SF6 Emission Reduction Projects - Planning and Implementation support

A focus on carbon credit creation

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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
  – 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:

**“Normal” Project**
- Concept
- Feasibility analysis
- Financial closure
- Construction
- Operation

**The CDM project**
- PIN
- Project Design Document
- Validation
- Registration and Verification

**The Emission Reduction Purchase Agreement (ERPA)**
- Select buyer
- Negotiate terms and conditions
- Sign ERPA
- Monitor contract compliance

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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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