

Korea GHG Emission Reduction Registration Program

2007. 12

Bali, Indonesia

Side Event, Conference of Parties

Korea Emission Reduction Registry Center
Korea Energy Management Corporation



**1. Outline of GHG Emission
Reduction Registration Project**



**2. Principles of Project Design
Document (PDD)**



**3. Comparison with International
CDM Projects**



**4. Necessary Condition for
Emission Reduction Verifier**



5. Future Plan



1. Outline of GHG Emission Reduction Registration Project

Background

- Standpoint of Korea in Climatic Change Convention
 - One of the large emitting countries (10th in 2004)
 - As a non-Annex I Country, Korea is precarious on bearing the time of obligation and amount of GHG reduction
- Converting from the Efforts of Energy Saving to GHG Reduction
 - Continuation of 'Rational Energy Use' for high oil price
 - Promotion of low-carbon emission Technology



- Uncertainty on present efforts for GHG reduction activities
 - Increase in marginal abatement cost, decrease in baseline emission
- Arrangement of compensation scheme based on actual results

Project Direction

Spontaneity

- **Voluntary Participation of Implementation and Registration of GHG Reduction for Enterprises**
- **Projects which started within an year from registration of GHG Reduction Projects**

Minimizing GHG Emission

- **Registration for Significant GHG Emission Reduction**
- **Reduce more than 500 tCO₂ of GHG Emission Reduction by year**

Distinction

- **Special Consideration for enterprises that are actively participating GHG emission reduction program**

Prior Settlement for efficient execution of GHG Emission Reduction Registry Project

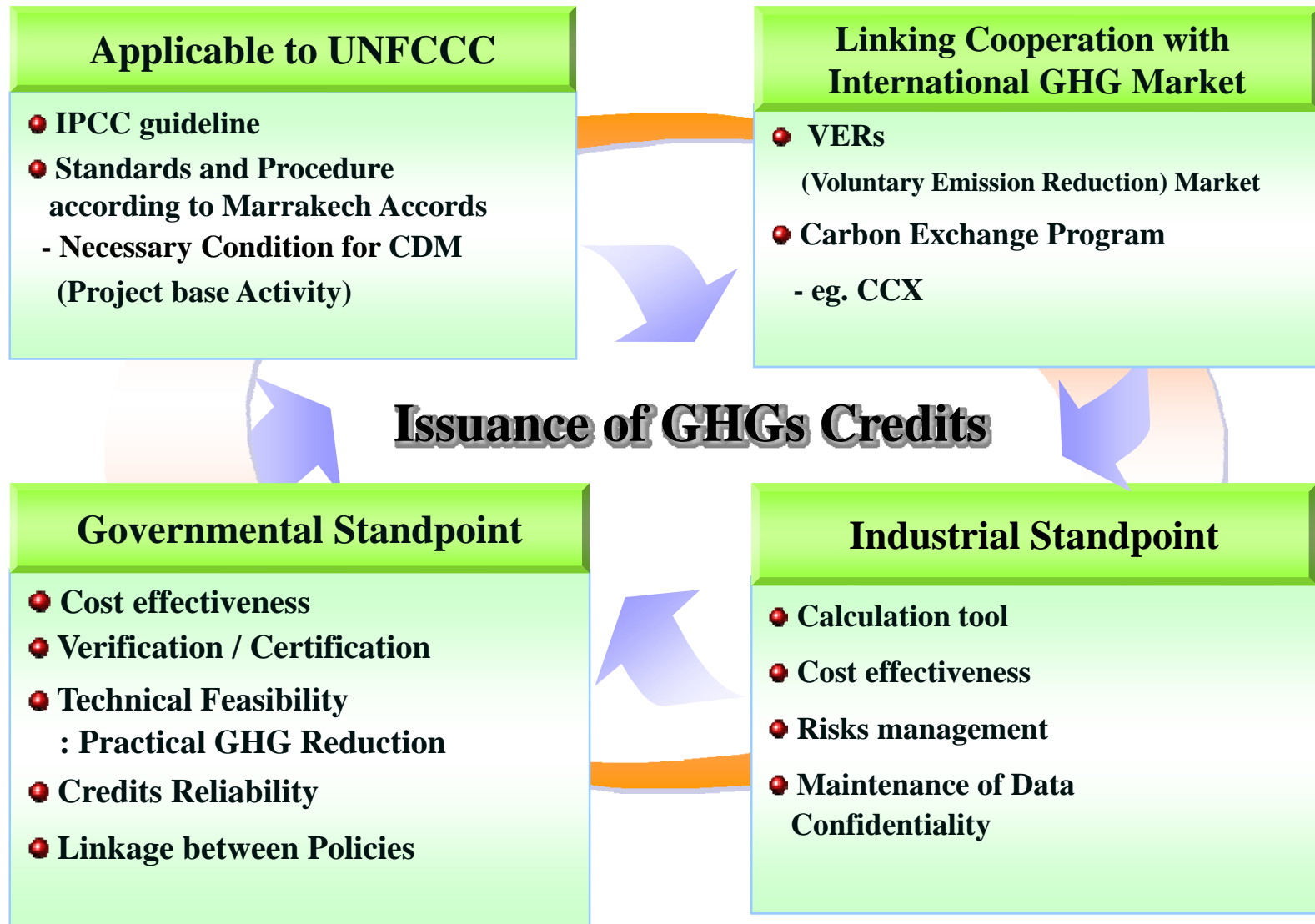
- Attain the Management Scheme of GHG Emission Reduction Registry Program
 - Arrangement of a Legal Foundation(2004. 12. 31)
: Reflected based on Rational Energy Utilization Act
 - Stipulating the Obligation and Duty between Parties which are directly involved in
- Confirming the Credibility and Completeness on Reduction Results
 - Verification and Validation of the third parties by GHG Verification Entity
 - GHG Verification Entity must acknowledge a responsibility for verification results
- Benefits for Reduction Project Participants
 - Government directly purchases Reduction Results
[Subsidy : \approx U\$ 5 /CO₂ ton for 5 years]

Legal Foundation

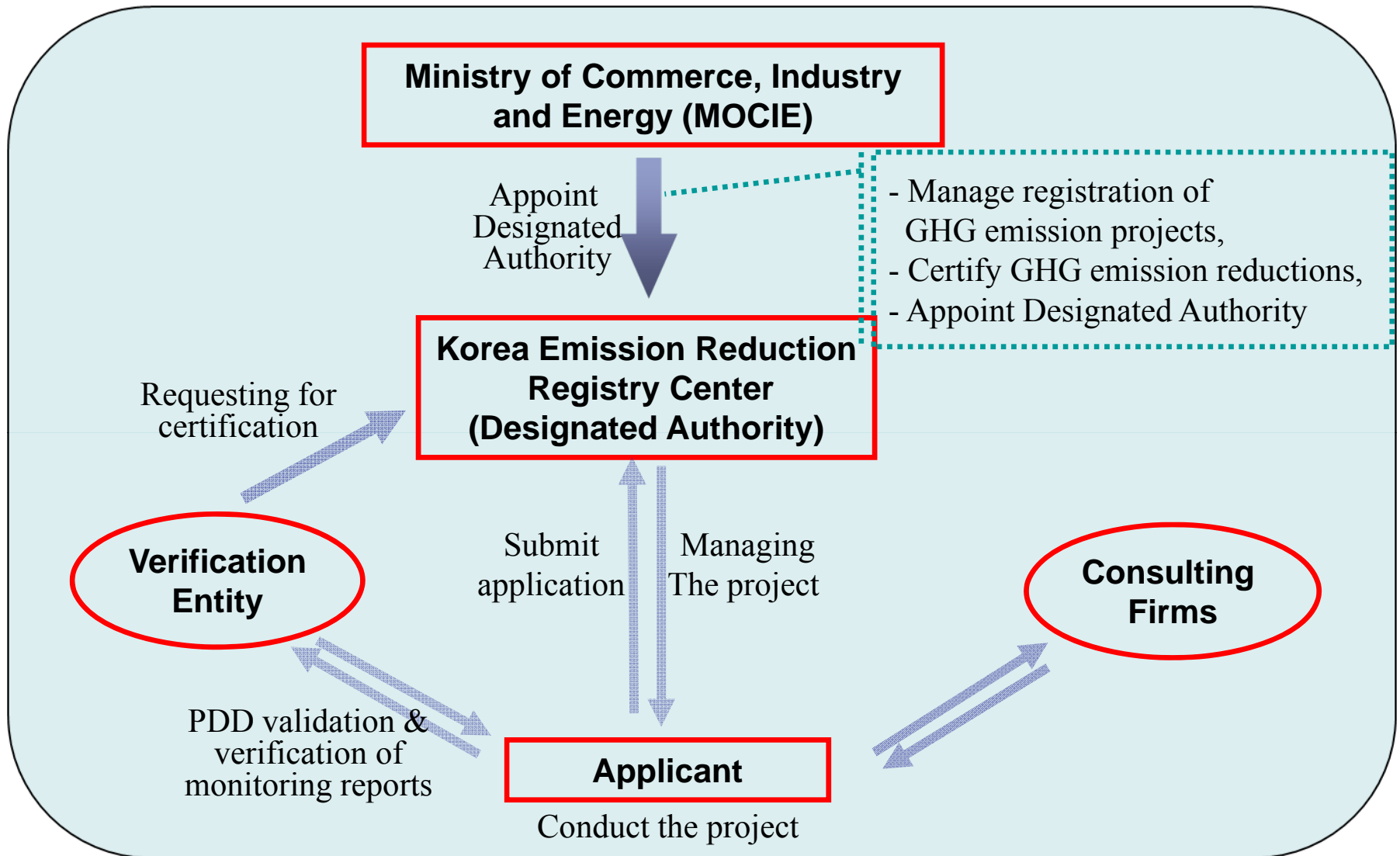
- Rational Energy Utilization Act Article 14 paragraph 2 and its implementing ordinance Article 17 paragraph 2 (Registration and Management of GHG Emission Reductions Registration Project) {Dec., 2003}
- MOCIE Notification #2005-88 : “ Regulation on Registration and Management of GHG Emission Reductions Registration Project “ instituting (Oct., 2005)
- MOCIE Notification #2007-27 : “Regulation on designation and management of GHG emission reductions verification authority” instituting (Feb., 2007)
- MOCIE Notification #2007-90 : “ Regulation on Registration and Management of GHG Emission Reductions Registration Project “ revising (July, 2007)



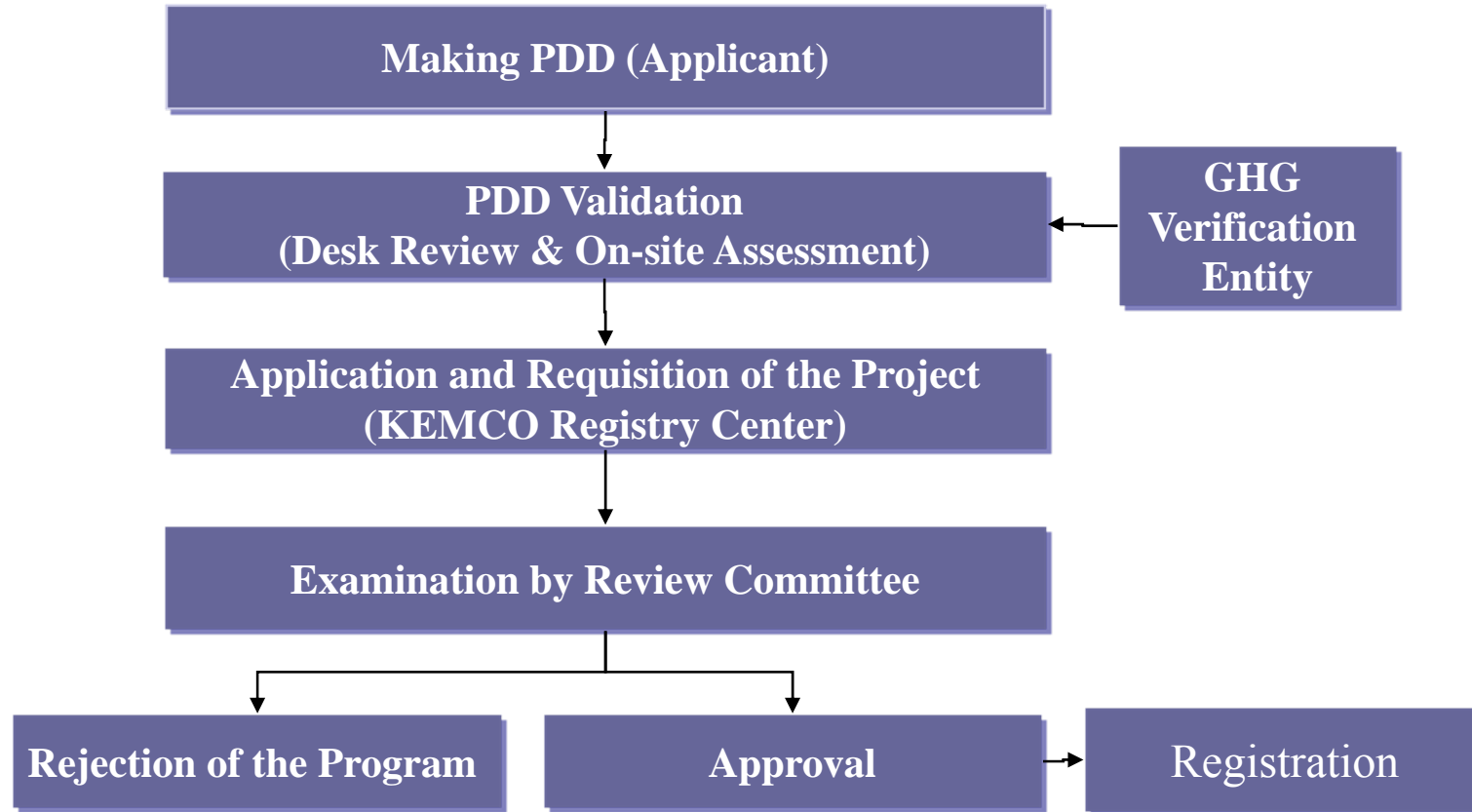
Framework of Reduction Registry



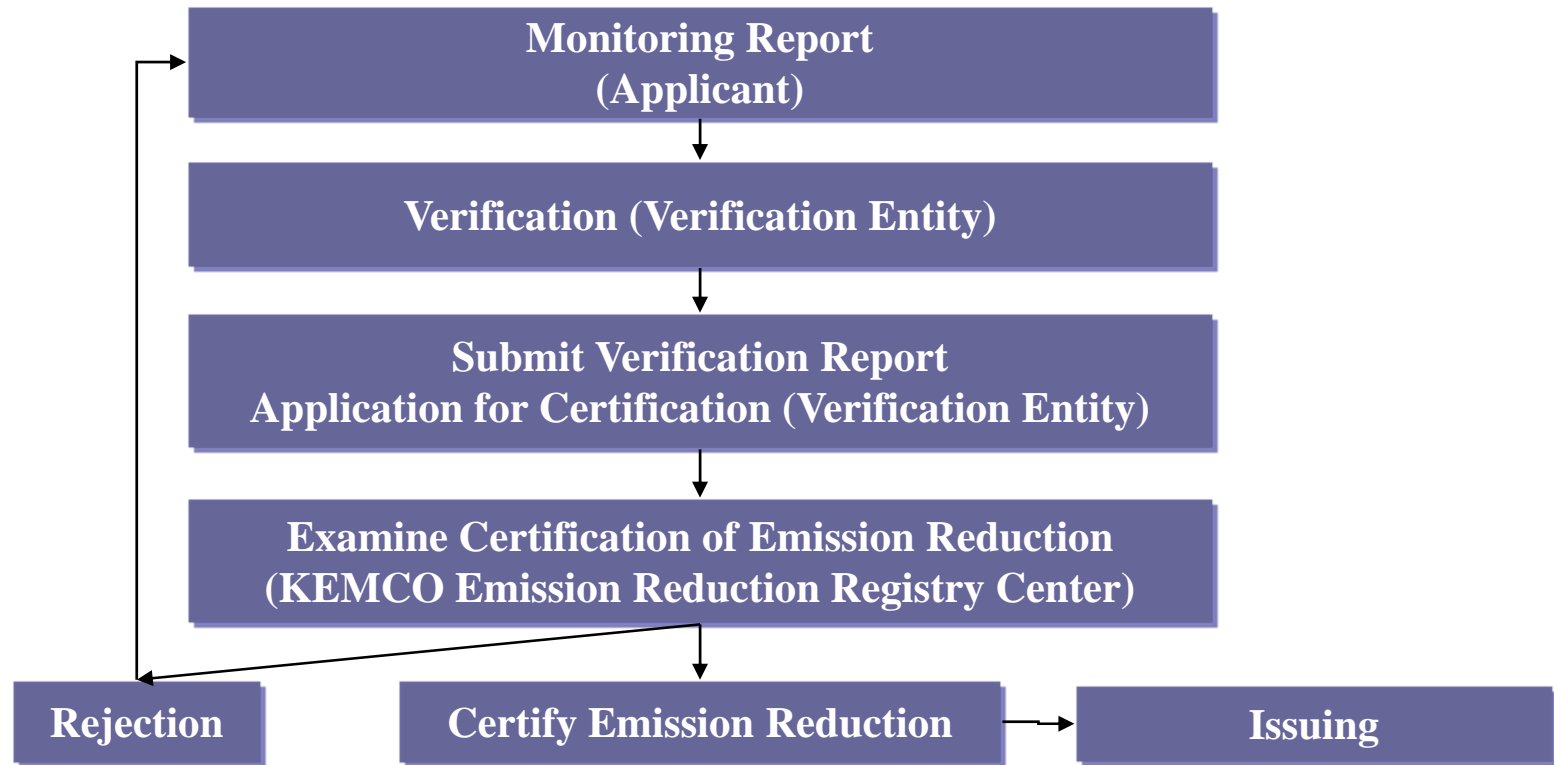
Management Scheme of GHG Emission Reduction Registration Project



Project Validation Map



Certification of Emission Reduction



Cost of Progressing Registration Project

- Governmental Incentives for the Registration
 - No administration cost
 - Baseline methodology development cost : US\$ 2~5 thou. per project
- Cost of Project Operator
 - Workforce consuming for making out action plan and processing of enrollment
 - Validation cost
(required to make a contract with a verification entity)
 - Verifying cost
(required to make a contract with a verification entity)

Validation point in assessment of validation

- Whether reduction projects are satisfied with the basic requirements
- Whether the project can reduce emission additionally
- Is there any environmental and social effects by the projects
- Validation test on applying baseline method and monitoring method
- Validation test on estimating emission reduction values
- Consideration of leakage
- Contravention of the environmental law and regulations
- Contravention of other governmental regulations and standard
- ※ verification entity make a final decision on the registered project based on result of validation assessment

Basic Requirement

■ **Additionality**

- Exception for the project **compulsorily by national policy and regulations**
- **No temporary reduction** according to routine repairing, maintenance, and cleaning works without technical improvements

■ **Technical validation**

- Technically and quantitatively proved emission reduction
- Independent with other project and no simple incensement in its production

■ **Participation and Ownership**

- Participation or agreement of all individuals or corporations who have the right on land or facilities within the project boundary
- Clear ownership of the reduction results

■ **No negative social impacts and environmental impacts**

- Project should not violate national policy, laws, regulations and social rules
- No economic and environmental damage or problem

Cancellation and Modification

■ **Cancellation** in case that

- the written information in the project plan is false
- the annual report of monitoring is false
- the implementing enterprise do not follow faithfully the duty of verification for the monitoring report
- the registered reduction project cannot be performed inevitably

■ **Modification** in case that

- there are changes on GHG emission volume by production enlargement or reduction within the project boundary
- there are changes on the registered project plan for improving the accuracy of information related to GHG emission



2. Principles of Project Design Document (PDD)

Content of Project Design Document

1. General Description
2. Registration Criteria
 - General Criteria, Environmental Effects, Social Effects
3. Project Boundary
4. Baseline Methodology
5. Monitoring Methodology and Planning
6. Estimated GHG Emission Reduction
7. Details of Reduction Project Investment
8. Reference & Evidentiary Documents
9. Information on Baseline & Monitoring Methodology Developer

Basic principle of PDD

■ **Relevance**

- setting relevant boundary including impacts related to GHG emission with the consideration of project characteristics

■ **Completeness**

- clear description on the reason and basis whether the emission is included or not in relevant boundary

■ **Consistency**

- Consistency between data and methodology

■ **Transparency**

- calculation must be made by the transparent process that the third party (individual) should be able to reproduce


■ **Accuracy**

- require accurate data management via Q/A

■ **Conservativeness**

- Managing the uncertainty to avoid overvaluation on reduction results when we choose methodology and data, for that reason, we use conservative data and methodology

Program Web Site (reg.kemco.or.kr) 1/3



Green House Gas
Registry System

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감축사업 등록신청:
114 건
예상 총 감축량:
8,985,436
ton CO₂-eq.

감축사업 등록:
41 건
예상 총 감축량:
5,103,821
ton CO₂-eq.
[MORE](#)

감축사업 신청 및 관리

감축사업 진행관리

감축사업 분석

자료실

공지사항

O&A / FAQ

공지사항 /notice [MORE](#)

[2007-04-25] 2007년 1차 타당성 평가위원회 개최
[2007-04-24] 온실가스 감축실적 검증 전문기관 지정신청 접...
[2007-03-27] 온실가스 검증 전문기관 지정계획 설명회 자료...

자주하는 질문 /FAQ [MORE](#)

· 온실가스 배출감축사업을 등록하게 될 경우 얻을 수 있...
· 온실가스배출감축사업을 등록하기까지의 추진방법
· 누가 참여 할 수 있는가
· 법적근거
· 국내온실가스 감축사업 등록체계의 주요내용
· 제도도입배경

질문&답변 /Q&A [MORE](#)

[2007-04-25] 자격요건관련 답변입니다.
[2007-04-24] 검증전문인력의 자격기준(산업자원부 고시 제...
[2006-10-02] 온실가스 배출량 심사원 양성교육

 **국무총리실**
Office of the Prime Minister

 **산업자원부**

 **에너지관리공단**

 **에너지관리공단 기후대책실**

Program Web Site 2/3



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기후변화협약은

사람이 지구와 화해하는 첫단추입니다

보다 나은 환경을 후세에 물려주기 위해 에너지관리공단 이 앞장서겠습니다

공단 (공단) 님
GHG방문을 환영합니다

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GHG소개자료

감독사업명

사업시행장소주소

담당자 성명

담당자 e-mail

감독사업 영역

온실가스 종류

적용기술 분류

적용설비 분류

사업기간

예상감축량

투자금액

방법론

IPA(Iso-Propyl Alcohol)공정 Reboiler Steam 사용량 감소를 통한 CO2 배출량 감축 사업

(555-805) 전남 여수시 화진동 LG화학 70-1번지

진상신

sangsinjin@lgchem.com

☐ CDM 공동수행 여부

☒ CO2 ☐ CH4 ☐ N2O ☐ HFCs ☐ PFCs ☐ SF6

공법개선

정제탑

















2007-01-01 ~ 2007-12-31 유효기간 2008-01-01 ~ 2012-12-31

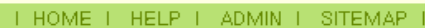
169,580,000 ton CO2-eq. (연평균) 33,916,000 ton CO2-eq.

자체 투자금액	외부 투자금액	총 투자금액
3,300,000 백만원	0.00 백만원	3,300,000 백만원

	구분	배출원	온실가스 종류	사용량	단위	배출량	배출량 합계	기준활동
베이스라인 배출량	직접배출							
	간접배출	스팀	CO2	159,096.000	ton	64,704.000	64,704.000	1.295 ton CO2...
	누출							
사업 전 온실가스 배출량	직접배출							
	간접배출							
	누출							
사업 후 온실가스 배출량	직접배출							
	간접배출	스팀	CO2	88,368.000	ton	30,788.000	30,788.000	0.616 ton CO2...
	누출							

Microsoft Internet Explorer

 뒤로
 



 검색
  즐겨찾기
 











▶ 온실가스 배출 감축사업 등록 현황

번호	업체명	감축사업명	진행 단계	예상 총 감축량	예상 연평균 감축량	감축량(ton CO2-eq.)
155	(주)엘지화...	청정연료 전환(C9+ -> LNG)...	사업등록완료	11,740.000	2,348.000	
156	유한킴벌리	초지공정내 Direct 버너의 연...	사업계획서 제출	6,585.000	1,317.000	
157	(주) 엘지화...	축매산화탑 설비 폐열회수 ...	사업계획서 제출	4,866.000	972.667	
158	포스코	코크스건식소화(CDQ)설비 ...	타당성 검토 중	209,005.000	41,801.000	
159	한화석유화...	태광산업 잉여 폐열 스팀 수...	사업등록완료	196,230.000	39,246.000	
160	남부발전	태백풍력(20MW)사업	사업계획서 제출	214,650.000	42,930.000	
161	한화석유화...	터보병동기 교체를 통한 온...	사업등록완료	18,075.000	3,615.000	
162	포스코	포항제철소 고효율 노징압...	타당성 검토 중	92,085.000	18,417.000	
163	포스코	포항제철소 발전보일러 전...	타당성 검토 중	34,760.000	6,952.000	
164	SK케미칼 울...	하수처리장 잉여 바미오가...	사업등록완료	20,630.000	4,126.000	
165	남부발전	한경풍력 2단계(24MW) 사업	사업계획서 제출	133,690.000	26,738.000	
166	대상(주) 군...	협기성 처리시 발생하는 부...	사업계획서 제출	192,575.000	38,515.000	
167	한솔제지(주)	협기성 폐수처리장치를 통...	사업계획서 제출	25,315.000	5,063.000	



3. Comparison with International CDM Projects

CDM vs Korea GHG Emission Reductions Registration

	C D M (Clean Development Mechanism)	GHG Emission Reductions Registration
Objective	To effectively alleviate the annex I countries' GHG emission reduction cost	To consider the efforts of early action for GHG emission reductions
Organi- zation	UNFCCC	Ministry of Commerce, Industry & Energy(MOCIE)
Implemen- tation	CDM Executive Board	Korea Energy Management Corporation(KEMCO)
Target	Project based GHG reductions	Project based GHG reductions
Project Size	60,000 tCO ₂ /year or above , (Below that is considered "Small Scale")	Annual reductions of 500-CO ₂ eq. ton or above
Validation & Verification	Validation : DOE(1) Verification : DOE(2)	Validation : Verification entity(1) Verification : Verification entity(2)
Crediting Period	Option 1 : 10 years (with no renewal) Option 2 : 7 years (renewal twice)	5 years (renewal once)
Applicable Scope	World wide (Annex I - Non Annex I international project)	Domestic



4. Necessary Condition for Emission Reduction Verifier

Role and Qualification of Verification Entity

■ Role

- Validation/ Verification for the application of the reduction projects

■ Qualification

- Legal responsibility for the result of project implementation as a corporation
- Obtaining professional manpower
- Obtaining the operating system such as management system and project process to minimize conflict of interests for implementing verification

■ Status

- Appointed verification entities

- **KFQ (Korea Foundation for Quality, CDM DOE)**
- **KEMCO CDM Certification Office (CDM DOE)**
- **DNV (CDM DOE)**
- **SGS S&SC Korea Co., Ltd.**
- **LRQA Korea Ltd.**
- **Korean Standards Association, Certification Division**
- **Korea Gas Safety Corp. Certification Institute**

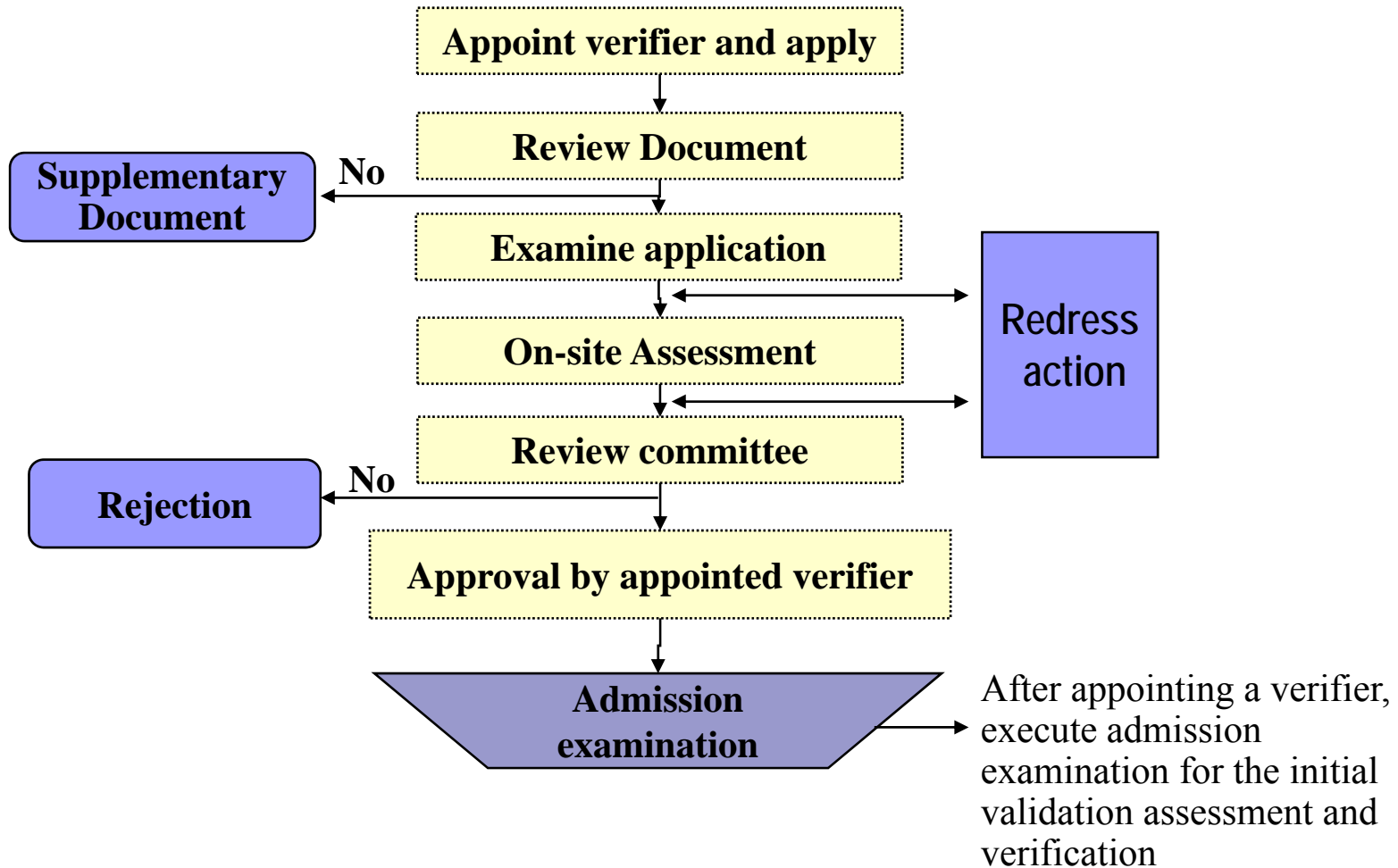
Requirements of Verification Entity

- Legal responsibility for the implementing results
- Organizational structure can guarantee fair operation and documented rules
- Definite regulation on responsibility and rights related to the project
- Operating a committee participated by main parties interests for the fairness guarantee
- No commercial and financial pressure on a chief executive and staffs in doing a validation assessment and verification
- Prohibition of implementing the project which can be affected by the direct/indirect investment and the results
- Operation : for maintaining high quality, the following management system should be set and supported
 - Maintaining high performance of verifiers (examiners)
 - Adhering ethical rules
 - Rules for information release and non-disclosure
 - Managing process for complaints and objections
 - Document managing process
 - Internal inspection procedure
 - Redress process

Contents of the verifier education

- Principals of UNFCCC, CDM, JI, ET and Related Matters
- GHG Reporting Methodology from business activity
- Regulation related to the system : Related act and notifications, IPCC guideline and Korea GHG emission reduction registry guideline
- Verification Standard : eg. ISO 14064-1, ISO 14064-2, EU M&R guideline
- Examination process and methodology based on ISO 14064-3/KS A ISO 19011
- Written Examination
 - Confirming comprehension of training materials

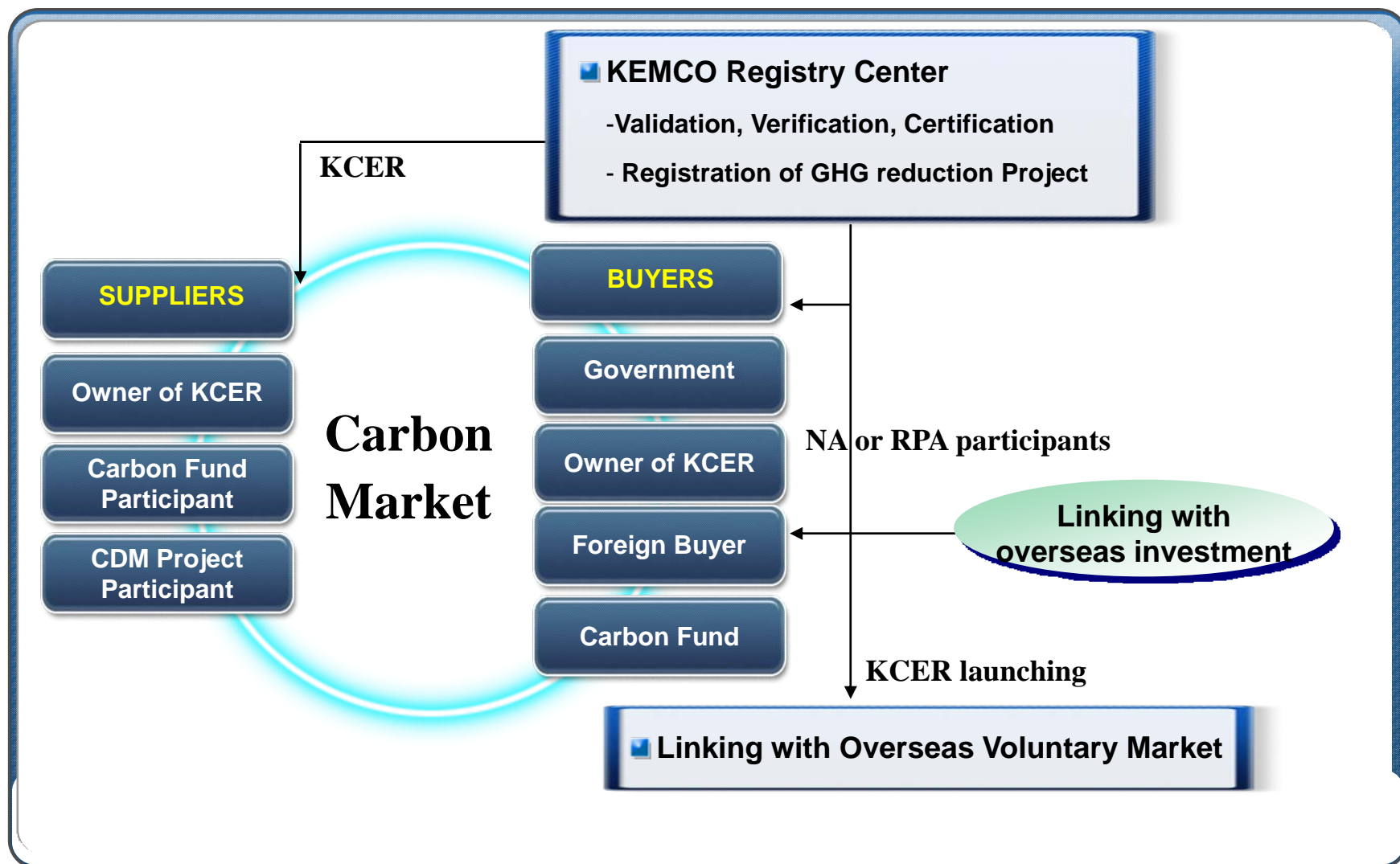
Process for Appointing a Verification Entity





5. Future Plan

Concept of Domestic Carbon Market



Linking Cooperation Channel with International GHG Market

- Pursuing linkage with other international GHG market
(Voluntary Carbon Market)
 - Ensuring KCERs to link in international voluntary market
- Types of KCERs
 - Type 1 : Government owned KCERs
 - Type 2 : KCERs owned by private sectors
- Korean government plans to purchase KCERs owned by private sectors
(2007 budget of US\$ 5 mil.)
 - ※ KCERs (Korea Certified Emission Reductions)

Thank you

**Daegyun Oh,
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