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# UN Carbon Market Mechanisms: Business opportunities for the Caribbean

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Department of Business and Management  
St. George's University

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Promoting clean technologies and opportunities under the carbon market mechanisms

**Stakeholder engagement**

- Key partnerships
- Engaged 8/16 governments
- Known in the region
- Making the carbon market simple

**Clean Development Mechanism, CDM**

- Added 11 projects: from 60 to 71
- Drafted (4) notes for CDM improvements
- Updated governments contact list

**Renewable energy & waste sectors**

- Supported 9 standardized baselines proposals Supporting entity for regional programme

**Capacity building:** delivering trainings, promoting success stories, sharing information, & answering technical queries



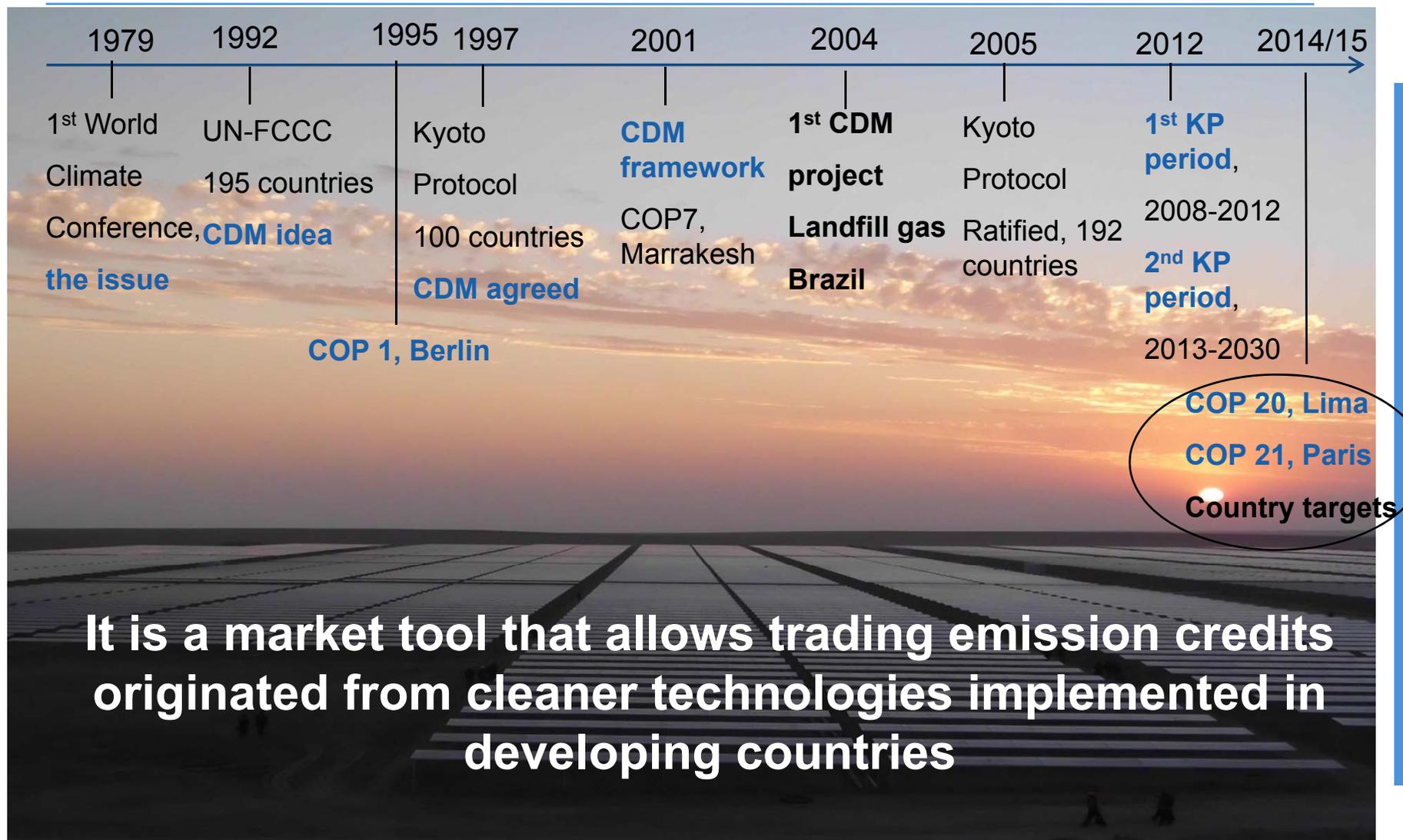
# Outline

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- 1. Background to the carbon market**
- 2. UNFCCC case study in the hospitality sector**
- 3. Sources of funding**
- 4. RCC St. George's type of support**
- 5. What is there for you?**

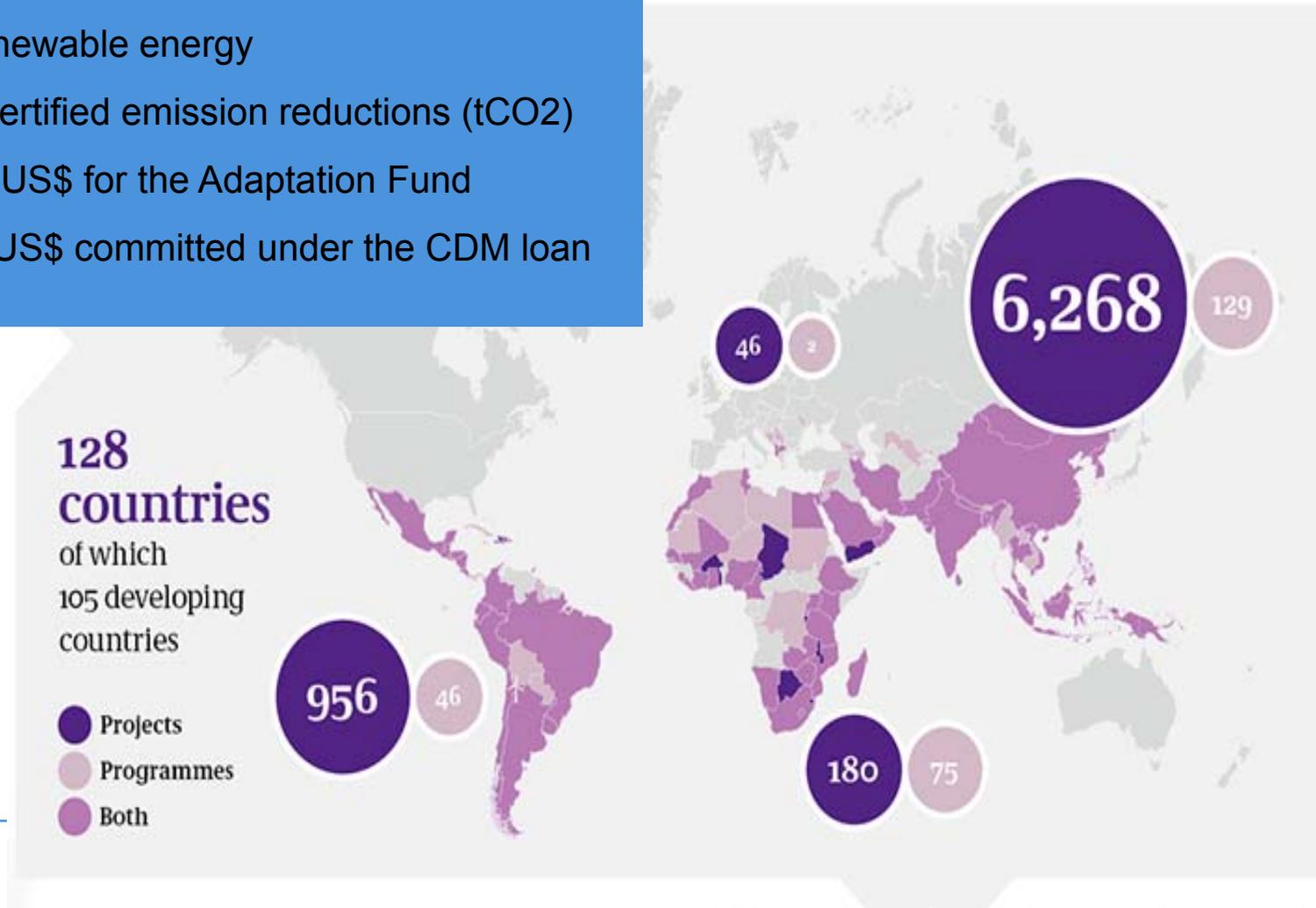


## What is the CDM, Clean Development Mechanism?



## The CDM in numbers

> 7,500 projects  
315 billion US\$ invested  
110 GW renewable energy  
2.2 billion certified emission reductions (tCO<sub>2</sub>)  
188 million US\$ for the Adaptation Fund  
> 5 million US\$ committed under the CDM loan scheme (\*)

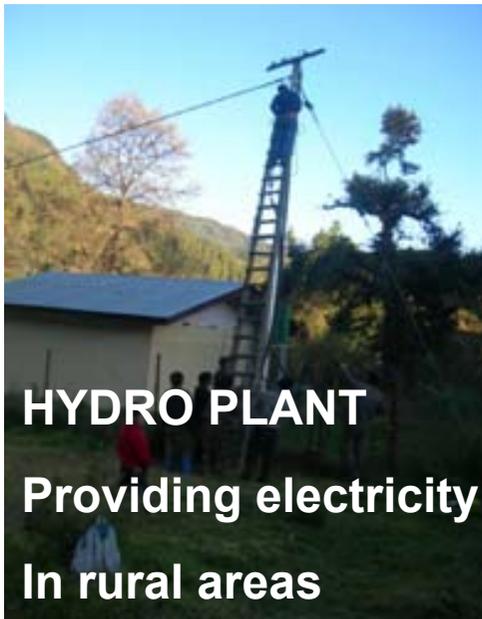


(\*) CDM loan scheme for consultancy, validation or verification

## CDM projects

### RETROFITTING HOMES

Reducing energy costs  
Improving living conditions  
Creating new jobs and skills



HYDRO PLANT  
Providing electricity  
In rural areas

### BIOGAS DIGESTORS

Accessing clean energy  
Empowering women



### COMPOSTING

Empowering communities  
Managing waste



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## 2) UNFCCC case study



## Hotel Facts



- ✓ Opened in 2002
- ✓ Five star hotel in Kolkata
- ✓ 238 guest rooms

**The first hotel in the world with  
certified emission reductions, CERs, by UNFCCC**



## Project Facts

Name (Ref.686)	Improvement in Energy Consumption of a Hotel
Project type	EE improvements– meth AMS-II.B EE & fuel switching measures – meth AMS-II.E
CDM Lifetime	10 years
Investment	US\$ 1 million
Reductions	2,987 tCO <sub>2</sub> /year
Registration	18/11/2006
Location	Kolkata, West Bengal, India



## Measures and Savings

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Unit/appliance	Measures	Savings (*)
Electric water heater	Installing solar	1.866 GWh/year
Pumps	Retrofitting pumps	@ 3.5 INR/kWh (2006) 6.53 million INR/year=
Heat, ventilation & air-conditioning	Retrofitting HVAC with U shape pipes	
Kitchen exhaust fans	Installing various frequency drivers	145,100 US\$/year
Steam boiler	Installing a magnetizer	55,932 L diesel/year @ 26 INR/L (2006)
	Re-using low energy waste heat	1.44 million INR/year=
	Using condensate steam	32,000 US\$/year

**TOTAL SAVINGS**  
**177,100 US\$/year**



(\*) Diesel & electricity prices sourced from Validation Report, CDM 0686, 1 US\$=45 INR, 2006

## Project finance

	India, 2006	Grenada, 2014 (*)
Total investment, <b>US\$</b>	1 million	1.5 million (50% higher)
Total savings demand, <b>US\$/year</b>	145,100	@0.40 US\$/kWh 746,400
Total savings generation, <b>US\$/year</b>	32,000	@1.07US\$/L (*) 59,847
Total savings, <b>US\$/year</b>	<b>177,100</b>	<b>806,247</b>
Pay-back period, <b>years</b>	<b>5.7</b>	<b>1.9</b>
Carbon revenues, <b>US\$, 10 years</b>	<b>93,000 (@10US\$/CER)</b>	<b>28,173 (@3US\$/CER)</b>



## Co-Benefits

<b>Technological</b>	<ul style="list-style-type: none"><li>• Introduces clean technology measures to 'common' technologies</li><li>• Encourages replication of measures in the sector or other sectors</li></ul>
<b>Economic</b>	<ul style="list-style-type: none"><li>• Increases profitability by reducing electricity and diesel consumption due to savings in energy bills</li><li>• CDM fund expected encourages Indian hotels for investing in energy efficient measures</li></ul>
<b>Social</b>	<ul style="list-style-type: none"><li>• Creates new skills and jobs by the introducing new technologies such as solar</li><li>• Reduces grid demand and allows grid electricity to be used by the ones in need</li></ul>
<b>Environmental</b>	<ul style="list-style-type: none"><li>• Reduces GHG emissions</li><li>• Reduces pollution due to extraction, processing and transporting fossil fuels such as diesel (for steam generation at hotel and for electricity generation at country level)</li></ul>



## What can carbon trading do for the hospitality sector?

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- Enhances public image due to UNFCCC certification
  - E.g.: Corporate Social Responsibility and Eco Tourism
- Provides a clear framework for monitoring and reporting of the electricity savings due to the introduction of the EE measures
  - By ensuring long-term sustainability and deliverables of the EE activity
- Engages new sources of funds
  - At CDM level
  - At climate level



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# 3) Sources of funding



## Engages new sources of funds – At CDM level

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- CDM loan scheme: CDM proposal and certification
  - >5 million US\$ committed, 50 projects
  - Next window: March 2015
- kfW – German Development Bank: financing and grants
  - CDM Programme of Activities (group of projects)
  - EE activities, funds for implementing and marketing
- NEFCO Carbon Fund– Nordic Environment Finance Corporation
  - CDM projects in Latin American & Caribbean
  - EE activities, last call in November 2014
- Norwegian Government –
  - Buying CERs from special projects in SIDS
  - Deadline for next application: On going



## Engages new sources of funds for entrepreneurs – At climate level

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- UNDP-GIZ, Integrated Climate Change Adaptation Strategies, ICCAS, Grenada  
→ Call for projects, November 2014, 50,000 US\$
- Caribbean Climate Innovation Center  
→ Provided 11 grants, April 2014, 25,000 US\$
- Inter-American Development Bank  
→ Energy Innovation Contest, IDEAS, January 2015, 200,000 US\$



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## 4) RCC St. George's type of support



## How can RCC St. George's support you?

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- Provides free technical support
  - Drafting proposals for funding
  - CDM project cycle: design, registration, validation, monitoring & certification
- Links stakeholders with funding agencies
- Advices on clean technologies such as EE measures, energy savings and carbon revenues
  - Identifying methodologies and similar projects
  - Calculating savings and carbon revenues
- Provides opportunities for internships – E.g. the CDM, carbon markets, carbon accounting, climate change policies.





## What is there for you?

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- Apply IT & business skills to create your own business in niche new sector
  - Build up knowledge/experience → provide services such as energy/environmental auditing (ISO 50001, ISO 14001)
  - Develop smart phone applications → E.g. to check on electricity/water usage
  - Explore feasibility of applying clean technologies → electric cars, biofuels, energy efficiency, solar/wind appliances
- Opportunity to carry out an internship with RCC St. George's
- Support climate mitigation → the planet, your country  
[https://www.youtube.com/watch?v=G2ED5tlyQ\\_I](https://www.youtube.com/watch?v=G2ED5tlyQ_I)



## Action on climate change makes sense for businesses

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# Thank you!



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

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## References:

CDM background

<http://cdm.unfccc.int/about/index.html>

Facebook UN Carbon Mechanisms

<https://www.facebook.com/UNCarbonMechs?ref=ts&fref=ts>

UNFCCC Regional Collaboration Centres

<http://cdm.unfccc.int/stakeholder/rcc/index.html>

Can't do this alone – GRENADAPTS video

[https://www.youtube.com/watch?v=G2ED5tlyQ\\_I](https://www.youtube.com/watch?v=G2ED5tlyQ_I)

