

SF6 Emission Reduction Projects - Planning and Implementation support

A focus on carbon credit creation

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SF6 Emission Reduction Projects – Planning and implementation support

A focus on carbon credit creation

1. EcoSecurities' overview
2. Identify SF6 emission reduction measures
3. Analyse investment feasibility/viability
4. Determine the carbon credit potential
5. Develop the project
6. Monitor and commercialise the emission reductions
7. Overview – Key players

EcoSecurites' overview

- > Involved at every stage of carbon credit sourcing, development and commercialisation – including development and financing of some projects.

- > One of the largest portfolio of projects in the industry with 273 projects with the potential to generate over 146 million carbon credits:
 - spanning **26 countries**, using **17 technologies**
 - **61** projects **registered** or submitted to registration with the CDM Executive Board
 - **120** projects **validated** or submitted for validation
 - **196** of the projects have secured **financing**
 - **113** projects are under **construction** or in **operation**

EcoSecurities' overview

A global presence



* No legal presence but EcoSecurities has entered into contracts with individuals to act as EcoSecurities representatives

Identify SF6 emission reduction measures

- > Magnesium production:
 - Replacing SF6 by an alternative cover gas (e.g. HFC134a, Novec612®)



Figure 1. Molten Mg with SF₆ cover gas.



Figure 2. Molten Mg without protective cover gas.

Identify SF6 emission reduction measures

- > Electricity transmission and distribution:
 - Using gas recovery equipment



Enervac's SF6 leak detector



Fig.2: SF6 Gas Recovery Unit GRU-4 ©,
by Enervac (www.enervac.com)



Laser Imaging System's
GasVue® camera

- Detecting leaks
- Training staff

- Maintaining, upgrading & replacing equipment

Analyse investment feasibility/viability

- > “Normal” project:
 - Assess technical options and suppliers
 - Analyse cost and revenues:
 - Investment cost (e.g. new cover gas mixing and distribution system)
 - Operational cost and revenues (e.g. cover gas and carrier gas supply)

- > Carbon component of the project:
 - Analyse carbon credit eligibility/potential – tCO₂e
 - Determine the value of the credits – \$\$\$

Determine carbon credit potential

> Understand the framework:

- Demand for carbon credits:
 - Compliance instrument: Kyoto Protocol, EU ETS, domestic schemes (e.g. cap and trade, baseline and crediting)
 - Voluntary market: corporate responsibility, carbon offset programmes, Chicago climate exchange
- Link to offset projects – project-based mechanisms:
 - Developing countries → Clean Development Mechanism (CDM)
 - Central and Eastern Europe → Joint Implementation (JI)
 - Other industrialised countries
 - Offset programmes of domestic initiatives (e.g. NSW scheme [Australia], RGGI, California [US])
 - Some JI “Track 1” projects
 - Any country → Voluntary market

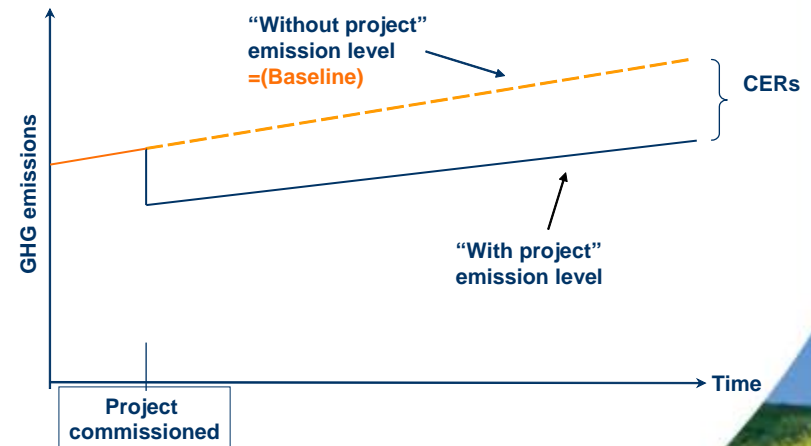
Determine carbon credit potential

- > Determine eligibility within the project-based mechanism:
 - Type of gas/projects covered:
 - Kyoto (CDM and JI): any SF6 emission reduction OK
 - Others: case by case (e.g. RGGI: accepts SF6 from electric T&D but not from magnesium production)
 - Additionality criteria (ERs additional to any that would occur in absence of the project)
 - Sustainable development criteria

Determine carbon credit potential

> Estimate quantity of emission reductions (tCO₂e) generated:

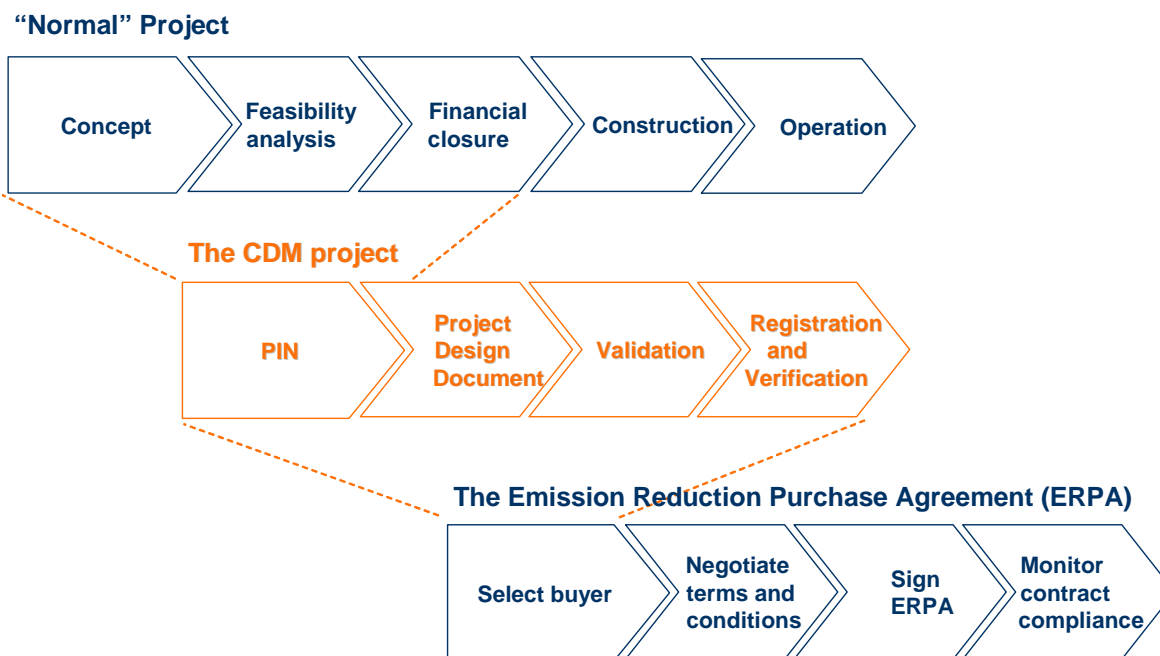
- Estimate current SF₆ use
- Estimate SF₆ use in the project
- Discount secondary sources of greenhouse gases (e.g. emissions of HFC134a)



→ *Methodology to calculate emission reductions (NM0193 – SF₆ Switch: Replacement of SF₆ with HFC134a as a cover gas in the magnesium industry)*

Develop the project

> CDM project cycle:



Monitor and commercialise emission reductions

- > CDM-specific monitoring:
 - Continuous monitoring of key parameters (e.g. cover gas and carrier gas use, Mg production)
 - Every year, submission of monitoring report with annual ERs achieved
 - Issuance of ERs (= carbon credit)
- > Commercialisation of credits:
 - Forward contracts
 - Spot market
 - Whole range of risks represented

Overview – key players

- > Project developer
- > Technology suppliers
- > Project sponsor
- > Carbon advisor
- > Carbon credit buyer

Thank you!

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