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# Climate finance as an instrument to enhance renewable energy technologies

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**CDM Regional Collaboration Centre, St. George's**

## Outline

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- **Why renewable energy?**
- **Why carbon credits & climate finance?**
- **Why to be concerned about the future?**



- I. To meet future energy demands**
- II. To compete in the market**
- III. To use available potential**
- IV. To support regional and national energy policies**



## Why renewable energy? To meet future energy demands

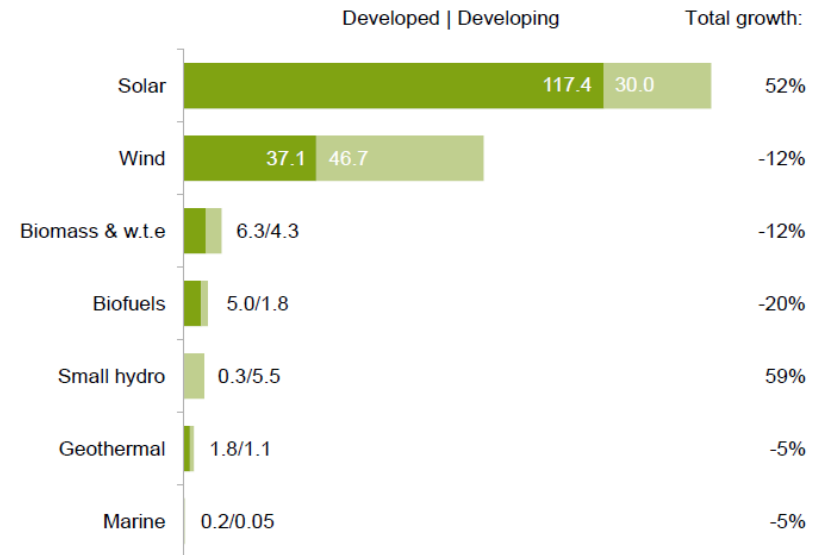
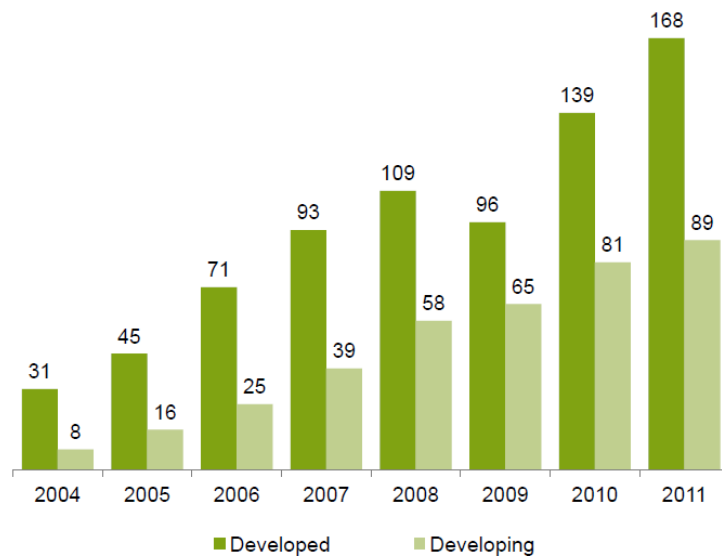
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- Electricity demand is increasing:
  - Between 1990 to 2010 increased by **60%** (UNEP-Risoe 2013)
  - By 2027 is predicted to increased by **100%** (CARILEC, 2011)
- High dependency on fossil fuels, > **65%**
  - Import taxes
  - Reliability

Sources: World Watch Institute (2013); IRENA (2012) Renewable Energy Country Profiles; CARILEC (2011)



## Why renewable energy? To compete in the market

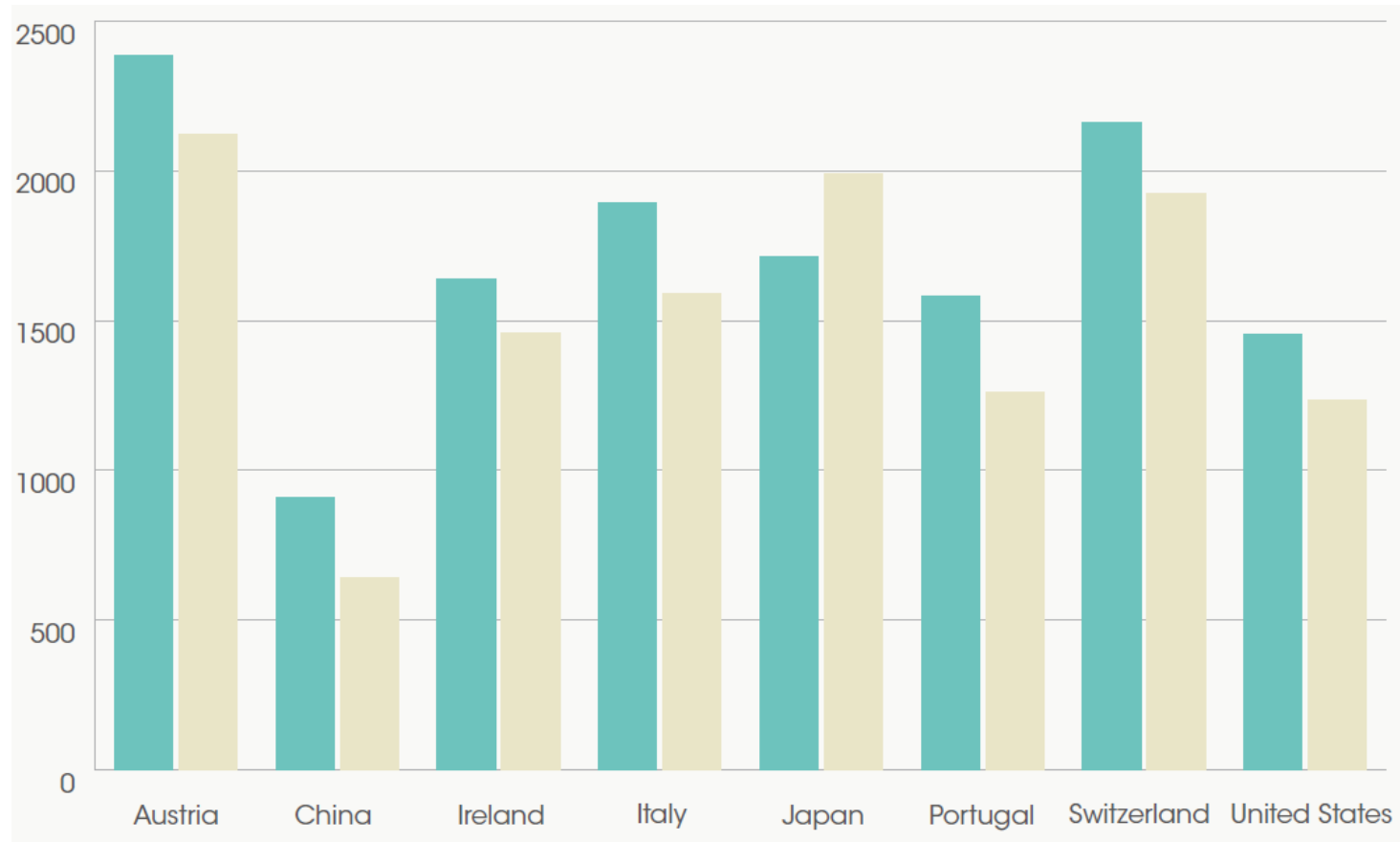


**Investment in renewable technology continues to increase (US\$ billion)**

**Solar and wind heading in growth (US\$ billion)**



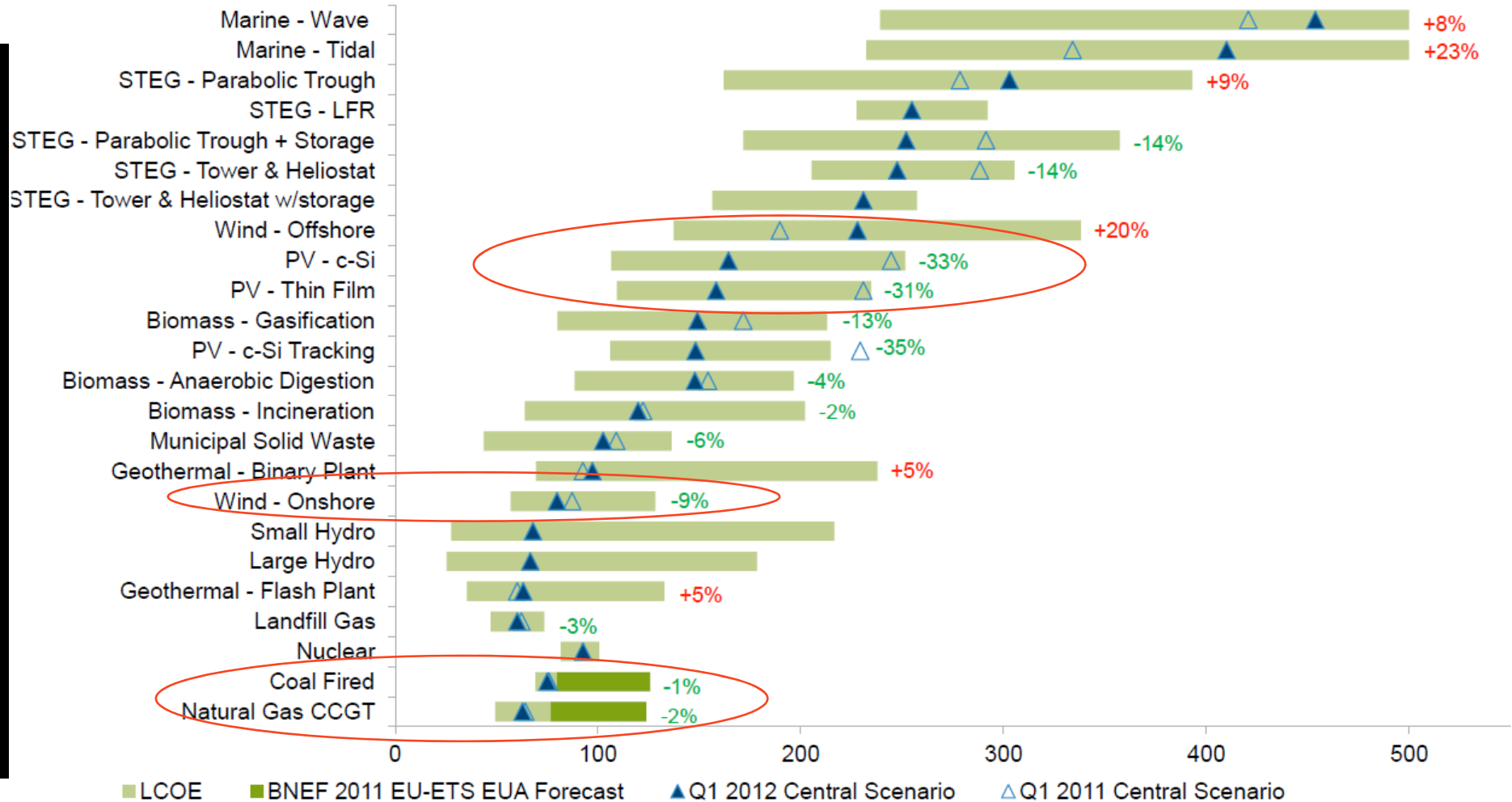
## Why renewable energy? To compete in the market



**Wind technology costs (US\$/kW) are decreasing between 11-29%, 2008 - 2010**



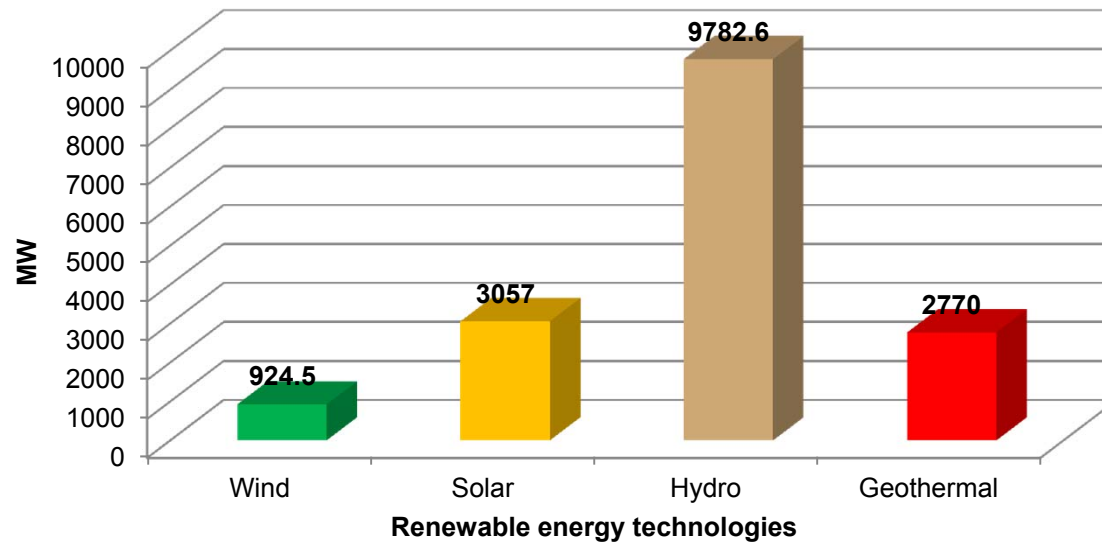
# Why renewable energy? To compete in the market –Levelized costs of, US\$/MWh



Sources: UNEP 2012. Global Trends in Renewable Energy

## Why renewable energy? To use available potential

Renewable energy potential in the Caribbean region  
(MW)



16,500 MW

Highest Potential	Jamaica	Haiti	Guyana	Dominica
	122 MW	1,650 MW	7,000 MW	1,390 MW

By 2010, 8% RE share (1,036 MW) of total installed capacity (>13,000MW)





## Why renewable energy? To support regional energy policies

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- CARICOM (15 states) adopted regional targets for renewable energy and emission reductions, 2013.

Horizon	Target Year	Energy Targets	Reduction Targets (CO <sub>2</sub> against BAU)
Short Term, 5 years	2017	20%	18%
Medium Term, 10 years	2022	28%	32%
Long Term, 15 years	2027	47%	46%



## Why renewable energy? To support national energy policies

Country	Share 2010 (%)	Target (%)	Target (year)	Policy
Barbados	0	20	2026	Sustainable Energy Framework for Barbados 2009
<i>Dominican Republic</i>	17	<i>10/25 500M W</i>	<i>2015/2020</i>	<i>Incentive Law 57-07, 2007; Decree 202-08, 2008</i>
Grenada	0	20	2020	National Energy Policy, 2011
<i>Jamaica</i>	7	15	<i>2020</i>	<i>Draft National RE Policy, 2010</i>
St. Kitts & Nevis	0	20	2015	Tax Exemptions for Renewable Energy Equipment, 2012
St. Vincent & the Grenadines	16	30/60	2015/ 2020	Energy Action Plan, 2010



## Why carbon credits from the Clean Development Mechanism (CDM)?

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- I. Renewable energy projects can obtain approval for the use of carbon credits through RCC's **'free' technical support**
- II. Carbon credits creates an additional **income stream** through the selling of emission reductions on the carbon market
- III. Getting a project approved for carbon credits increases its **funding opportunities**



## Why carbon credits? RCC technical support

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- Developing project proposals with 'carbon' factor
- Estimating emission reductions, national grid emission factors
- Advising on the CDM approval process for registration and issuance of certificates (CERs)
- Advising on how to obtain funds for CDM – Loan scheme



Sources: Energy Policy and Sector Analysis in the Caribbean (2010-2011):

[http://www.ecpamericas.org/data/files/Initiatives/lccc\\_caribbean/LCCC\\_Report\\_Final\\_May2012.pdf](http://www.ecpamericas.org/data/files/Initiatives/lccc_caribbean/LCCC_Report_Final_May2012.pdf)

Syngellakis, 2011, page 30.

## Why carbon credits? It creates an additional income stream

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- The revenues of the CDM are the largest source of mitigation finance to developing countries.
- More than US\$ 100 billion have been invested in CDM activities during 2002 to 2012, there are more than 7,000 CDM registered projects.
- Selling carbon credits, CERs, increases 1% of return on investment



## Sector wise distribution of CDM registered projects



Source: [http://cdm.unfccc.int/Statistics/Public/files/201308/proj\\_reg\\_byScope.pdf](http://cdm.unfccc.int/Statistics/Public/files/201308/proj_reg_byScope.pdf)



## Wind and solar CDM activities in the Caribbean

CDM No	Capacity (MW)	Reductions (tCO <sub>2</sub> /year)	Technology
0239 (J)	20.7	52,540	Micon, NL
5522 (J)	18	40,348	Vestas, US
0175	64.6	123,916	Gamesa, Spain
5456	30.6	70,275	Vestas, US
5528	8.25	10,937	
7093	25.02	54,183	
7902	49.5	69,657	GE Energy, US
7781	50	35,375	Isofoton, Spain
8530	30	29,254	Ningbo, China

Data from 30/05/13



- Development banks
  - World Bank, Global Environmental Facility
  - European Investment Bank
  - European Bank for Reconstruction & Development
  - Germany's KfW
  - China Development Bank
  - Green Investment Bank
- Development agencies- UK (DFID), Germany (GIZ)
- Internationally – Green Climate Fund





- I. Renewable energy costs are becoming competitive with typical technologies
- II. Corporate Social Responsibility
- III. Rising sea levels and islands' vulnerability



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