



Solar Green Bonds

Webinar – July 2016



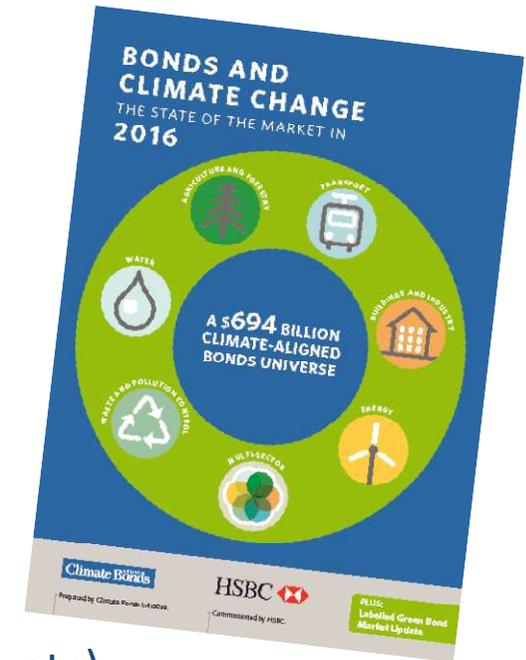
Topics covered in this webinar

1. CBI & the green bond market
2. Green bond labelling & the role of standards
3. Climate Bonds Standard & Certification Scheme
4. Solar Criteria explained
5. Issuer experience – DKB Germany
6. Q&A



The Climate Bonds Initiative: What we do

- Climate Bonds Standard & Certification Scheme
 - Definitions for investors and guidelines for bond issuers
 - Investor confidence through assurance and certification
- Information flows for ratings agencies & index providers
- Outreach to inform and stimulate the market
 - Policy models and government advice
 - Efforts in emerging markets to grow issuance (China, India, etc)
 - Facilitating discussions on securitization, covered bonds, Islamic Finance
- Partners Program
 - Platform for market participants to get involved during the formative stages
 - Tailored way to support the CBI's efforts to accelerate growth in green bond issuance and demand



Recap: What are green bonds

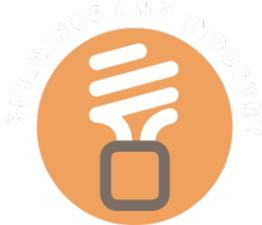
- A bond is a form of debt
- Usually used to finance large, mature assets
- Issued by companies, governments, municipalities, banks...
- Important part of investment portfolios for investors such as pension funds, insurance companies, institutional investors, etc
- A green bond is a bond where the proceeds are used to finance environmentally friendly assets
- Climate challenge & opportunity: need \$50-90 trillion to finance low-carbon transition over next 5 years



It's about mitigation and adaptation/resilience



Solar, wind grid
Bioenergy, Geothermal
Hydro, Marine



Low-carbon buildings
& industrial facilities



Low emission vehicles
Electric Vehicles
Rail, BRTs



Sustainable water mngmt
Water infrastructure
Storm adaptation



Waste & pollution mngmt
Methane reduction
Recycling

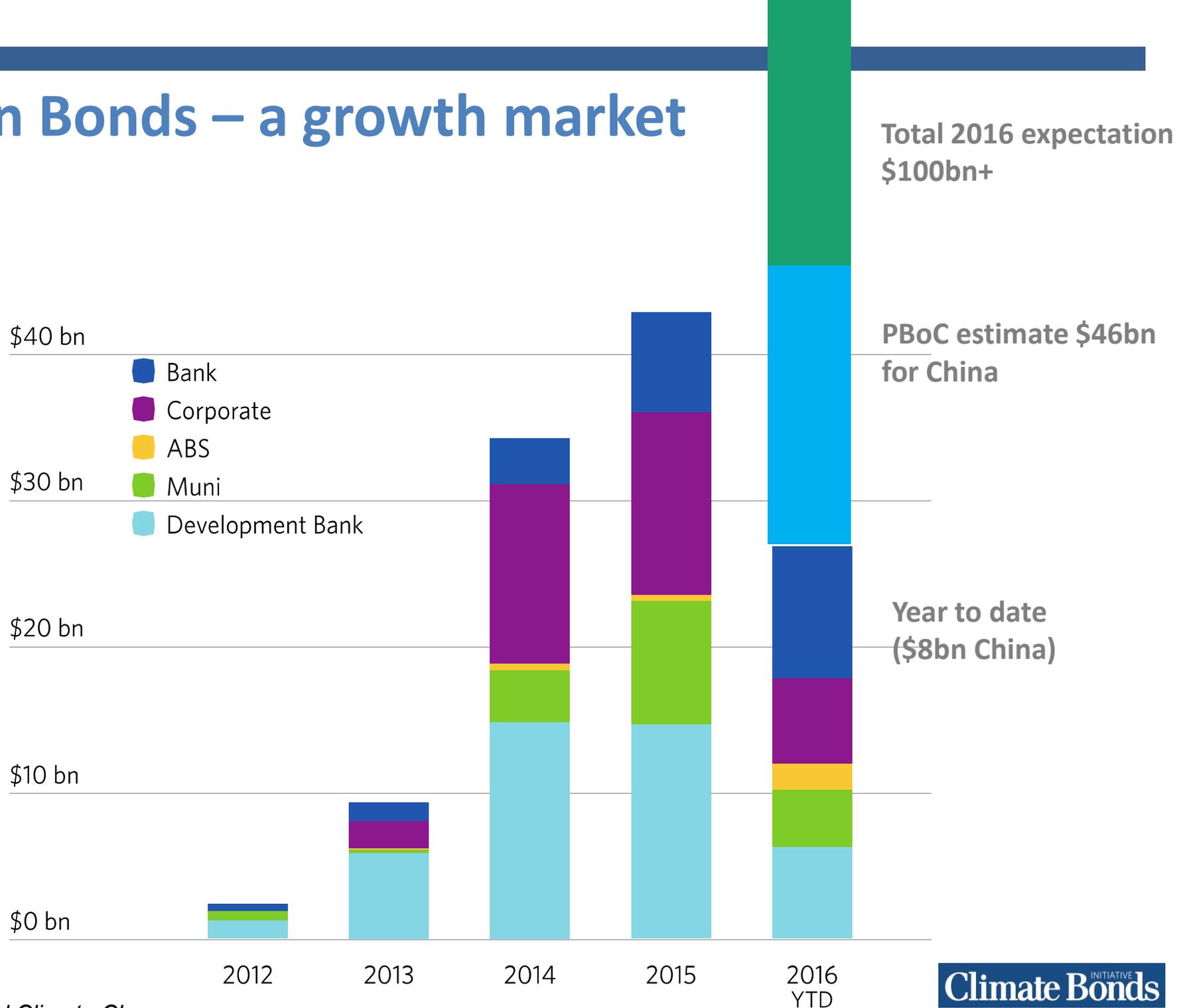


Agriculture
Food supply chain
Forestry, wood, paper

ICT & Broadband

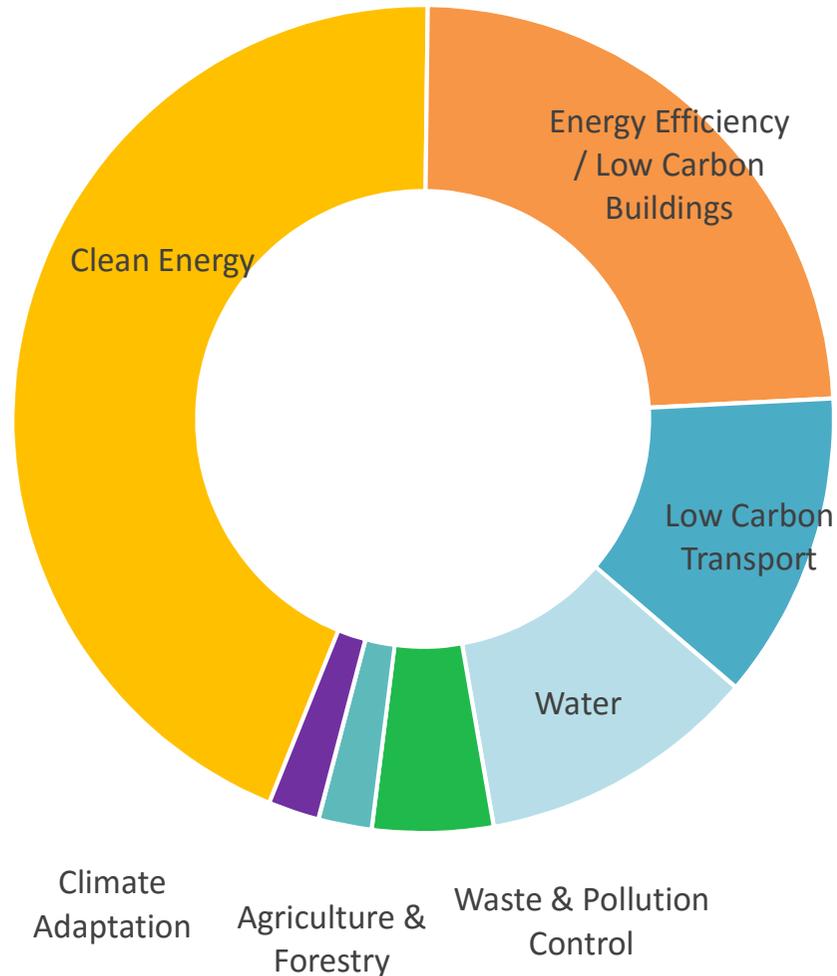


Green Bonds – a growth market



Source: Bonds and Climate Change
– State of the Market in 2016

Wide range of green assets



- Clean energy is the most developed segment
- Many other segments
- All segments are growing



The attraction of green bonds

*Issuer benefits
become more and
more apparent and
diverse...*

Issuer Benefits

- Investor diversification across regions and types
- Investor engagement & “stickiness”
- Strong oversubscription, yields tighter
- Strengthened reputation
- Alignment of CSR (or core business when pure play) with funding scheme

*...given strong and
persistent investor
demand for green.*

Investor Benefits

- Well-understood projects reduce risk exposure
- Well-managed projects reduce risk exposure
- Trading at a premium in secondary markets
- Strengthened reputation
- Deeper engagement with company management on green

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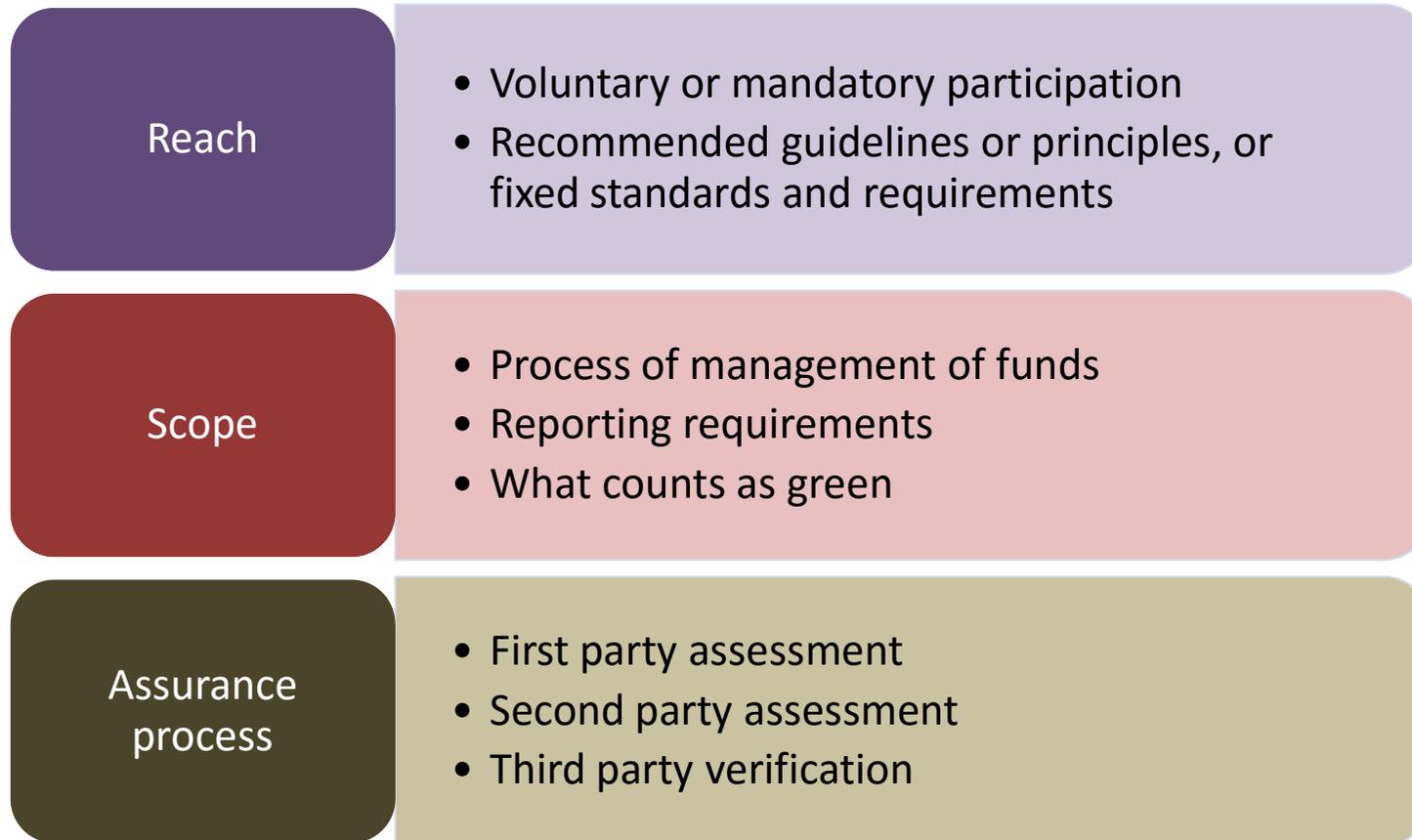


The importance of credibility

- If issuers are claiming benefits from green aspects of the bond, need to protect investors from greenwashing
- Need a system of 'environmental due diligence' to review key environmental attributes, to complement existing financial due diligence
- Investors can't do this themselves
 - Specialist expertise needed regarding what counts as green
 - Costly to assess and verify themselves
- Principles for a good system of environmental due diligence:
 - Scientifically robust
 - Transparent
 - Consistent



Key dimensions to green bond labelling



Evolution in green bond labelling: history

- A variety of approaches to green bond labelling have been used so far
- First green bond was issued in 2007 from European Investment Bank (EIB's own green label, self-assessed) followed by green bonds from the World Bank (WB's own green label, second opinion from CICERO)
- 2014 was a turning point with the first corporate green bonds issued, utilising the new Green Bond Principles and subject to a second opinion
- During 2015 the Climate Bonds Standard was enhanced, building on Green Bond Principles but taking it further to define a climate compatible taxonomy of eligible investments and eligibility criteria for a bond to be officially certified under the Climate Bonds Standard & Certification Scheme
- More recently we see countries developing national green bond regulations – a key example being China



Evolution in green bond labelling: looking forward

- Investor demand for Green Bonds & Climate Bonds is strong, and will increase in line with the delivery of *credible, quality* products into the market
- Standards, assurance & certification have been identified as key to improved confidence and transparency, and further strong growth within the mainstream debt capital markets
- Risk that if robust standards and independent verification are not used then green bond labelling may lose its impact
- Governments have a key role to play in developing and rolling out mandatory green bond regulations as well as encouraging market development
- Critical to success will be harmonisation of cross-territory standards with national regulations



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Key features of the Climate Bonds Standard

- A robust and effective Certification scheme
 - Clear, objective, sector-specific, climate **eligibility criteria for projects & assets**
 - Clear **mandatory requirements** regarding use of proceeds, tracking & reporting (including an assurance framework with independent verifiers)
 - **Certification** by an independent Climate Bond Standards Board made up of investors and NGOs with US\$36 trillion AUM
- **Green Bond Principles are fully integrated**
- Wide **variety of bond types** are eligible for certification

The Climate Bonds Standard is an environmental standard, **not** a financial standard.
Investors must do their own credit analysis

How does the Standard work in practice?

- Provides clear requirements for issuers and their bonds to be labelled as Certified Climate Bonds
- Aligns with the normal phases of the bond market
 - Pre-issuance
 - Post-issuance
- Two components
 - Parent standard with General Requirements and Climate Bonds Taxonomy
 - Sector-Specific Technical Criteria
- Certification Process



Climate Bonds Taxonomy and Technical Criteria

ENERGY	LOW CARBON BUILDINGS	INDUSTRY & ENERGY-INTENSIVE COMMERCIAL	WASTE & POLLUTION CONTROL	TRANSPORT	INFORMATION TECHNOLOGY & COMMUNICATIONS	NATURE BASED ASSETS	WATER
Solar 	Residential 	Manufacturing 	Recycling facilities 	Rail 	Power management 	Agricultural land 	Flood Defences 
Wind 	Commercial 	Energy efficiency processes 	Recycled products & circular economy 	Vehicles 	Broadband 	Forests (managed and unmanaged) 	Water distribution infrastructure 
Geothermal 	Retrofit 	Energy efficiency products 	Waste to energy 	Mass transit 	Resource efficiency 	Wetlands 	Water capture & storage infrastructure 
Hydropower 	Products for building carbon efficiency 	Retail and wholesale 	Methane management 	Bus rapid transport 	Teleconferencing 	Degraded Lands 	Water treatment plants 
Bioenergy 		Data centres 	Geosequestration 	Water-borne transport 		Other land uses (managed and unmanaged) 	Assets in energy & production industries 
Wave and Tidal 		Process & fugitive emissions 		Alternative fuel Infrastructure 		Fisheries and aquaculture 	
Energy distribution & management 		Energy efficient appliances 				Coastal infrastructure 	
Dedicated transmission 		Combined heat & power 					

Certification Criteria approved 

Criteria under development 

Due to commence 



Overall process for certification

1. Pre-Issuance Certification



2. Post-Issuance Certification



Participants in the Certification process



Issuers to date



Standards Board



Verifiers around the world



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Technical criteria for solar projects & assets

Version 2.0 of the criteria for solar:

- Eligible Projects & Assets relating to solar energy generation shall be projects or assets that operate or are under construction to operate in one or more of the following activities:
 - Solar electricity generation facilities
 - Wholly dedicated transmission infrastructure and other supporting infrastructure for solar electricity generation facilities including inverters, transformers, energy storage systems and control systems.
 - Solar thermal facilities such as solar hot water systems.
- Non-solar fuel use
 - Eligible Project & Assets that have activities in solar electricity generation facilities or solar thermal facilities shall have a minimum of 85% of electricity generated from solar energy resources

Breaking it down into the key pieces (1 of 3)

- **“... operate or are under construction to operate ...”**
 - Existing facilities
 - Facilities under construction

- **“... solar electricity generation facilities ...”**
 - Solar PV
 - Rooftop, commercial, utility-scale, floating
 - Grid-connected, stand-alone
 - Concentrator PV, concentrated solar power

Breaking it down into the key pieces (2 of 3)

- **“... wholly dedicated transmission infrastructure ...”**
 - Connecting infrastructure
 - Equipment which enables the solar power to be transmitted

- **“... other supporting infrastructure ... including:**
 - **inverters**
 - **transformers**
 - **energy storage systems**
 - **control systems ...”**

Breaking it down into the key pieces (3 of 3)

- “... **solar thermal facilities such as solar hot water systems ...**”
 - Rooftop solar hot water
 - Solar cookers
 - Large-scale solar thermal facilities
 - Low, medium or high-temperature systems

- “... **minimum of 85% of electricity generated from solar ...**”
 - Allows hybrid systems with fossil-fuel back-up
 - Limits the use of back-up to not more than 15% of output



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Q&A ...

... and thank you

- Please reach out and ask questions arising from this discussion
- If you would like to be more deeply involved, e.g. as a partner, please ask us about our Partner Programme
- And please do join us for our next webinar – sign up to our blog for information



www.climatebonds.net

