

Certified Emission Reductions, Additionality and International Transaction Log

CDM Process in Libya, first
workshop

Tripoli, Libya - 29th October 2000

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Agenda

ERM presentation

1. Certified emission reductions (CER)
2. Additionality: from definition to practice
3. International Transaction Log (ITL)

ERM presentation

The world's leading provider of environmental, health and safety, risk and social consulting services

- 3,300 professional staff
- 145 offices in 40 Countries
- Projects in 160 Countries
- Long-term relationships with Global Fortune 500 and FTSE 100 companies
- 70% repeat business
- Annual gross revenues of US\$600m
- Established in 1972

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ERM in Libya

- *ERM* has established (2007) a partnership with Enermass Oil Services Company (*Enermass*) through an Exclusivity Agreement.
- *ERM-Enermass* has the full range of skills and experience needed to assist Libyan Companies in all HSE aspects associated with their business.
- The partnership *ERM-Enermass* ensures compliance with local legislation, but is also a clear sign of commitment to involving Libyan resources (local experts and services) as a fundamental part of the projects and to building their capacity for the future.

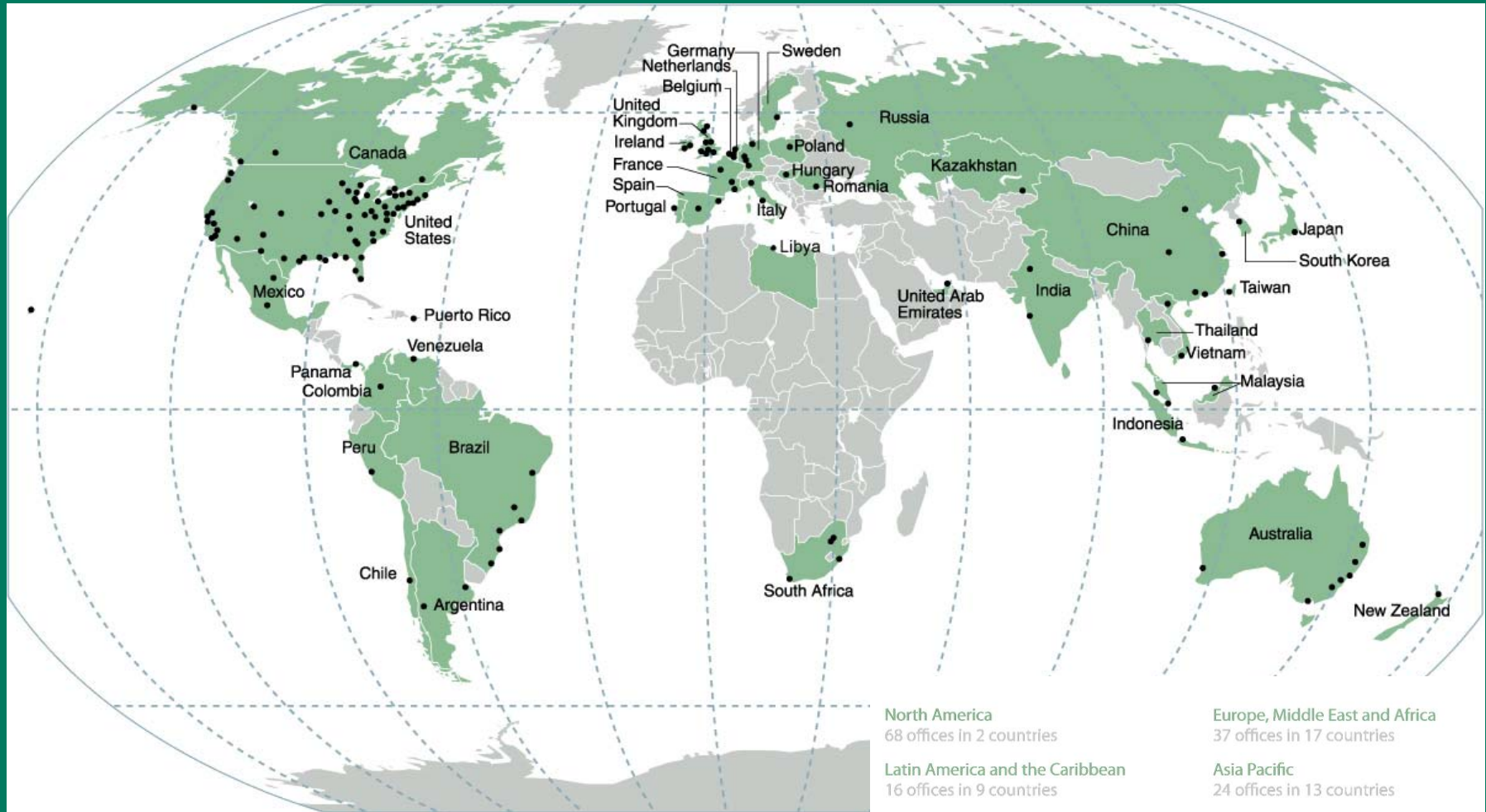


ERM-Enermass office in Tripoli

since 2003 we have performed more than 50 projects in the Oil&Gas sector assisting our Key Clients on environmental surveys, CDM feasibility study, Environmental Impact Assessments, HSE Management Systems, HSE Training C



ERM global geographical presence



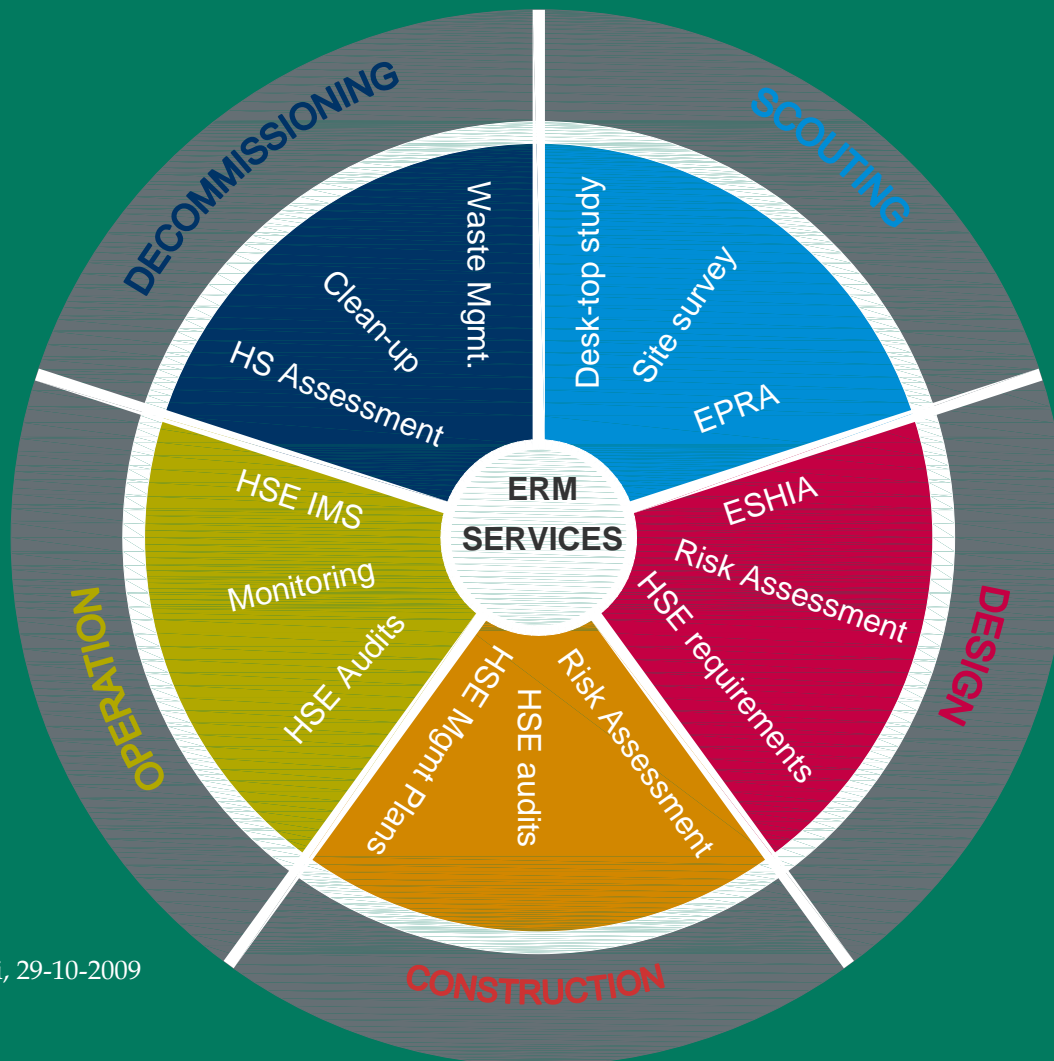
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ERM Value proposition

- **Complete project life cycle governance through a broad range of services**
- **Key Client Management Program – service delivery consistent with Client business model**
- **Emphasise business outcomes for clients – from field activities to advisors role**
- **Integrate multi-disciplinary expert teams and services**
- **International approach combined with local expertise**

Complete project life cycle governance through a broad range of services



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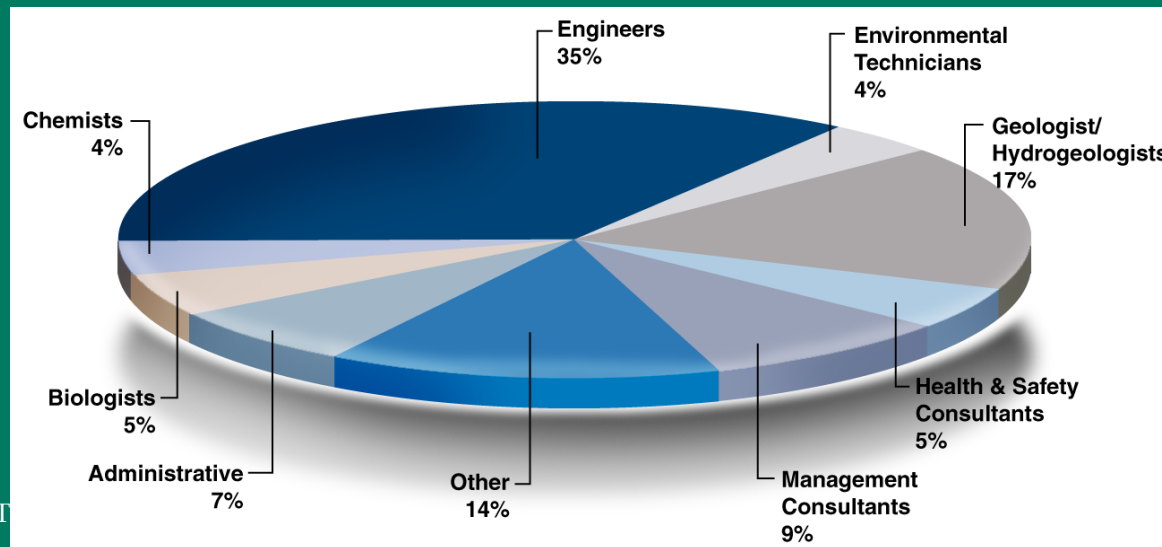
ERM's Service Areas

Contaminated Site Management	Compliance Assurance	Impact Assessment & Planning	M&A Advisory Services	Strategic Advice
<p>Site Investigation & Remediation</p> <p>Strategies for contaminated sites</p> <p>Construction management services</p> <p>Decontamination, decommissioning & demolition</p> <p>Water, Wastewater & Waste Management</p>	<p>Air quality & Noise</p> <p>Water, Wastewater & Waste Management</p> <p>Health & Safety</p> <p>Risk Management</p> <p>Auditing & Verification</p>	<p>Strategic and economic assessments</p> <p>Environmental planning and Environmental and Social Impact assess.</p> <p>Environmental mitigation actions</p> <p>Social impact assessment & Management Plans</p>	<p>Evaluation of potential liabilities</p> <p>Quantification & Management of Risk</p> <p>Management Systems</p> <p>Compliance audit</p> <p>Environmental Management Information Systems</p>	<p>Social & environmental performance</p> <p>Climate change, biodiversity, natural resources</p> <p>Policies for sustainable development</p> <p>Strategies to manage risks, liabilities and EHS costs</p>

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Integrate multi-disciplinary expert teams and services...

- Our offices are managed by local professionals with strong technical and management track records, who understand the local regulatory systems, socio-political issues and HSE concerns
- Our global knowledge share program (Minerva) enables us to communicate with each other and share best practice and an extensive knowledge base effectively



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Certified Emission Reductions

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UNITS of Trading

National Kyoto Protocol allowances for Annex I countries



Assigned Amount Unit (AAU)

Joint Implementation



Emission Reduction Unit (ERU)

Clean Development Mechanism

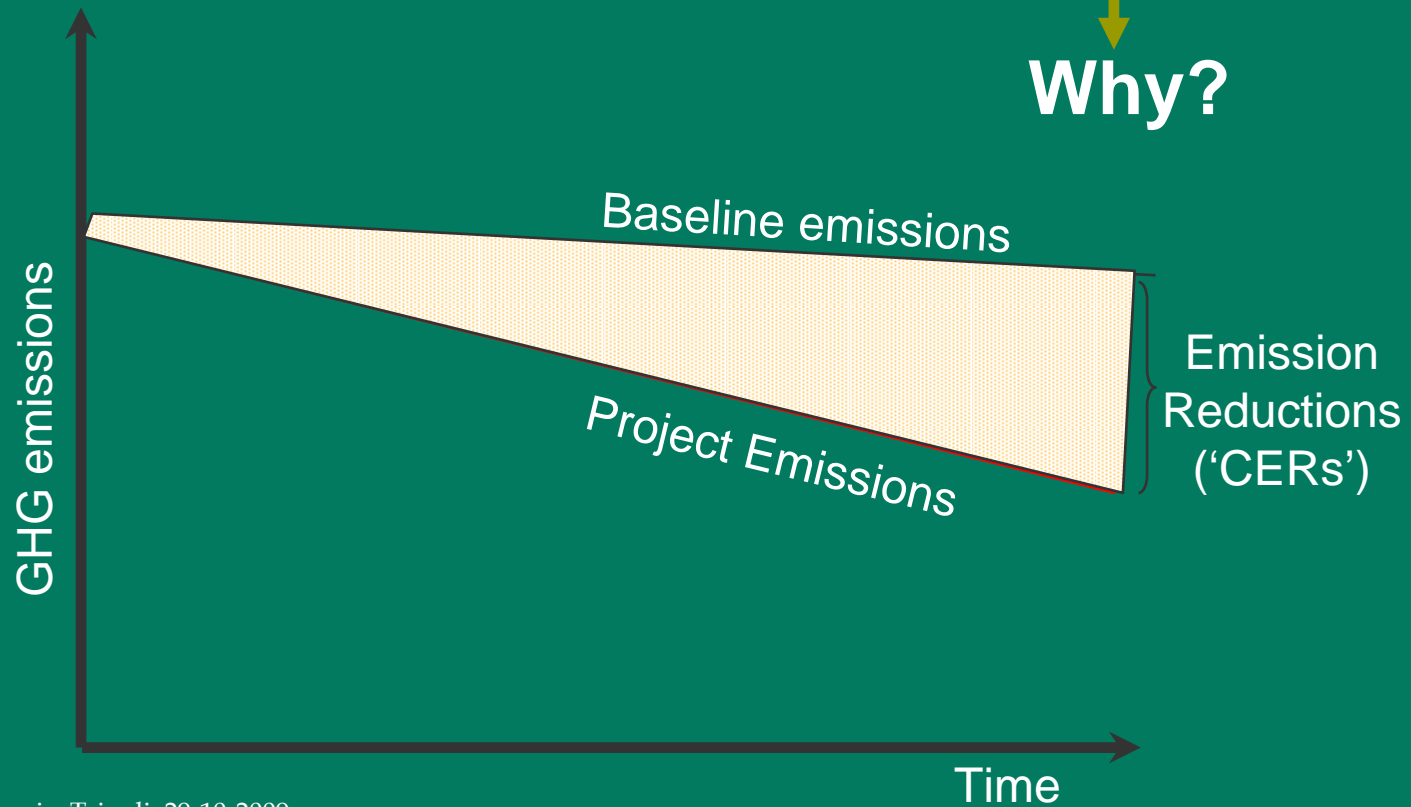


Certified Emission reduction (CER)

What is a CER?

1 CER = 1 ton of CO₂ equivalent = xxx Euro

Why?



What is the role of the markets?

CERs can be sold in Carbon Markets (e.g. Emissions Trading)

Carbon markets are FINANCIAL SOLUTIONS to encourage INVESTMENT in emissions reduction

SO...

The units (e.g. CER) act as a tradable commodity...

...and are therefore “MONETISED”

As with any commodity, a secondary market has emerged, trading futures etc.

Monetisation



12mths minimum

Planning Phase

Operational Phase

3-6mths

3mths

6mths - 12mths

1mth

Select project

Prepare project documentation, validator to perform site visit

Project construction / implementation begins

Validating DOE to perform validation, submit documents to EB

Project accepted by EB

Project becomes operational

Monitor emissions

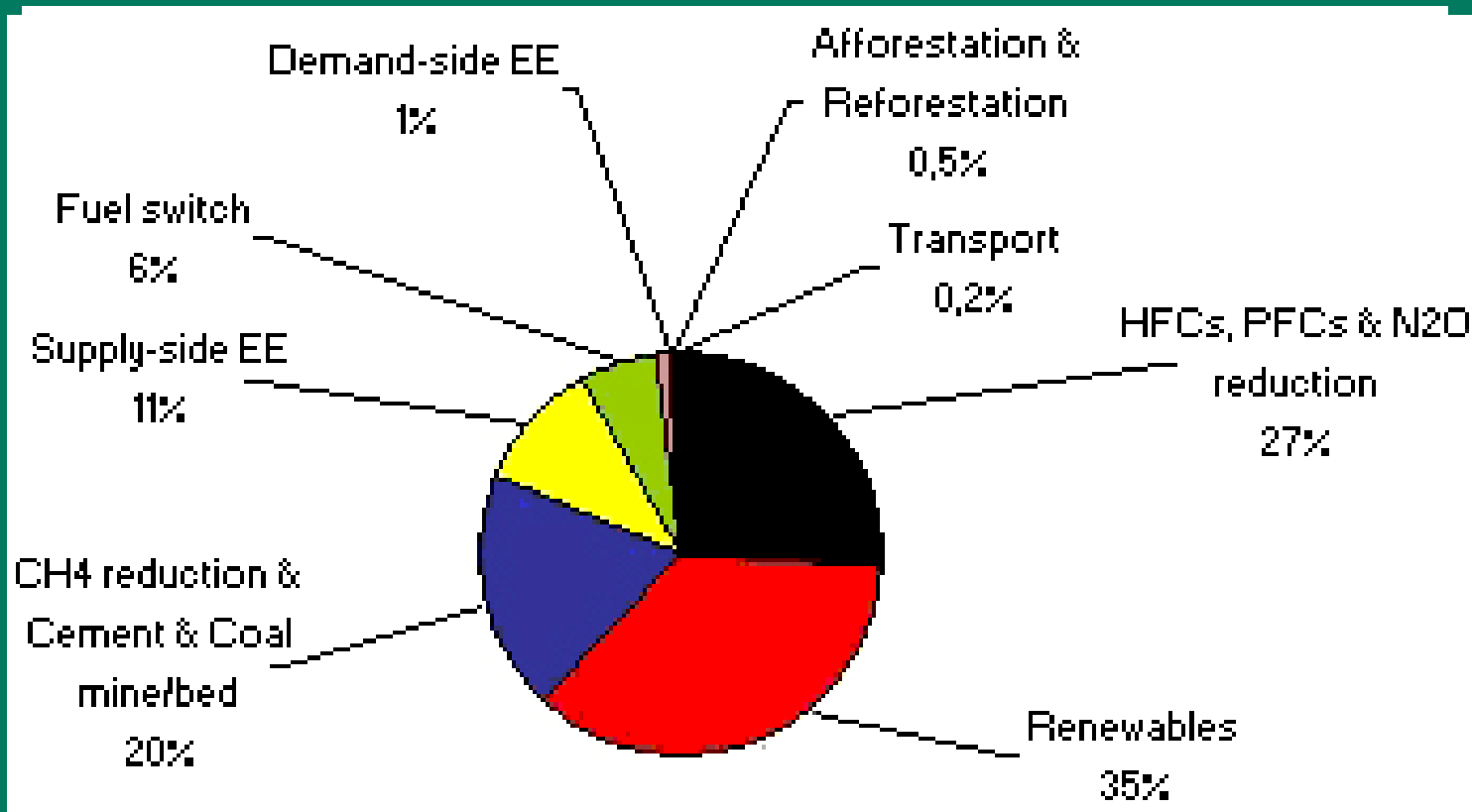
Verifying DOE verifies emissions and issues verifier's statement to EB

EB issues CERs

Sell forward/options

(lower price to reflect risk: country risk; delivery risk, company risk; compliance risk; technology risk etc)

CERs: what kind?



Source: CD4CDM, October 2009

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CERs: where?

	Buyer countries	Number of projects	2012 CER per cap.
	Austria	88	
	Belgium	25	
	Canada	74	
	Czech Republic	3	0,87
	Denmark	67	0,66
	Finland	35	0,14
	France	71	0,09
	Germany	212	0,10
	Greece		0,55
	Hungary		
	Iceland		
	Ireland	13	
	Italy	91	
	Japan	485	
	Latvia		
	Luxembourg	25	
	Netherlands	443	
	New Zealand	1	
	Norway	36	
	Portugal	4	
	Spain	134	
	Sweden	218	
	Switzerland	586	
	United K.	1199	
	CDCF	1	
	WBCF	1	
	NEFCO	1	
	IBRD	1	
	CCAC16		
	n.a.	1587	
	Total	5401	

Total in the CDM Pipeline	Number	kCERs
Latin America	819	17,5%
Asia & Pacific	3646	78,0%
Europe and Central Asia	48	1,0%
Africa	112	2,4%
Middle-East	18	0,4%
Less developed World	4673	100%

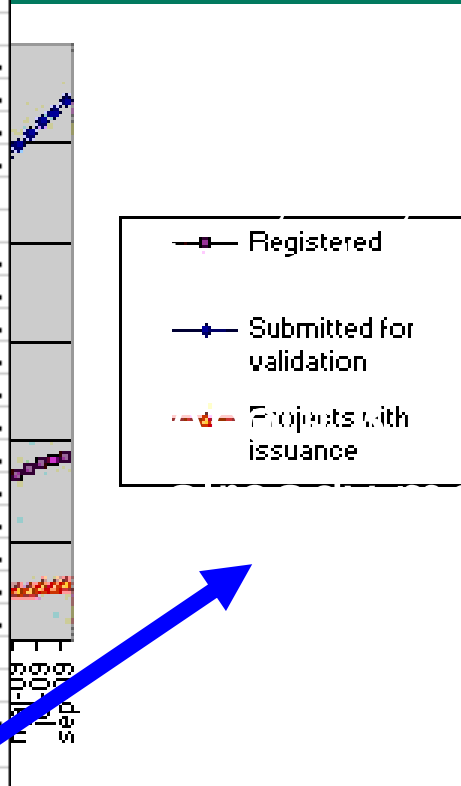
Africa	Number	kCER2012	
South Africa	28	19620	23,3%
Egypt	13	16767	19,9%
Uganda	11	1287	1,5%
Morocco	10	2599	3,1%
Kenya	14	2914	3,5%
Nigeria	7	27653	32,9%
Tanzania	5	2062	2,4%
Congo DR	3	551	0,7%
Mali	2	281	0,3%
Tunisia	3	4131	4,9%
Ivory Coast	3	1560	1,9%
Senegal	2	402	0,5%
Mozambique	1	228	0,3%
Madagascar	1	210	0,2%
Zambia	1	588	0,7%
Ethiopia	1	179	0,2%
Swaziland	1	252	0,3%
Rwanda	1	74	0,1%
Cameroon	1	460	0,5%
Liberia	1	215	0,3%
Cape Verde	1	340	0,4%
Ghana	1	1553	1,8%
Mauritius	1	231	0,3%
Equatorial Guinea	0	0	0,0%
Total	112	84157	100,0%

Source: CD4CDM, October 2009

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CERs: how many?

CDM projects in the pipeline Type (rejected projects excluded)	CDM project with CERs issued		
	Projects	Issued kCERs	Issuance success
Afforestation			
Agriculture			
Biomass energy	118	14146	89%
Cement	7	1203	69%
CO2 capture	1	48	123%
Coal bed/mine methane	5	1834	52%
Energy distribution			
EE households			
EE industry	24	1089	84%
EE own generation	37	12935	85%
EE service	1	4	61%
EE supply side	6	389	79%
Fossil fuel switch	20	3138	82%
Fugitive	2	4600	114%
Geothermal	4	654	37%
HFCs	17	184561	105%
Hydro	112	12081	91%
Landfill gas	40	6968	34%
Methane avoidance	51	5231	48%
N2O	14	69735	127%
PFCs and SF6			
Reforestation			
Solar	1	1	18%
Tidal			
Transport	2	201	42%
Wind	104	14354	85%
Total	566	333069	98,0%

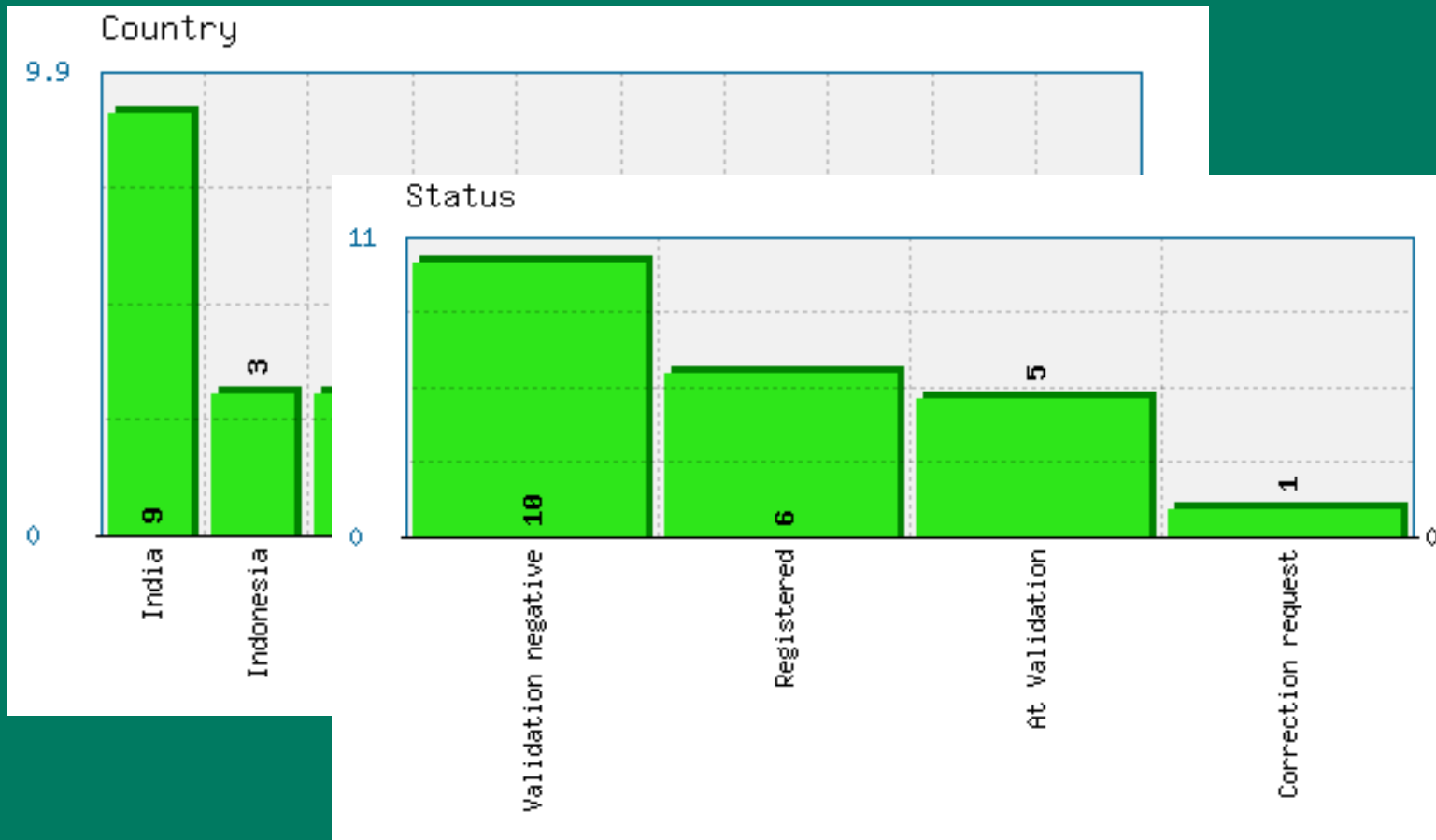


0 CERs present
 1 billion Euro netized

Source: CD4CDM, October 2009

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CERs in the Oil&Gas sector



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Source: CDM Watch, October 2009





2 Additionality

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Additionality (1)

***A CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity
(3/CMP.1, Annex, paragraph 43).***

ie:

“You must do something you would not have done without the CDM!”

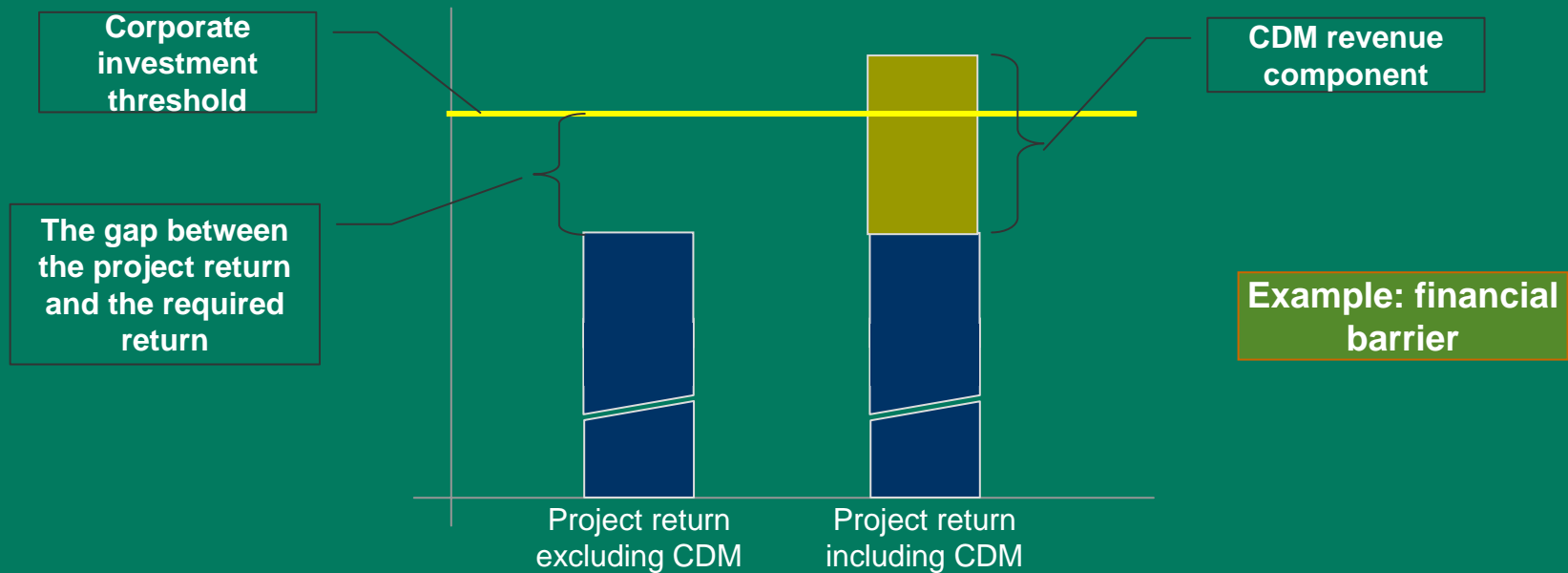
“Don’t give CERs to projects that would have happened anyway!”

The CDM Executive Board deems a project additional if its proponents can demonstrate that **alternative scenarios to the proposed project would be more economically attractive; or**

- **the project faces barriers that CDM helps to overcome**

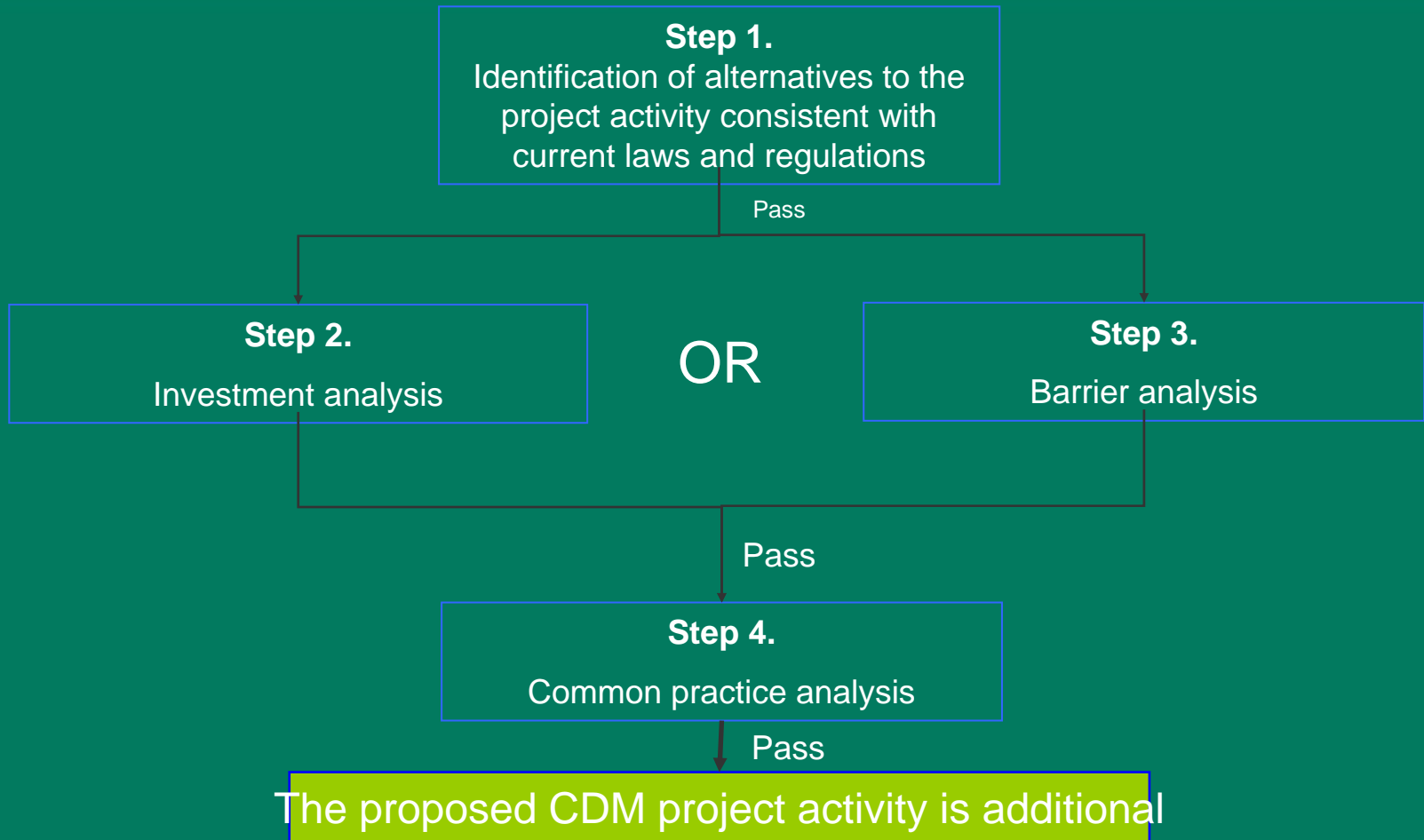
Additionality (2)

- The emissions are reduced below the level that what would have occurred in the absence of the project
- Without the CDM the project would not be implemented, due to barriers.



The CDM revenue component increases the Internal Rate of Return (IRR) of the project making it more interesting for allocation of capital.

The additionality tool (1)



The additionality tool – step 1

- Define alternatives
 - Proposed project activity (without CERs)
 - Other realistic and credible alternatives with comparable outputs (eg cement) or services (eg electricity, heat)
 - Continuation of the current situation
- Consistency with laws and regulations
 - Consider compliance of the alternatives with relevant laws and regulations
 - If non-compliant, is this not enforced and common practice?!



If the proposed project is not the **ONLY** compliant option (taking into account enforcement), then **GO TO STEP 2 or STEP 3**

The additionality tool – step 2

- Determine whether the proposed project activity is:
 - not the most economically or financially attractive
 - not economically or financially feasible without CER revenue
- Choice of analytical methods:
 - Simple cost analysis (how expensive is each alternative?)
 - Investment comparison analysis (eg Internal Rate of Return (IRR), or Net Present Value (NPV) for each alternative)
 - Benchmark analysis (what has been experienced for comparable projects)



If the proposed project is not Financially/ Economically attractive without CERs then GO TO STEP 4

The additionality tool – step 3

- Determine whether the proposed project activity faces barriers that:
 - prevent implementation of this type of project; and
 - do not prevent implementation of at least one of the alternatives
- Types of barriers include:
 - Investment barriers, for example where similar activities have needed grants or
 - no private capital is available due to country investment risk
- Technological barriers, for example where:
 - skilled/trained labour is not available to operate/maintain the technology
 - lack of infrastructure for delivery/maintenance of the technology
 - risk of technological failure
 - non-availability of the technology in the relevant region



If the proposed project (but not an alternative) faces barriers to implementation then GO TO STEP 4

The additionality tool – step 4

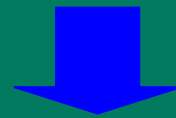
- If not the first of its kind, the Project Proponent needs to analyse use of the technology/practice in the sector and region
- How?
 - Identify and analyse other similar activities in the region (excluding registered CDM projects).
 - Explain why the proposed project faces particular investment/barriers hurdles



If the proposed project passes all steps
then IT IS ADDITIONAL

Why speaking about additionality?

- Additionality is the main critical point for CDM projects.
- It is fundamental to discover “first of all” if a project is additional.
- It is quite common to understand additionality of a project with a “quick view”; then, additionality tool can be developed in details in a second moment.
- It is also common to think a project as a CDM, and then discover that it is not additional, but that it is anyway a good project (e.g. for financial reasons).



FIRST additionality evaluation, THEN project implementation



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International Transaction Log

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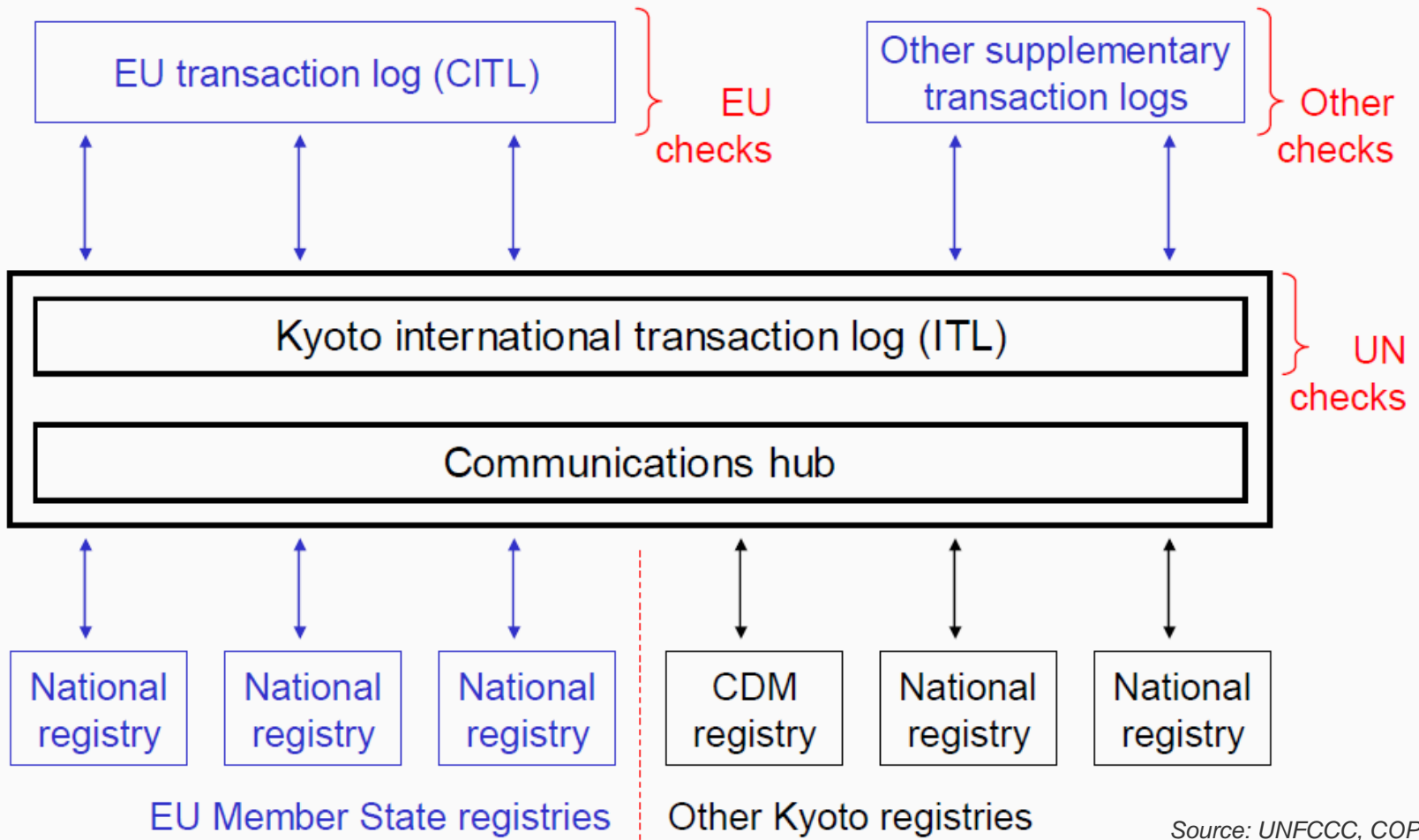
What is ITL?

- The ITL verifies transactions proposed by registries to ensure they are consistent with rules agreed under the Kyoto Protocol.
- Each registry sends transaction proposals to the ITL, which checks each proposal and returns to the registry its approval or rejection.
- Once approved, registries complete the transaction.
- In the event that a transaction is rejected, the ITL sends a code indicating which ITL check has been failed and the registry terminates the transaction.

Source: UNFCCC

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KP communications



Source: UNFCCC, COP/MOP

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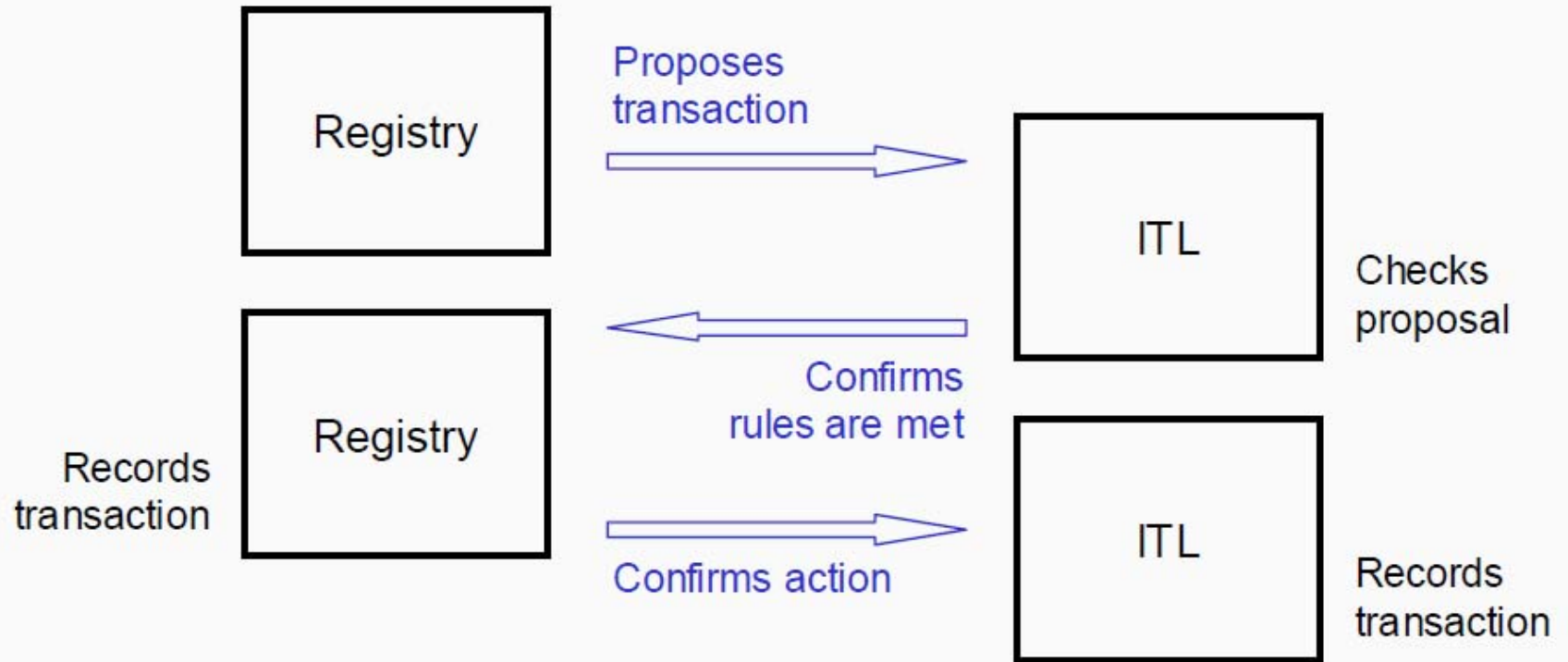
What the ITL does

- Safeguards the integrity of Kyoto Protocol accounting
- Performs validation of transactions proposed by registries:
 - checks appropriate use of data exchange standards
 - checks conformity with Kyoto accounting rules
 - provides certainty of delivery to the carbon market
- Feeds EU transactions to the CITL for further checking
- Builds up records of holdings and transactions which mirror registries
- Regularly reconciles ITL records with registry records
- Notifies registries of required transactions (eg cancellation)

Source: UNFCCC

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Validation of transactions



Other info on ITL

- Each registry is to be connected to the ITL through secure communication channels established across the Internet.
- These connections will allow a registry to receive an immediate response from the ITL.
- The administrator of the ITL is the UNFCCC secretariat, which has awarded a contract for the development and operation of the ITL to leading companies in the field of IT services.
- The ITL is hosted at two commercially-operated data centres, one for primary operations and the other as a backup site, both located in the United Kingdom. A service desk, also based in the United Kingdom, has been put in place to support the administrators of the ITL, registries and the CITL.

ERM services in the Energy & Climate Change business (1)

ERM - Consultancy:

- **Feasibility Studies of CDM Projects:** to assess eligibility and gauge credit potential (CER).
- **Assistance in the Development of CDM Projects:** to develop the documentation for the submission of the project: Project Idea Note (PIN), New Baseline and Monitoring Methodology, Project Design Document (PDD).
- **Technical and Permitting Support for CDM Projects:** to assist the Project Developer during all the steps needed to submit documentation to the DNA, the DOE and the stakeholders, also with the support of local ERM staff in Developing Countries.

ERM services in the Energy & Climate Change business (2)

ERM CVS – Designed Operational Entity (DOE):

- **Validation** of CDM projects
- **Annual verification** of CDM projects
- **Additional independent validation and verification** services including:
 - WCD assessment
 - Voluntary Carbon Standard (VCS)
 - EU ETS verification
 - US Climate Registry (TCR) (ANSI pilot participant)
 - Corporate GHG data assurance



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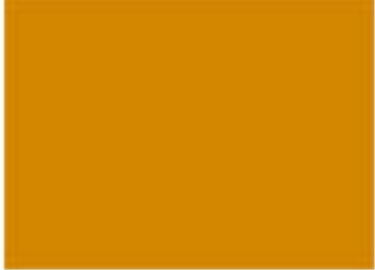
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Thank You!

