

برنامج الأمم المتحدة للبيئة
مشروع تنمية القدرات لآلية التنمية النظيفة

CDM

دليلك إلى
آلية التنمية النظيفة

الطبعة الثانية



كتاب
معلومات وإرشادات
آلية التنمية النظيفة

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2004



UNEP RIS➤ Centre

87-550-3339-3 :

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. www.cd4cdm.org

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١١٢.....	References	مراجع
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Abbreviations مختصرات

AAU	Assigned Amount Unit (unit for emissions trading) ()
AE	Applicant Entity (an entity applying to be a DOE) ()
AIJ	Activities Implemented Jointly
Annex B	The 39 developed countries in Annex B of the Kyoto Protocol that have GHG reduction commitments. 39
Annex I	The 36 developed countries in Annex I of the UNFCCC that had non-binding GHG reduction commitments to 1990 levels by 2000.
AP	Accreditation Panel (a panel under the EB) ()
AT	Assessment Team (made by the CDM Assessment Panel under the EB to evaluate each AE) ()
CDCF	Community Development Carbon Fund (a WB activity) ()
CDM	Clean Development Mechanism
CER	Certified Emission Reduction (unit for the CDM) ()
CERUPT	Certified Emission Reduction Unit Purchasing Procurement Tender ()
CO ₂	Carbon Dioxide

COP	Conference of the Parties
COP/MOP	Conference of the Parties and Meetings serving as the meeting of the Parties to the Kyoto Protocol when the Kyoto Protocol enters into force.
DOE	Designated Operational Entity: an accredited organization that validates and certifies CDM projects. () :
DNA	Designated National Authority
EB	Executive Board: the highest authority for the CDM under the COP/MOP. /
EIA	Environmental Impact Assessment
EIT	Economies in Transition (former Soviet Union, central and eastern European countries) ()
ERU	Emission Reduction Unit (unit for JI) ()
EU ETS	European Union Emissions Trading Scheme
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GHG	Greenhouse gas
GWh	Gigawatt hour (million kWh) ()

GWP	Global Warming Potential	
HFC	Hydrofluorocarbon	()
IEA	International Energy Agency	
IPCC	Intergovernmental Panel on Climate Change	
IRR	Internal Rate of Return	
JI	Joint Implementation	
kt	kilo tonnes (1000 tonnes)	(1000)
kWh	kilowatt hour	
LULUCF	Land Use, Land Use Change and Forestry	
Mt	Million tonnes	
MW	Megawatt	
MMTC	Million metric tonnes of carbon	
MMTCO _{2e}	Million metric tonnes of CO ₂ equivalent	
NGO	Non-governmental Organization	
NO _x	Nitrogen Oxides	
O & M	Operation and Maintenance	
ODA	Official Development Assistance	

OECD	Organisation for Economic Co-operation and Development
PCF	Prototype Carbon Fund (a WB activity) ()
PFC	Perfluorocarbon ()
PDD	Project Design Document
PV	Photovoltaic
SD	Sustainable Development
SF ₆	Sulphur Hexafluoride ()
SHS	Solar Home System
SO ₂	Sulphur Dioxide
TJ	Tera Joule (10 ¹² joule) (10 ¹²)
UNDP	United Nations Development Programme ()
UNEP	United Nations Environment Programme ()
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization
WMO	World Meteorological Organization

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modalities & procedures

CDM project cycle

. Project Design Document (PDD)

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Capacity Development for the Clean Development Mechanism (CD4CDM)

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www.cd4cdm.org

Non-Annex I Parties

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World Commission on Environment and Development

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3.3 الخطوات الرئيسية لتقييم التنمية المستدامة لمشروعات

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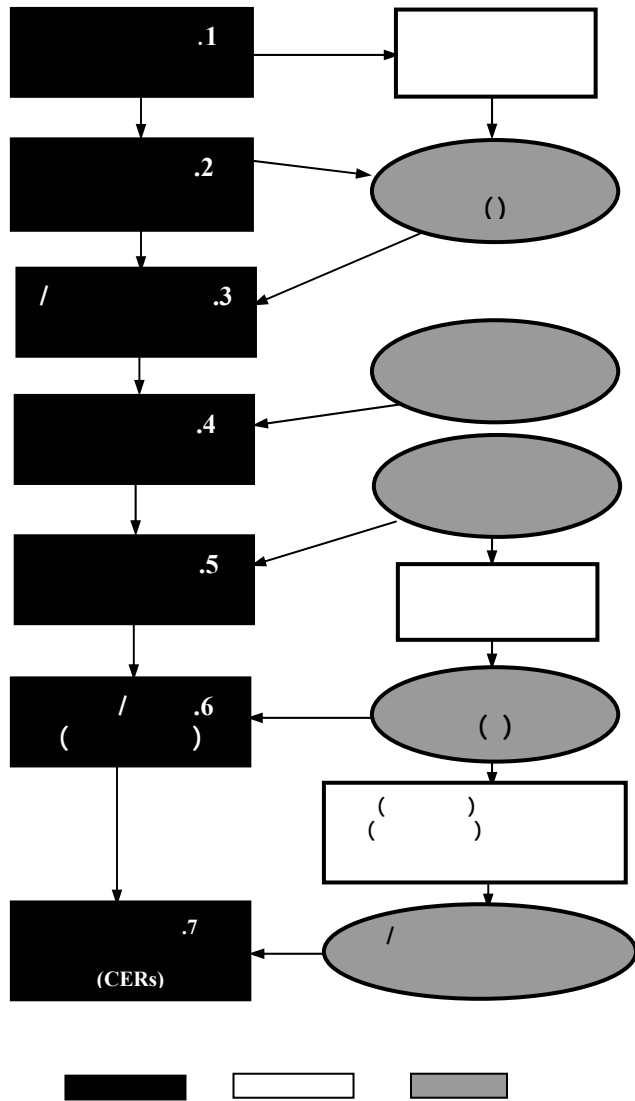
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<http://cdm.unfccc.int/Reference/Documents>
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Guidance / Clarification
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<http://www.cdm.unfccc.int/Reference/Guidclarif>

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<http://cdm.unfccc.int/methodologies> .13
<http://cdm.unfccc.int/EB/Meetings/010/eb10repan1.pdf> .14

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Bundling & Debundling 4.1.4

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Good Practice Guidance for LULUCF in the preparation of national greenhouse " gas inventories under the Convention

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"Establishing National Authorities for the CDM - A Guide for Developing Countries " *

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3.4 المصادقة الرسمية/التسجيل Validation/Registration

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<http://cdm.unfccc.int/DOE/CallForInputs> .16
<http://cdm.unfccc.int/DOE/AEnew/Meth> .17

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<http://cdm.unfccc.int/DOE/scopes.htm/> .18

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4.4 تمويل المشروع

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Official Development Assistant (ODA)

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<http://cdm.unfccc.int/EB/Meetings/006/eb06rep.pdf> .19

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5.4 الرصد والمراقبة Monitoring

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6.4 التحقق / الإشهاد Verification/Certification

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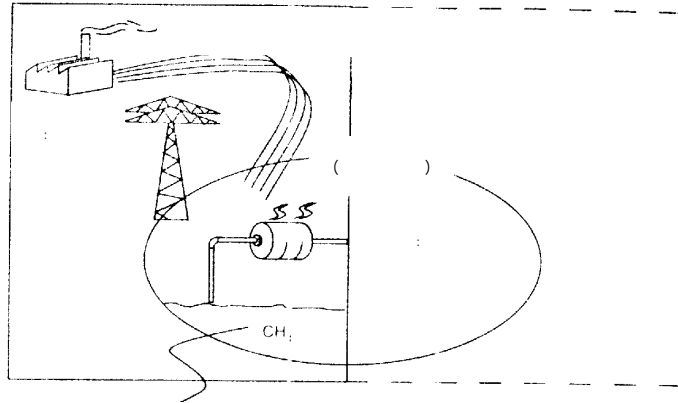
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<http://unfccc.int/cdm/methapp.htm/> .25

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2800	C ₂ HF ₅	125 -
1300	CH ₂ FCF ₃	134 -
3800	C ₂ H ₃ F ₃	143 -
140	C ₂ H ₄ F ₂	152 -
2900	C ₃ HF ₇	277 -
6300	C ₃ H ₂ F ₆	236 -
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7.5 التآثيرات البيئية

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8.5 تعليقات وملاحظات الأطراف المعنية

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CDM Watch "

<http://www.cdmwatch.org/> .27

9.5 ملحق 1 : معلومات الاتصال بالشركاء فى أنشطة المشروع

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10.5 ملحق 2 : معلومات بشأن رأس المال العام

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11.5 ملحق 3 : منهجية جديدة للأساس القاعدى

ملحق 4 : منهجية جديدة للرصد والمراقبة

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12.5 ملحق 5 : بيانات الأساس القاعدى

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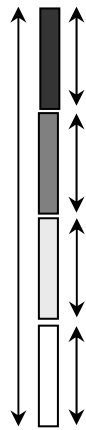
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<http://global.finland.fi> .4 (2003 21) .3
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www.bp.com/files/15/climate_change_2001_performance_1541.pdf .10 (2003 15) (2003 7) .9

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Emissions Trading (ET) :
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Project Boundary

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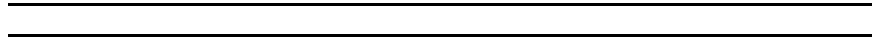
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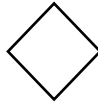
References

1. Baumert, K., N. Kete and C. Figueres, Designing the clean development mechanism to meet the needs of a broad range of interests. Climate Notes. WRI Climate Energy & Pollution Program. August, 2000. <http://www.wri.org/wri/>
2. BP Emissions Trading Scheme. <http://www.bp.com>
3. Carbon Finance at the World Bank. <http://carbonfinance.org>
4. Carbon Market Europe: April 2, 8, 15, 23, 30, 2004.
5. Carbon Market Europe: March 7, 2003, March 21, 2003, May 2, 2003, August 15, 2003.
6. CDM CAPSSA, Final CDM CAPSSA Guidelines, April 2003
7. CDM Monitor. <http://www.pointcarbon.com/>
8. CDM Monitor: March 11 2004, April 7 2004.
9. CERUPT Guideline: Vol. 1 Introduction; Vol. 2a Baseline Studies, Monitoring and Reporting; Vol. 2b Baseline studies for specific project categories; Vol.2c Baseline studies for small-scale project categories. Ministry of Housing, Spatial Planning and Environment of the Netherlands. 2001. <http://www.senter.nl/asp/page.asp?id=i000008&alias=erupt>
10. CERUPT Tender Document, 2002. <http://www.senter.nl>
11. Danish Energy Authority, Project Manual: Clean Development Mechanism, 2003
12. EcoSecurities, Clean Development Mechanism (CDM),: Simplified Modalities and Procedures for Small-Scale Projects, A DFID report, May 2002. http://www.ecosecurities.com/300publications/smallscale_projct.pdf
13. EcoSecurities, The Role of Emissions Trading in Asian Clean Energy Finance, 2003
14. Environmental Finance, February 2003.
15. Figueres, C. (Editor), Establishing National Authorities for the CDM, a guide for developing countries. Center for Sustainable Development in the Americas, Climate Change Knowledge Network, International Institute for Sustainable Development, 2002. http://www.cckn.net/pdf/cdm_national_authorities.pdf

16. Finnish CDM Program. <http://global.finland.fi>
17. GHG Market Trends. <http://www.ghgmarket.info>
18. Grubb, Michael, Tom Brewer, Benito Müller, John Drexhage, Kirsty Hamilton, Taishi Sugiyama and Takao Aiba, A Strategic Assessment of the Kyoto-Marrakech System: Synthesis Report, The Royal Institute for Royal Affairs, June 2003.
19. Guest, Justin, Stuart, Marc and Wellington, Fred, The Role of Emissions trading in Asian clean energy finance, JASSA, issue 4 summer 2003.
20. IETA, Greenhouse Gas Market 2003
21. Joint Implementation Quarterly, vol. 10, no. 1, March 2004,
22. Kartha, S., M. Lazarus, Practical Baseline Recommendations for Greenhouse Gas Mitigation Projects in the Electric Power Sector, OECD/IEA information paper, SEI-Boston/Tellus Institute and International Energy Agency, May 2002. http://www.ghgprotocol.org/docs/Electric_Power_Sector_Baselines.pdf
23. Michaelowa, Axel, Stronzik Marcus, Eckerman, Fraucke and Hunt Alistair, Transaction Cost of the Kyoto Mechanisms, Climate Policy 3, 261-278, 2003.
24. PCF Annual Report 2002. <http://www.prototypecarbonfund.org>
25. PCF Annual Report 2003, HYPERLINK “<http://www.prototypecarbonfund.org>”
<http://www.prototypecarbonfund.org>
26. PCF, State and Trends of the Carbon Market 2003.
27. PCF Plus, State and Trends of the Carbon Market, 2002. <http://www.prototypecarbonfund.org>
28. Pembina Institute for Appropriate Development: A User’s Guide to the Clean Development Mechanism (CDM), second edition, February 2003. http://www.pembina.org/publications_item.asp?id=148
29. Point Carbon: Breaking News, HYPERLINK “<http://www.pointcarbon.com>”
<http://www.pointcarbon.com>
30. PriceWaterhouseCoopers, A Business View on Key Issues Relating to the Kyoto Mechanisms, Oct. 2000.
31. Rosales, J. and G. Pronove, A Layperson’s Guide to the Clean Development Mechanism.

32. Spalding-Fecher, R., The CDM guidebook, A Resource for Clean Development Mechanism Developers in Southern Africa. Energy and Development Research Centre (EDRC) University of Cape Town, July 2002. <http://www.edrc.uct.ac.za/Publications1.htm>
33. Thorne, S. and S. Raubenheimer, Sustainable Development appraisal of Clean Development Mechanism Projects – experiences from the SouthSouth-North project. <http://www.southsouthnorth.org/>
34. UNCTAD-Earth Council, July 2002. www.unctad.org/ghg
35. UNDP, Project Developers Guide for the CDM, draft prepared by Lloyd Master Consulting, October 2000.
36. UNDP, The Clean Development Mechanism: A User's Guide, 2003
37. UNEP RIS Centre, Introduction to the CDM, 2002. <http://www.cd4cdm.org>
38. UNEP RIS Centre, CDM and Sustainable Development, forthcoming, 2004.
39. UNFCCC - UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE -. Convention on Climate Change. UNEP/IUC/99/2. Geneva, Switzerland: Published for the Climate Change Secretariat by the UNEP's Information Unit for Conventions (IUC). <http://www.unfccc.de.1999>
40. UNFCCC - The Kyoto Protocol to the Convention on Climate Change. UNEP/IUC/99/10. France: Published by the Climate Change Secretariat with the Support of UNEP's Information Unit for Conventions (IUC). <http://www.unfccc.de.1999b>
41. UNFCCC - A Guide to the Climate Change Convention and its Kyoto Protocol. Climate Change Secretariat, Bonn 2002. <http://unfccc.int/resource/convkp.html>
42. UNFCCC – <http://ghg.unfccc.int>
43. UNFCCC - The Marrakech Accords, Marrakech 2001.
44. World Commission on Environment and Development (1987), Our Common Future, Oxford University Press, London.

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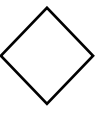
Emissions				
Upstream Emissions		()	
Anthropogenic Emissions		()	
Allowed Emissions	()		
Achieved Emissions	()		
Social Dimensions				
Marrakesh Accords				
Emission Reduction Purchase Agreements (ERPAs)				
Convention				
Emission Reduction Purchase Agreement (ERPA)				
Economic Measures		()	
Physical Measures	()	()
Fast-tracked Procedures		()	
Natural Hazards				
Market Performance of Carbon Assets		()	
Administration				
Risk Management				

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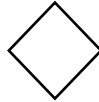
Dividends		
Shift		()
Tree Height		
Archiving		()
Frequently Asked Questions		
Baseline		()
Structural Seniority		
Investment		
Foreign Direct Investment (FDI)		
Land Use, Land Use Change and Forestry (LULUCF)	(=)
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Carbon Sequestration		
Call and Put Options		
Energy Affordability	()
Standardized Baselines	()
CER Prices		
Derivative Markets		()
Carbon Markets		
Genetically Modified Trees		
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Minimal		()
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Certification		()
Stakeholders		

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 National Approval
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 Economies in Transition (EIT)
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 Development (IBRD)
 International Emissions Trading
 Technological Innovation ()
 Afforestation ()
 Afforestation and Reforestation
 Bundling and Debundling
 Verification
 Quality Control ()
 Switching Fossil Fuels
 Carbon Cash Flow
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 Binding Commitments
 Registration
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 Capital Costs
 Costs and Benefits ()
 Public Funding
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 Governance ()
 Certified Emission Reduction (CER)
 CDM Guidelines
 Linking Directive
 Developing Countries

Small Island Developing States	
Enforcement	
National Registry	
Reference Price	()
Designated National Authority (DNA)	
Prototype Carbon Fund (PCF)	()
Demand of CERs	
CDM Assessment Team (CDM-AT)	
Market Intelligence	/
Debt Carrying Capacity	
Radiative Forcing	()
World Commission on Environment and Development	
World Commission on Dams	
Appropriateness	()
Fungibility	()
Forward Carbon Sales	()
CER Trading	
Executive Board (EB)	()
EB/Registry	/
National Greenhouse Gas Inventories	
Project Funds	
Annex I	
Annex A	
Annex B	
Sustainability	
Social Sustainability	
Current Buyers	
Validation	()
Validation / Registration	/
Gold Standard	
World Meteorological Organization (WMO)	

Exact Location ()
 Gross National Product (GNP)
 Gross Domestic Product (GDP)
 Subsidiary Bodies
 Intergovernmental Panel on Climate
 Change (IPCC)
 International Energy Agency (IEA)
 Cooperative Mechanisms
 Clean Development Mechanism (CDM)
 Small-scale CDM
 Measurement Standard of Indicator ()
 Standards ()
 Capabilities ()
 Mineral Production
 Project Activities
 Activities Implemented Jointly (AIJ) ()
 Enforcing Agreements ()
 Disbursement
 Fossil Fuels
 Senior Interest ()
 Policy Priorities ()
 National Priorities
 Carbon Revenues
 Ecosecurities ()

 Parameters ()
 United Nations Development Program (UNDP) (. . .)
 United Nations Environment Program (UNEP) ()
 Kyoto Protocol (KP)

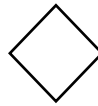
Emission Commodities ()
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 European Investment Bank (EIB)
 Local Environments ()
 Perfluorocarbon (PFC) ()



Greenhouse Effect
 Impacts
 Environmental Impacts
 Quality Assurance
 Energy Security
 Securing Project Fund
 Emissions Trading (ET)
 Poverty Alleviation
 Risk Mitigation
 Project Boundary ()
 District Heating
 Accumulation /
 Leakage
 Synergy
 Synergies
 Feedbacks (:)
 Biomass Gasification ()
 Climate Change /
 Negotiation /
 Operational Details ()
 Decomposable ()
 Assessing
 Environmental Impact Assessment (EIA)
 Project Evaluation

Credible and Independent Assessments	()	
Trading Costs	()	
Implementation Costs)	
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Brokerage Costs			
Transaction Costs			
Costs of Adaptation			
Pre-operational Costs	()	
		()
Quantification		()
Corporate Financing	()	
Project Financing	()	
Upfront Financing		()
Financing CDM Projects			
Price Premiums			
Regulation			
Market Development			
Sectoral Development			
Sustainable Development			
Biodiversity			
Documentation			
CER Generation			
Income Generation			
Sulphur Dioxide (SO ₂)			
Carbon Dioxide (CO ₂)			
Supply-side			
Demand-side			

Part of the Package
Quality of Life



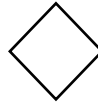
Build Margin
Approximate Operating Margin
Forest
Package
Periodic Calculation
Share of Proceeds
Right of Access
Land Tenure
Property Rights
Resolution of Disputes
Project Viability

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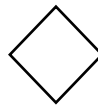
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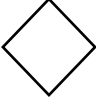
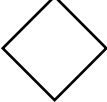
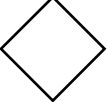
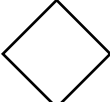


Energy Services
Monitoring Plan
Project Evaluation Steps
Certified Emission Reductions (CERs)

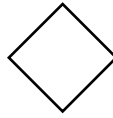


Creditors
Upfront Payments
Guidelines
Layperson's Guide
Project Cycle
Annex I Countries
Non-Annex I Countries
International

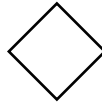
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Public Funding		
Equity		()
Improved Project Profitability		
Monitoring		
Debt Leverage of Project		
		
Allowance Market		
Project-based Market		
Political		()
		
mini-grid		
Climate Investment Partnership		
Information Sharing		
Project Participants		
		
Project Eligibility		()
Mining		()
The Bio-Carbon Fund		
The Community Development Carbon Fund		()
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Dexia-FondElec Energy Efficiency and Emission Reduction Fund		
FondElec Latin American Clean Energy Services Fund		

Guarantees
Collateral for Loans

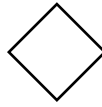


Renewable Energy
Modalities & Procedures (M&P)
Host Party
Operational Phase
Pre-operational Phase
Voluntary
Voluntarily



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Global
Default Emission Factor
Certified Emission Reduction Purchasing
Procurement Tender (CERUPT)

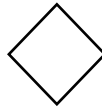


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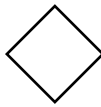
Sanctions
Forward Contracts
Emission Factors
Default Factors

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Landfill Gas
Methane
Greenhouse Gas
Greenhouse Gases (GHGs)
Tree Cover



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Project Categories

Project Activity Categories

Crediting Period

Premature

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Project Screening

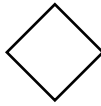
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Initial Screening

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Periodic Auditing

Assessment Team



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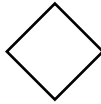
Loans or Debts

Litter

Default Value

Monetary Value

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Comprehensive Rulebook

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Biomass

Energy Efficiency

Project Sponsors

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Global Warming Potentials (GWPs)

Global Warming Potential

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Quantity of CERs

Operational Entity A

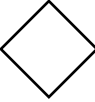
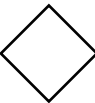
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Operational Entity B

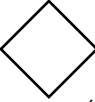
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Designated Operational Entity (DOE)

Applicant Entity

Non-redundant Uncertainties		()
Conference of the Parties (COP) Indicators Mutually Exclusive		()
Swaps		()
Principle of Common but Differentiated Responsibilities		
Principle of Equity		
Sale of Shares		
Adaptation Levy		()
Conservative and Transparent		
Weighted Average		
Carbon Pool		
Portfolio of Projects		
Local		
Market Risks		
Project Risks		
Political Risks		
Liability on Project Cash Flow		()
Infringements		()
Concept Note		
Project Information Note (PIN)		
Carbon Stocks		
European Union Emission Trading Scheme		
Disbursements		
Transaction Assistant Facility		

CDM Watch
 Common but Differentiated
 Responsibilities
 Forest Area
 Official Development Assistance (ODA)
 Equality ()
 Equity (/ /)
 Sustainable Development Goals
 Sectoral / Project Level /
 CDM Glossary (=)
 Partnership ()
 Plantar Project ()
 Sink Projects
 Conventional Projects ()
 Operational ()
 Sanction / ()
 Direct Expenses
 Additionality
 Continued Conformance ()
 Project Developers
 Default Emission Coefficient
 Gini Coefficient
 Transactions
 CER Transaction
 Criteria
 Internal Rate of Return (IRR)
 Literacy Rates
 Standard ()
 Highly Speculative
 Approach ()
 CO₂ equivalent
 Carbon-intensive ()



 Sulphur Hexafluoride (SF₆) ()

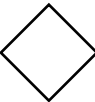
 Accreditation Panel ()

 CDM Assessment Panel (CDM-AP)

 Accredited Organization

 Hydrofluorocarbon ()

 Systematic Surveillance ()



 Project Design Document (PDD)

 Fossil-fuel Fired Generating Units

 Assigned Amount Units ()

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 Physical Units ()

 Monetary Units ()

 Base Unit

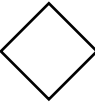
 Emission Reduction Unit (II-)

 Assigned Amount Unit ()

 Baseline Setting ()

 National /

 Fossil Fuel



 Operationalize .

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(202) 5010170 - (202) 5021680 :

e2rc@thewayout.net :

كتاب معلومات البيئة والتنمية النظيفة



يلقي هذا الكتاب نظرة إجمالية رحبة على آلية التنمية النظيفة، ودورة مشروعها، والقضايا المرتبطة كعلاقتها بغايات التنمية المستدامة، وأساليب التمويل، والقطاعات الأسوقية. وتستعرض الملاحق الأسئلة المتواترة وإجاباتها، والدلائل الإرشادية الأخرى المتاحة، والقائمة المرجحة مستقبلاً لفئات المشروعات المؤهلة للآلية النظيفة .

وقد أعد هذا الكتاب الإرشادي لآلية التنمية النظيفة ليدعم مشروع برنامج الأمم المتحدة للبيئة UNEP : " تنمية القدرات لآلية التنمية النظيفة " المنفذ بواسطة مركز يونيب ريزو UNEP RISOE المعنى بالطاقة والمناخ والتنمية المستدامة في الدانمارك . والهدف الشامل للمشروع هو تنمية القدرات المؤسسية والمهارات الإنسانية اللازمة لتشغيل آلية التنمية النظيفة بالدول النامية.

والمشروع ممول بواسطة وزارة الشؤون الخارجية بنوالة هولندا .

RISO