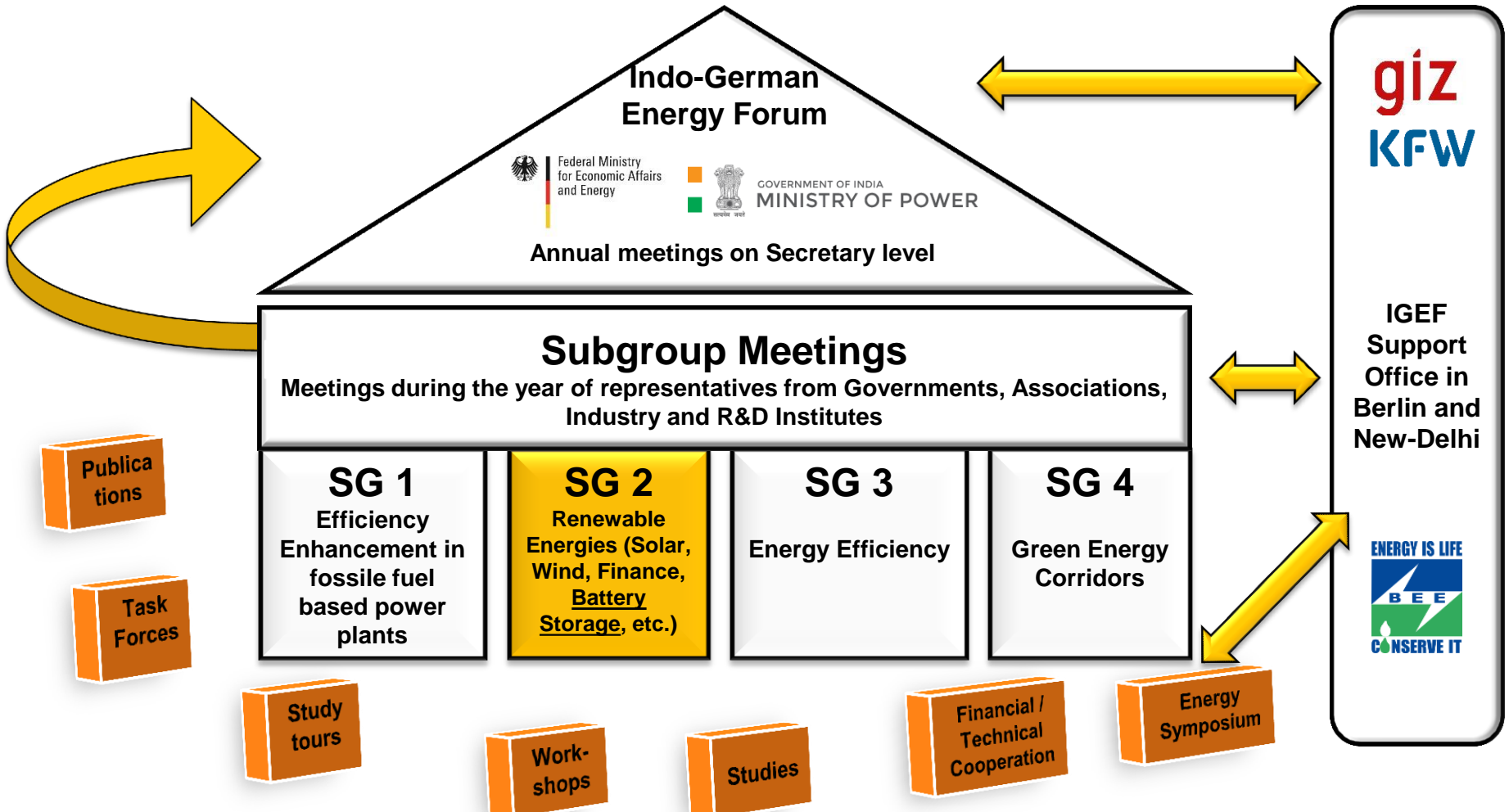
Bank aus Verantwortung

**KfW**

# Indo-German Energy FORUM

Structure & Subgroups

[www.energyforum.in](http://www.energyforum.in)



## »» 65 years of KfW

Financing with a public mission



- › Promotional bank of the Federal Republic of Germany
- › Established in 1948
- › Shareholders: 80% Federal Republic, 20% federal states
- › Headquarters: Frankfurt am Main  
Branches: Berlin, Bonn and Cologne
- › Representative offices: 80 offices and representations worldwide
- › Balance sheet total 2013: EUR 464.8 billion
- › Financing volume 2013: EUR 72.5 billion
- › 5,374 employees (2013)
- › Best long-term rating: AAA/Aaa/AAA

### **Storage related activities in India:**

- › IREDA: EUR 25 MM credit line for Access to Energy
- › Solar Partnership: EUR 1 Bn.

# »» KfW's Role in financing Solar in India

## Indo-German Solar Energy Partnership

### What is funded?

- › **Germany has made commitments with a total volume of around EUR 1 billion, which will be channeled through KfW Development Bank**
- › **The partnership consists of three pillars:**
  - › (i) cooperation in the field of solar rooftops,
  - › (ii) development of solar parks or solar zones,
  - › (iii) solar off-grid applications to improve the access to clean and sustainable energy

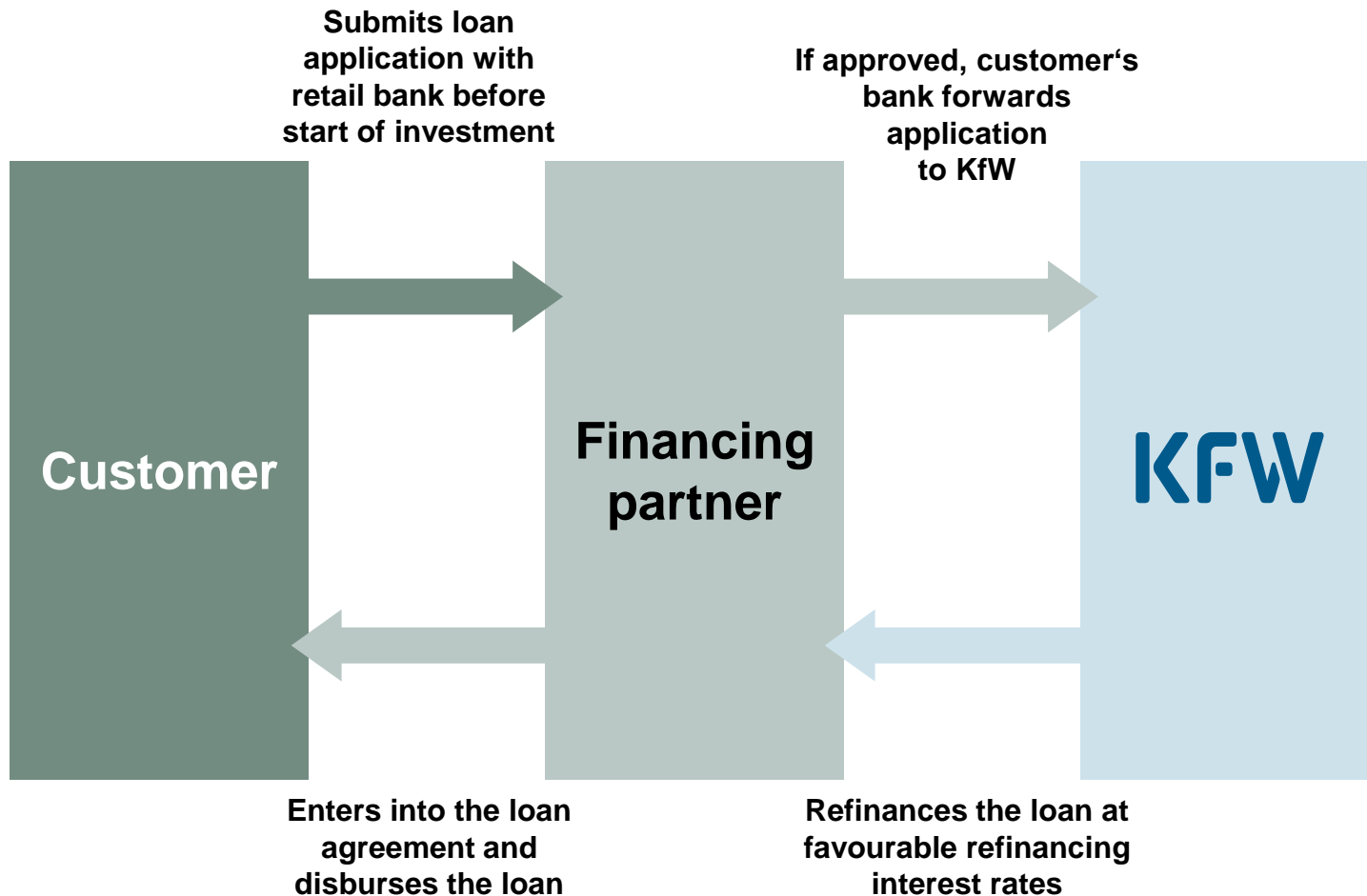
### Instruments

- › **Grants from the German federal budget , commissioned through the Federal Ministry for Economic Cooperation and Development (BMZ)**
- › **Reduced interest loans from KfW**



## »» Neutrality through on-lending principle in banking business

No branch network of KfW



# »» KfW Renewable Energies Programme – Storages

## Objective

### Objective

- › The programme "Renewable Energies - Storage" is intended to support the market and **technology development of battery storage systems**.
- › The promoted systems contribute to the better integration of small to medium-sized photovoltaic plants into the electricity grid.

# »» KfW Renewable Energies Programme – Storages

## Target Group

### Programme's Target Group

- › Stationary battery storages for photovoltaic systems can not yet be operated economically at the current price level for storages. The target group of the programme "Renewable Energies - Storage" are therefore trendsetters or pioneers (so-called "early adopters") in the field of renewable energies.
- › Users of the programme are willing to invest substantial amounts of their own money in the acquisition of battery storage systems, which are not fully compensated by self-consumption and repayment bonus.



# »» KfW Renewable Energies Programme – Storages

What is funded?

## What is funded?

- › **New installation of a photovoltaic system combined with a stationary battery storage system**
- › **Retrofitting of stationary battery storage unit to existing photovoltaic system brought into service after 12/31/2012.**
- › Between commissioning of photovoltaic system and start-up of battery storage system, a period of at least 6 months must be elapsed in order to obtain the increased rate of subsidy.

## Instruments

- › **Repayment subsidies financed by the Federal Ministry of Economics and Energy (BMWi)**
- › **Reduced interest loans from KfW**



**KfW**

# »» KfW Renewable Energies Programme – Storage

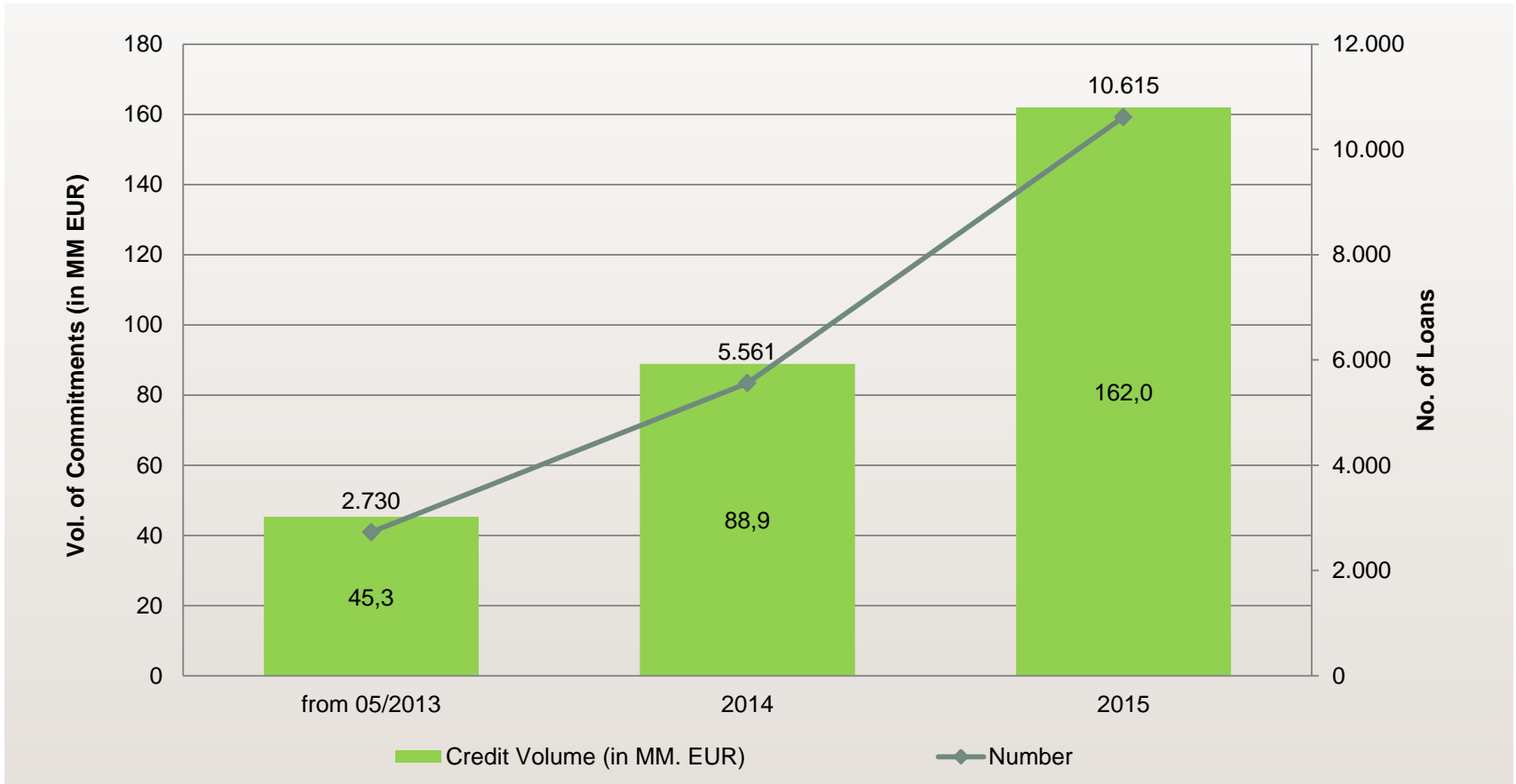
Review of Phase 1 (May 2013 – December 2015)



- › **Start of Programme May 01, 2013**
- › As of December 31, 2015
  - › Around 19.000 commitments
  - › Volume of credit around EUR 300 million
  - › Triggered investment volume around EUR 450 million
- › Regional key areas are in Bavaria, Baden-Wurtemberg, North Rhine-Westphalia, Lower Saxony, Hesse
- › Approx. 90% of applications concern purchase of PV system with storage
- › Retrofitting of storages approx. 10% of the applications

# »» KfW Renewable Energies Programme – Storages

Development of Commitments – Year-over-Year

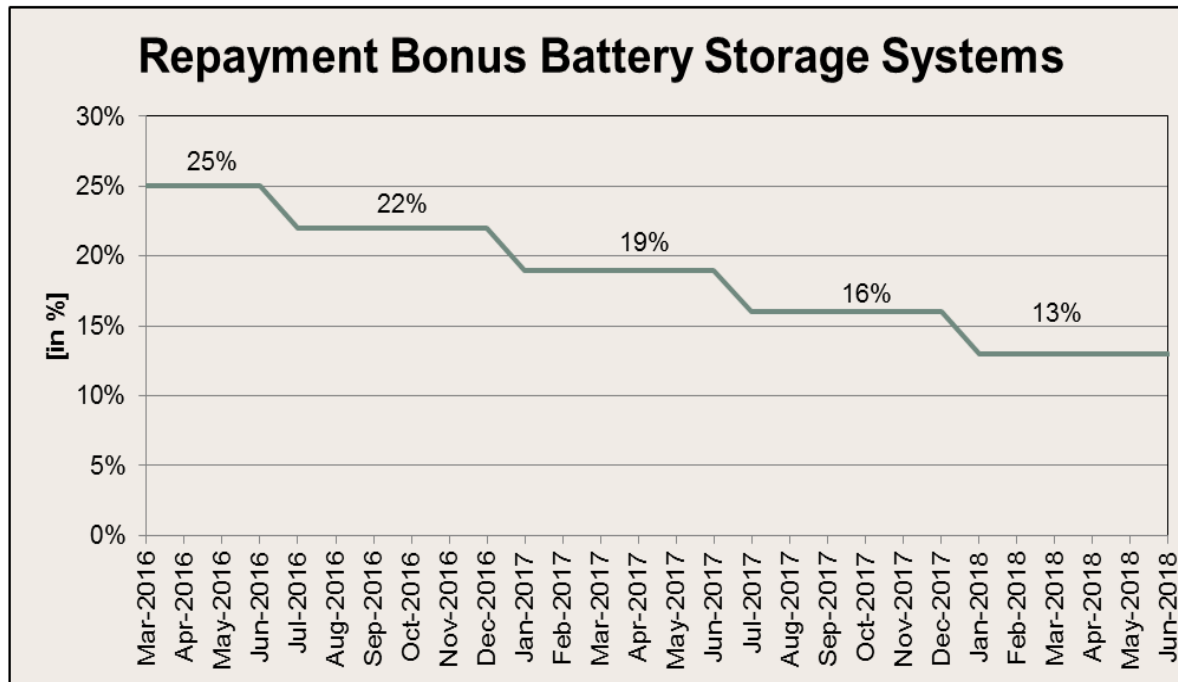


**In Phase I (2013-2015) around 19,000 credit commitments were made.**

## »» Funding Principle

Amount of subsidy depends on the date of the application

- › EUR 10 MM KfW's Budget for battery storage systems for the year 2017
- › Principle of "First come, first serve"
- › Subsidy portions decrease constantly



»» Thank you for your attention.

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**KFW**