EDF TRADING
OFFSETS AS PART OF THE COMPLIANCE STRATEGY
Efficiency improvements, fuel switching (if portfolio allows) in short term

Repowering, restructuring plant portfolio, carbon capture and storage in longer term

Spot trading of EU allowances (active / passive)
Spot trading of CERs
Banking, borrowing

EU allowance/CERs forward contracts / derivative products
Primary CERs (and ERUs post 2008): bilateral, funds

Balance for each company is related on their own national and/or business circumstances
Greenhouse gas abatement cost curve provides a quantitative basis for discussions about what actions would be most effective in delivering emissions reductions, and what they might cost.

The values expressed in the curve are function of a wide number of variables such as technological innovation, fuel price, GDP growth, etc.
OFFSET OFTEN ARE A Viable ABATEMENT SOLUTION

— **External offset** projects tend to represent a **cheaper abatement solutions**

— This is the result of a **different marginal abatement cost** that some sectors or geographical areas have compared with your industry or your area

— Offsets are a **riskier instrument** compared to allowances. **The risk need to be managed**
DIFFERENT OPTIONS FOR OFFSETS PURCHASING

EUA MARKET

CER
SECONDARY MARKET

CER
PRIMARY MARKET

PRICE
RISK
## OPTIMIZATION VALUE

### My position

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Operating hours</th>
<th>Specific Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 GW</td>
<td>5,000</td>
<td>1 kg CO₂/kWh</td>
</tr>
</tbody>
</table>

- **Reduction target**: 10 %
- **Offset limit**: 10 %

- 50 M ton CO₂eq/year
- 45 M CEU - free allocation
- 5 M CEU/CCER to be bought

### Optimization value

**Chart**:
- CCER = 60 CNY
- SEC CCER = 48 CNY
- PR CCER = 38.4 CNY

- 60 M CNY value of utilizing secondary CCER
- 108 M CNY value of utilizing primary CCER

Compliance costs can be material. Optimizing sourcing and managing actively the position can produce important savings.
IDENTIFYING THE RISKS

Regulatory risks
- Scheme changes
- International regulatory framework changes

Contractual risks
- General risks regarding contracting and dealing with counterparties
  - Credit risk
  - Counterpart risk
  - Reputational risk

Market risks
- Domestic and international/primary and secondary
  - Currency risk
  - Price risk
  - Volume risk

Project risk
- Project development and environment
  - Approval process related risks
  - Unit eligibility risk
  - Force majeure risk
REGULATORY RISKS

— Regulatory environment in emission market is still in evolution and subject to changes that bear profound consequences

— The country hosting the ETS can unilaterally decide not to accept certain project categories or implement barriers (e.g., industrial gases ban from EU ETS or WCD compliance imposed to large hydro from China)

— Failure in international negotiations can compromise the eligibility of projects as offsets in ETS (non LCD CDM and EU ETS)

— Change in host country law that may undermine the project ability to operate

Mitigation

— Condition precedents in ERPA referring to the eligibility in the reference ETS

— Regulatory presidium in place

— “Change in Law” clause that allows parties to renegotiate
CONTRACTUAL RISKS

— Contractual risks can be related both to the **general agreement structure** and to the **contractual counterpart**

— **Prevailing language, governing law and place of arbitration** can represent potential risks if not well known

— **Transfer of property, title and payments**, if badly regulated can be source of disputes

— **Insufficient credit worthiness** of the counterpart can cause loss

— **Social, environmental malpractices and/or unlawful behaviour** of the counterpart can cause not only financial loss but also reputational damage to your company

### Mitigation

— Utilization of **international ERPA models and British Law**

— **Representation of full title over all CERs from PO**

— **Extensive DD** in all project aspects
PROJECT RISKS

— Project fails to achieve registration, for example due to:
  — failure to obtain Host Country LoA;
  — failure to be successfully validated by a DOE; or
  — rejection of project following review by the CDM Executive Board

— Particular projects conditions make the project vulnerable to force majeure events

— Project fail to obtain local permission (e.g. EIA approval)

Mitigation

— Include a precondition in ERPA that payment and delivery obligations are ineffective until project is registered;

— Buyers may be able to require indemnity from seller for buyer’s costs e.g. advance and project development costs, if project fails to become registered;

— Minimize pre-payment

— Extensive DD
— If the commodity is paid in a **currency** different from the one of the reference market the resulting risk need to be hedged (at a cost)

— Ensuring a **fix price** for future deliveries leave the buyer exposed to **market fluctuations**

— **Volumes** of futures deliveries are difficult to forecast, in case of fix price and/or compliance use insufficient volumes can create net position with relative exposure

— In some cases **market liquidity** can be insufficient to hedge large volumes

**Mitigation**

— **ERPA currency** should be the one of the reference market, alternatively the currency risk should be properly hedged

— The **volume contracted at fix price** should be **risk adjusted and properly hedged**

— Include in the ERPA the obligation for the PO to **regularly report** operational data of the project

— For large volume use **distributed delivery periods**, adjustable in case of insufficient liquidity
CONCLUSION

— A lot of value can be extracted optimizing the use of offsets
— Using offsets introduces risks that need to be properly managed
— Key elements in the mitigation of the risks are
  — Regulatory presidium
  — Utilization of standard international contract template
  — Robust KYC and Due Diligence procedures
  — Proper financial risk management
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