



Framework for bankable CDM projects

Carbon Expo 2005

Exhibitors' Side Event

Friday, 13 May 2005, 10:30 – 11:30 hrs.

Presentation by David Rusnok, DEG / Kyoto Coaching Cologne

Any problems?



1,516 PINs



361 PDDs

5 registered projects

0 verified project

0 certified project

0 CERs

Contents



- Kyoto Coaching Cologne: basic information
- Economic framework for bankable CDM projects
- Technical framework for bankable CDM projects
- Conclusion & outlook

Kyoto Coaching Cologne (KCC): Basic information



Partners:	DEG and TÜV Rheinland Group
Founded:	16 February 2005
Goal:	Project management and demand-driven support for CDM & JI projects
Mission statement:	We combine financial and technical know-how to make CDM & JI projects bankable



TÜV Rheinland Group

KCC finance partner: DEG

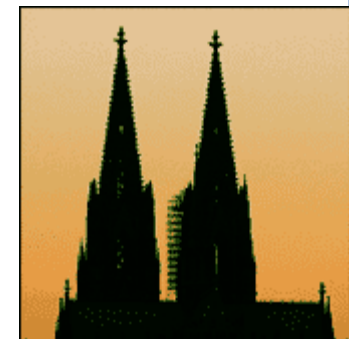


DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH

1. is the **German development finance institution for the promotion of private companies** in developing and emerging-market countries;
2. provides **long-term investment capital** for private enterprises on **market-oriented conditions**;
3. invests in the sectors **infrastructure** (e.g. renewable energy projects), agribusiness, manufacturing industry, services and in the financial sector;
4. is member of **KfW Bankengruppe** with representative offices in **Brazil, China, India, Indonesia, Kenya, Mexico, Rep. of South Africa, Thailand**;
5. is located in **Cologne**.



TÜV Rheinland Group



KCC technical partner: TÜV



TÜV Immissionsschutz und Energiesysteme GmbH

1. is a **internationally operating company based in Germany offering technical services** in developing and emerging-market countries;
2. provides **competitively priced services** for private enterprises and public clients;
3. renders services **in the field of noise abatement, energy technology and air pollution control**;
4. is a member of the **TÜV Rheinland Group** with representative offices in more than 30 countries at more than 150 locations;
5. is located in **Cologne**.



TÜV Rheinland Group



Economic framework for bankable CDM projects (1/7)



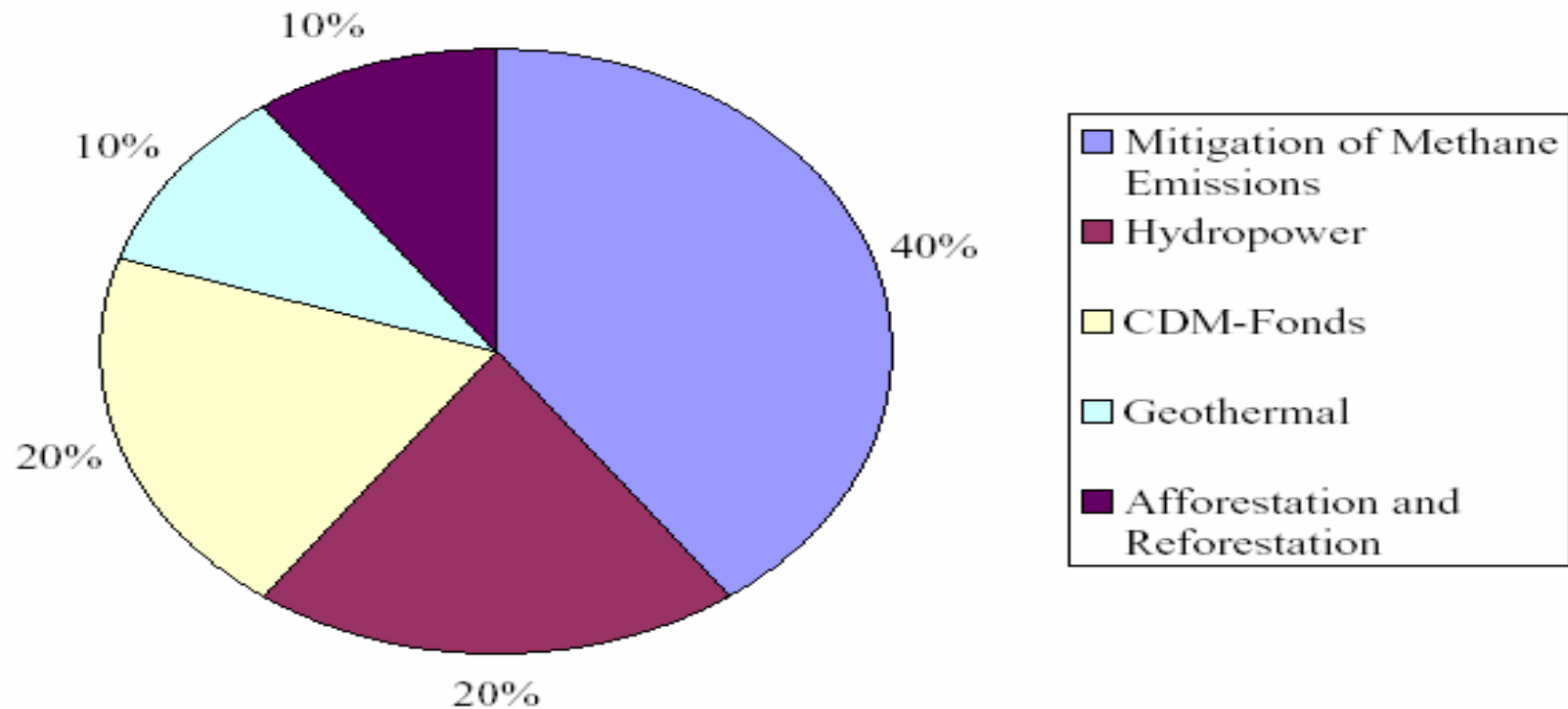
General project finance criteria in developing countries:

- Qualified management
- Credit standing
- Proven track record
- Sound business plan
- Corporate Governance
- Corporate Social Responsibility (CSR)
- Modern environmental and social standards

Economic framework for bankable CDM projects (2/7)



Specific finance criteria for CDM projects (1): CDM project proposals for DEG in 2005



Economic framework for bankable CDM projects (3/7)



- Specific finance criteria for CDM projects (2): **Different types of CDM projects, ...**

	Type I, e.g. hydropower projects	Type II, e.g. mitigation of methane emission
Commodity produced	Energy + emission credits	Emission credits
Off-take agreement	PPA + ERPA	ERPA
Collateral	Fixed assets (incl. concession), (PPA)	Fixed assets (incl. concession), ERPA (?)
Hydropower projects financed by DEG in the past	Costa Rica (10MW + 18 MW) Nepal (36 MW) Peru (15 MW)	none

Economic framework for bankable CDM projects (4/7)



- Specific financing criteria for CDM projects (3): **Different types of CDM projects, require different financing conditions**

	Type I, e.g. hydropower projects	Type II, e.g. mitigation of methane emission
Additionality risk	medium - high	low – zero
Role of Carbon Credits	Additional revenue (hedge exchange-rate risks)	Single revenue (essential for bankability of project)
Type of finance	Debt financing (senior loan)	Mezzanine finance
Sponsor requirements	Experience in renewable energy + commitment	Experience in CDM (pilot project) + strong commitment
ERPA requirements	ERPA under negotiation	ERPA signed (BOX 1, next page)

BOX 1: Required certification status for different types of CDM projects



Certification status	ERPA: What does the buyer wish to buy?	Price per Emission Credit (estimated)	Required certification status	
			Methane project	Hydropower project
Issued CERs	Issued CERs (payment on delivery)	16 EUR/t	(+)	
Verified CERs		(?)	+	
Registered project		8 EUR/t	+	(+)
Validated PDD		3.5 EUR/t	+	(+)
PIN		(?)	+	+

Economic framework for bankable CDM projects (5/7)



Host country requirements:

- Good investment climate for private-financed projects;
- The country must have ratified the Kyoto Protocol;
- A Designated National Authority must be implemented;
- Clear procedures for CDM projects should be defined;
- Clear legal requirements, including taxation aspects, should be defined.

Economic framework for bankable CDM projects (6/7)



Host country ranking for CDM projects, 5/2005

Rank	Country	CDM Index points (max.: 100)
1	Chile	85.5 ("good framework")
2	China	79.0 ("good framework")
3	South Africa	78.2 ("good framework")
4	Mexico	77.6 ("good framework")
5	India	75.0 ("good framework")
6	Brazil	72.4 ("satisfactory framework")
7	South Korea	70.1 ("satisfactory framework")
8	Malaysia	69.3 ("satisfactory framework")
9	Thailand	65.4 ("satisfactory framework")
10	Costa Rica	62.5 ("satisfactory framework")

Methodology: see www.kyoto-coaching-cologne.net

BOX 2: DEG/bfai's* new publication "CDM-Market Brief"



CDM-MARKT KOMPAKT

Mexiko April 2005

1. CDM-Investitionsklimaindex: Regionaler Vergleich
CDM-Investitionsklimaindex - Leitindikator 4/2005 (Ausgang)

Rang	Land	CDM-RI (max. 100 Pkt.)	Regionale Einschätzung (Einkaufspreise)
1	Chile	88	Gute Rahmenbedingungen
2	Mexiko	78	Gute Rahmenbedingungen
3	Brasilien	72	Deutliche Rahmenbedingungen
4	Costa Rica	65	Deutliche Rahmenbedingungen
5	Paraguay	51	Deutliche Rahmenbedingungen
16	Dire. Rep.	26	Mangelnde Rahmenbedingungen

Quelle: DEG - Institute of Applied Economics and International Management (IAIM) | www.kyoto-coaching-cologne.net

Zusatz:
Der CDM-Investitionsklimaindex bewertet das Investitionsfeld für CDM-Projekte. Er kann zwischen 100 Punkten (höchster Wert) und 0 Punkten (niedrigster Wert) liegen. Insgesamt werden die Rahmenbedingungen in Mexiko mit "gut" bewertet. In der betrachteten Region liegt Mexiko nach Chile auf Rang 2. Mexiko steht im Vergleich zu Chile aus zwei Gründen etwas schlechter da: Zum einen sind die allgemeinen Rahmenbedingungen für private Investitionen in Chile besser. Zum anderen ist das Thema Korruption in Mexiko von größerer Relevanz als im Vergleichsland (Einführung im "Corruption Perception Index" von Transparency International). Dies institutionellen Umfeld für CDM-Projekte schlechte beide Länder ähnlich.

2. Allgemeine Rahmenbedingungen für Ausbaurisikoprüfung

Allgemeine Wirtschaftslagen 2004

GDP-Wachstum	ca. 10% Mo. China
GDP pro Kopf	ca. 2.200 USD
GDP-Wachstum (2004)	+4,2% (2003: +3,2%)
Konsumvertragsindex	+7,7% (2003: +5,9%)
Währung (USD)	ca. 13,00 USD
Währung (EUR)	ca. 13,00 EUR
Arbeitslosenquote	ca. 5,5%
Außenhandelsbilanz (2004)	ca. 100 Mrd. USD (positiv)
Währungsreserve (Jan. 2005)	ca. 100 Mrd. USD
Währungsreserve (1.4.2004)	ca. 100 Mrd. USD
Landesbankrott (ganz. Teil)	1 USD = 17,00 MXN; 1 Euro = 14,00 MXN
Investor (Jan. 2004)	ca. 100 Mrd. USD (positiv)
"Corruption Perception Index" (Transparency International)	ca. 7,5 Punkte (von 10 = 100% subjektive Korruption)

Quelle: Banco de México, Central Bank of Mexico, IMF

Standortvorteile:
OECD- und NAFTA-Mitgliedschaft, hohe Rechtssicherheit, Offenheit gegenüber ausländischen Direktinvestitionen, günstiges makroökonomisches Umfeld (u.a. wegen hoher Einschüsse von dem Ölgeschäft)

Standortschwächen:
Vorläufiger Stillstand bei dringend benötigten Strukturmaßnahmen (Energie, Steuern/Finanzen, Arbeitsmarkt), geringe FDI-Finanzierung durch das Bankensystem, hohe Bedeutung der Schattenwirtschaft, hohe Abhängigkeit von der US-Wirtschaft




Contents:

1. CDM Investment Climate Index
2. Framework for FDI
3. Framework for CDM projects
 - 3.1 Ongoing CDM projects in the country
 - 3.2 Quality of DNA
 - 3.3 Local consultants, validators, verifiers
 - 3.4 Local legal requirements for CDM projects
 - 3.5 CDM cooperation agreements
 - 3.6 Prospects for CDM projects in the energy sector
 - 3.7 Finance facilities for CDM projects
4. Recap
5. Advice / Service

download: www.kyoto-coaching-cologne.net

* Bundesagentur für Außenwirtschaft.

Economic framework for bankable CDM projects (7/7)



International requirements:

- Implementation of a post-2012 Kyoto System by UNFCCC asap;
- CDM Executive Board should issue CERs to demonstrate completion of the CDM project cycle;
- CDM Executive Board should standardize and simplify procedures (e.g. small-scale projects, ACM, ...);
- Sufficient demand for CERs in EU Member States....

Technical framework for bankable CDM projects (1/5)



Selection of crucial topics:

1. **Baseline and monitoring methodologies**
2. **Additionality rather than Business As Usual (BAU)**
3. Project Design Document (PDD)
4. Validation
5. **Registration**
6. **Verification**, monitoring plan
7. Specific feature of JI projects: *track one* or *track two* JI projects

Technical framework for bankable CDM projects (2/5)



(1) Baseline and monitoring methodologies

FULL SCALE

>100 Proposed New Methodologies

21 Approved Methodologies

3 Consolidated Approved Methodologies

SMALL SCALE

15 Indicative Methodologies for

- Renewable Energy projects (6)
- Energy Efficiency Projects (4)
- Other Project Activities (5)

CDM PROJECT

15 SECTORAL SCOPES

Energy Industries

Energy Distribution

Energy Demand

Manufacturing

Chemical

Construction

Transport

Mining/Mineral

Metal

Fugitive Emissions (fuels)

Fugitive Emissions (HC and SF₆ production)

Solvent use

Waste

Aforestation/Reforestation

Agriculture

Technical framework for bankable CDM projects (3/5)



(2) BAU and additionality

Step 0: Preliminary screening based on the starting date of the project activity



Step 1: Identification of alternatives to the project activity consistent with current laws and regulations



Step 2: Investment analysis



Step 4: Common practise analysis



Step 5: Impact of CDM registration



PROJECT IS ADDITIONAL



Step 3: Barrier analysis



Technical framework for bankable CDM projects (4/5)



Your location: CDM-Home > Project Activities

11:37 11 May 05

(3) Registered CDM projects (11 May 2005)

This interface will provide information on CDM project activities that have been registered by the CDM Executive Board.

Registered	Title	Host Parties	Other Parties	Methodology *	Reductions **	Ref
18 Nov 04	Brazil NovaGeraç Landfill Gas to Energy Project	Brazil	Netherlands	AM0003 - Simplified financial analysis for landfill gas capture projects	670133	0008
11 Jan 05	RIO BLANCO Small Hydroelectric Project	Honduras	Finland	AMS-I.D. - Renewable electricity generation for a grid	17800	0028
08 Mar 05	Project for GHG emission reduction by thermal oxidation of HFC 23 in Gujarat, India.	India	Japan Netherlands United Kingdom of Great Britain and Northern Ireland	AM0001 - Incineration of HFC 23 Waste Streams	3000000	0001
24 Mar 05	HFC Decomposition Project in Ulsan	Republic of Korea	Japan	AM0001 - Incineration of HFC 23 Waste Streams	1400000	0003
23 Apr 05	Guyamapa Hydroelectric Project	Honduras		AMS-I.D. - Renewable electricity generation for a grid	35660	0045

* AM - Large scale, ACM - Consolidated Methodologies, AMS - Small scale

** Estimated emission reductions in metric tonnes of CO2 equivalent per annum (as stated by the project participants)

Technical framework for bankable CDM projects (5/5)



(4) Verification

Full-scale projects

Verification has to be performed by an DOE that has **not** done the validation work

Small-scale projects

Verification may be performed by the same DOE that has done the validation work

Verification is an independent and additional control mechanism

The first monitoring report publicly available [Ulsan HFC₂₃ project] shows that the project has reduced only **30% of emissions planned** in the Project Design Document (PDD) for the first monitoring period.

Conclusion and outlook



Bankable CDM projects need

- sound technical expertise,
- reliable financial framework,
- strong multidisciplinary management.

Otherwise CDM projects

- need a long time,
- have avoidable / incalculable risks,
- do not find acceptance by investors and
- end up without financial closing.



Therefore, DEG/TÜV developed KCC

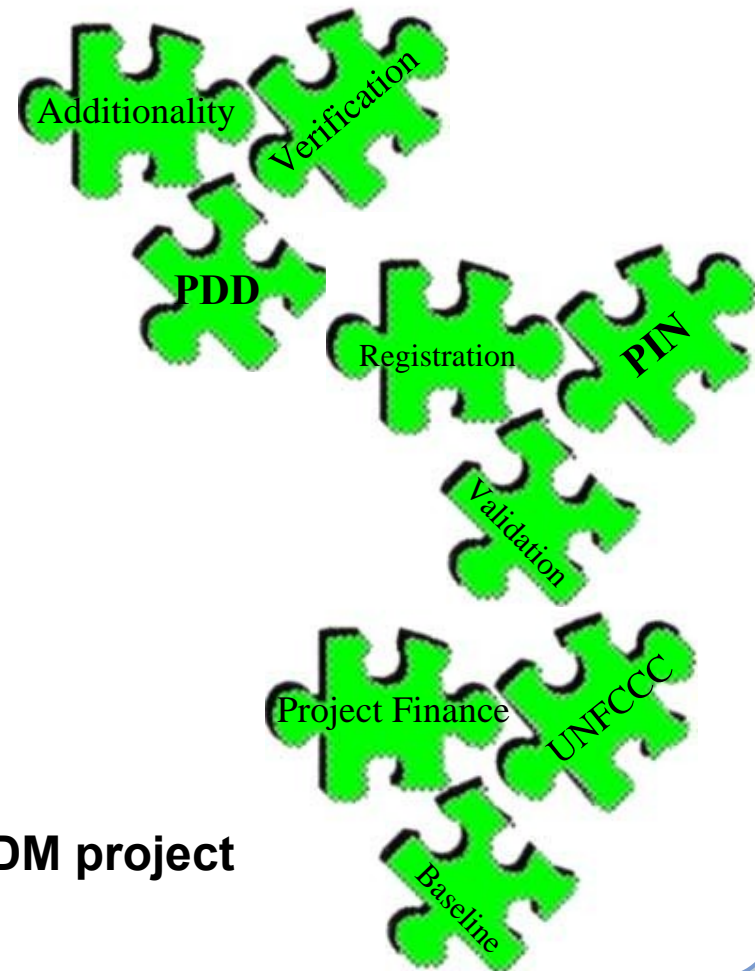
Conclusion and outlook



KCC's fields of expertise for CDM & JI projects:

- Project management
- Project Idea Note (PIN)
- Project Design Document (PDD)
- Validation and verification
- ERPA
- Tailor-made project finance

We coach CDM projects throughout the CDM project cycle!



Conclusion and outlook



DEG`s finance instruments

- Long-term loans
- Mezzanine finance
- Equity capital
- Guarantees

- Solutions suited to project and risks
- Integration of additional finance from commercial banks or financial institutions
- Coordination of the complete finance package
- Market-oriented conditions

Conclusion and outlook



Project scope:

- Landfill gas capture projects
- Wind power projects
- Hydropower projects
- Geothermal projects
- Biomass power generation projects
- Solar power
- Fuel switching projects
- Energy efficiency projects



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For further questions please contact:

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