

Corporate Carbon Accounting and Monitoring

Developing Internal Carbon Strategies

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Paul Curnow
Partner, Baker & McKenzie

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Carbon accounting and risk management in the context of the Korean ETS (KETS)

1. It is important to have carbon management strategies in the context of a cap and trade scheme
2. Accurately measuring carbon is critically important for compliance with the KETS compliance obligations (reporting and surrendering)
3. Carbon accounting is also important to achieve the lowest cost abatement now and going forward (i.e. should we bank permits?)

Where will carbon costs arise under KETS?

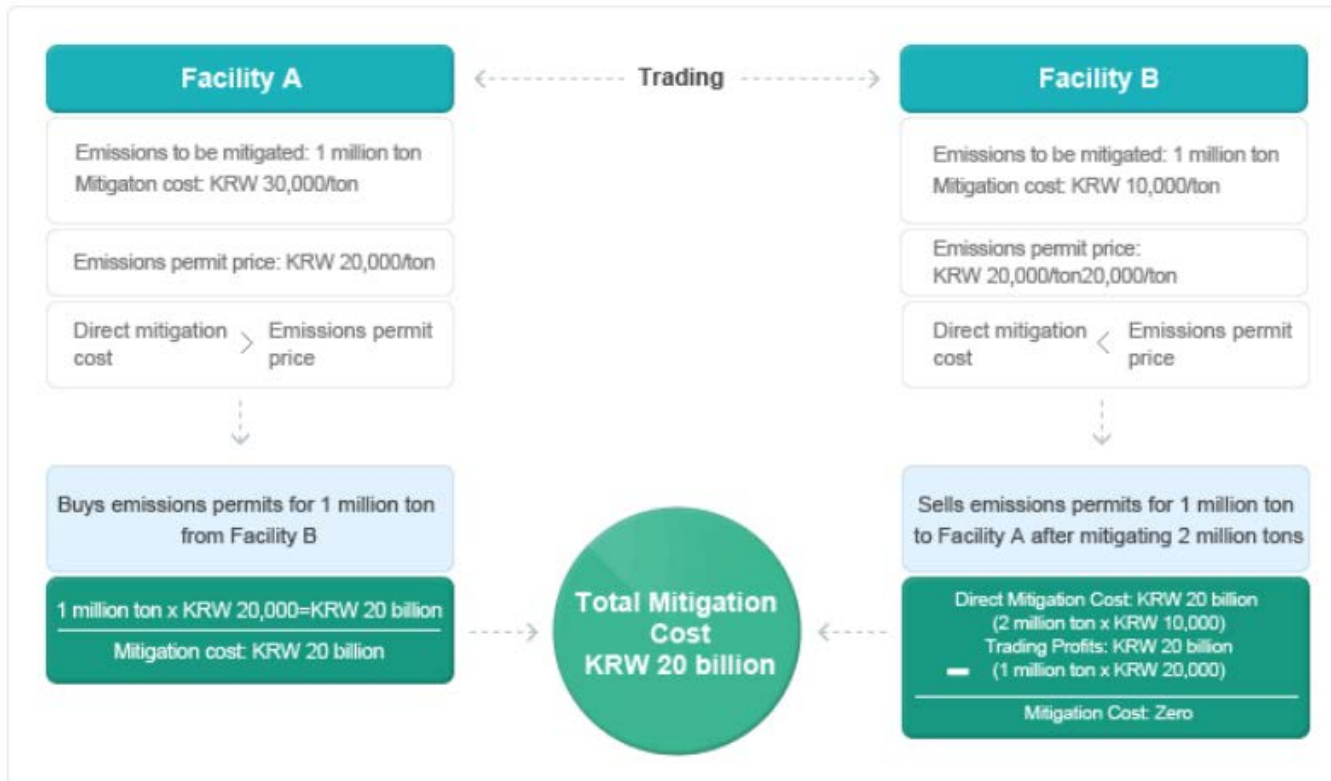
- Direct costs
 - Assessing and managing the cost of abatement
 - Developing internal mechanisms
 - Engaging experts and consultants
 - Establishing liability
 - MRV and carbon accounts
 - Unit surrender, abatement measures and buying measures
- Indirect Costs
 - Carbon cost pass through

Direct costs – MRV and Projections under KETS

- Establish Monitoring, Reporting and Verification (MRV) mechanisms to comply with KETS requirements
- Country-level targets are broken down to company and facility-level targets
- 525 liable entities, including 5 domestic airlines
- Reporting of emissions must be done annually and submitted within three months of a given compliance year (end of March) by “business entities eligible for allocation of emission permits”:
 - companies with annual emissions over 125,000 tCO₂e; or
 - individual installations with annual emissions over 25,000 tCo₂e
- The Certification Committee of the Ministry of Environment must then review and certify emissions reports within five months from the end of a given compliance year (end of May)
- Emissions reports must be correct and done in a measurable, reportable and verifiable manner - any failure to do so will lead to disqualification of reports
- Data collection systems should be established as early as possible and be continuous
- Ensure data collection protocols are of equivalent standard or better than in the KETS
- Internal governance is key:
 - need buy-in from all levels of company, from data collectors to senior management
 - ensure deadlines are integrated into internal reporting cycles
- Use modelling tools to protect future emissions by compliance period

National Action Plan: 2015

Under ETS

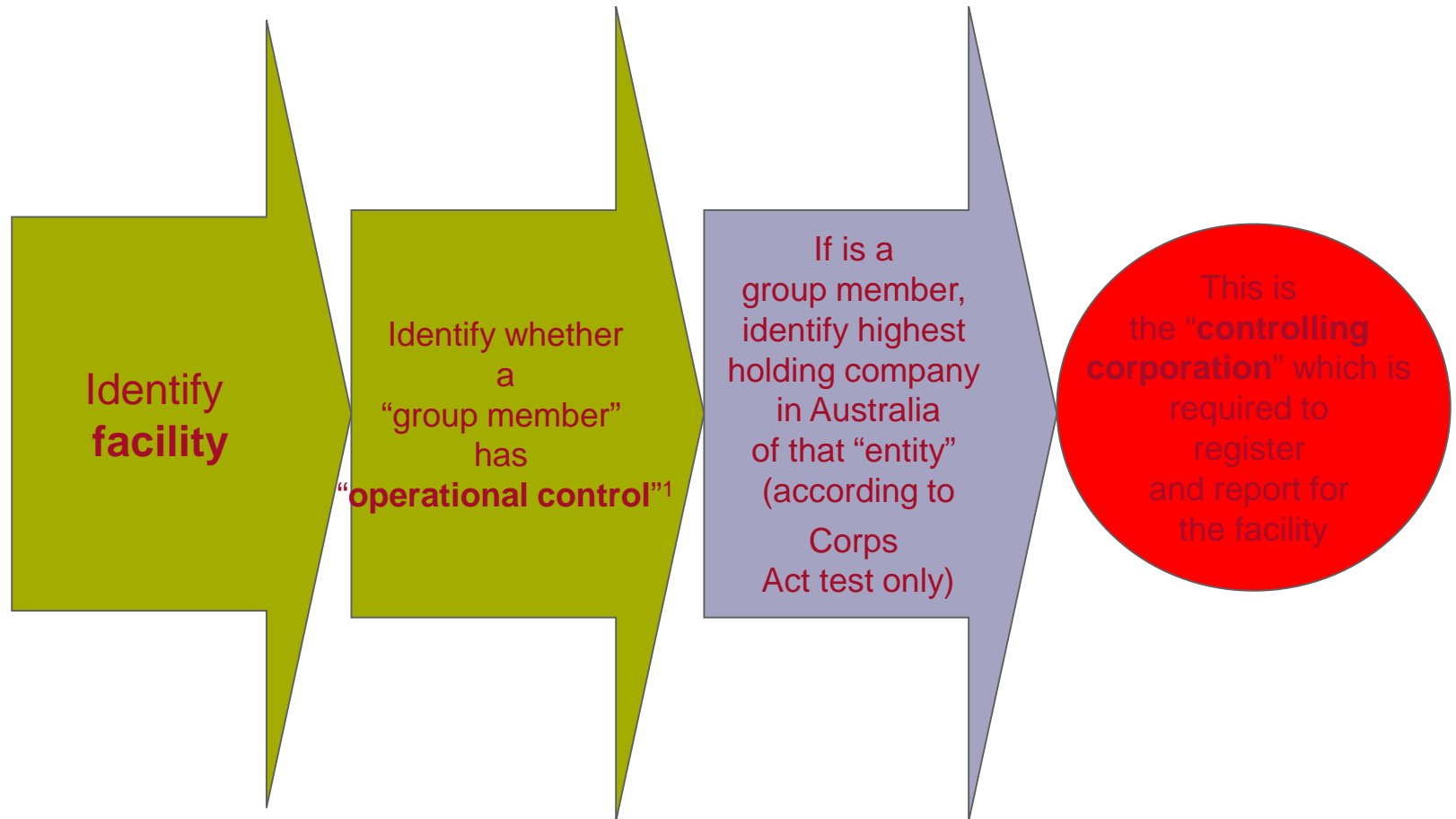


Source: <http://www.gir.go.kr/eng/index.do?menuId=11>

Australia: MRV / projections under National Greenhouse and Energy Reporting Scheme (NGERS)

- Commenced 1 July 2008
- Reporting scheme under which liable entities required to report on their energy use and GHG emissions
- Building block for the carbon pricing mechanism
 - data reported under NGERS used as basis to assess surrender liability
- Legislation/regulations:
 - *National Greenhouse and Energy Reporting Act 2007*
 - National Greenhouse and Energy Reporting Regulations 2008
 - National Greenhouse and Energy Reporting (Measurement) Determination and other policy guidance

NGERS: key steps to identify entities that are obliged to report



¹If a JV or partnership has operational control, it is considered a member of each and every group that is participating in the JV or partnership unless the participants can agree that one participant takes responsibility for that JV or partnership

(so that each such group must report the whole of the facilities' emissions)

Example - What do energy companies have to report under NGRS?

- Broadly NGRS regulations requires energy companies to report separately on different types of “facilities”:
 - Distribution and Transmission
 - Retail
 - Generation
- Need to collect data separately for each facility
- All energy company activities need to be allocated to one of these facilities (and back office functions need to be apportioned appropriately between the facilities)

Example - Reporting distribution & transmission under NGERs

- For Distribution and Transmission facilities, the energy company must report:
 - Electricity used at all sites forming part of that facility (eg substations, offices, construction sites)
 - Electricity used at head office that is attributable to Distribution/ Transmission work
 - Network losses
 - Fuel use and emissions from fuel (petrol, diesel, gas – used at sites and in fleet) relating to transmission/ distribution
 - SF6 emissions (from switchgear & circuit breakers)

1. Identify how much of the emissions liability can be moved around within corporate group

- Key objective: optimise liability structures amongst business entities eligible for allocation to minimise cost
- Assess whether liability can be transferred between eligible business entities
 - joint ventures – how are they accounted for?
 - is the company which controls the facility liable, or is it the ultimate holding company?
- Ensure any liability transfer is well-documented, with clear rights and obligations, especially if transferring to an unrelated entity
- Other approaches to reducing liable emissions, including energy efficiency measures

2. Identify how much abatement can be achieved below the market price

- Need to consider different contractual models such as spot price purchase or forward price contracts
- Existing contracts
 - is there a cost pass-through clause?
 - is there a change in law clause?
 - any other ways to avoid or pass-through costs – force majeure, events of default, frustrations?
 - who are the contracting parties?
- New contracts
 - ensure drafting encompasses key elements / costs of the Scheme
 - try to anticipate future developments
- Domestic credits from external reduction activities by non-ETS entities implemented after 14 April 2010 can be used for compliance (including domestic CERS) during Phase I (2015-2017) and Phase II (2018-2020). Up to 50% of total offsets can be covered with international offsets under Phase III (2021-2025)

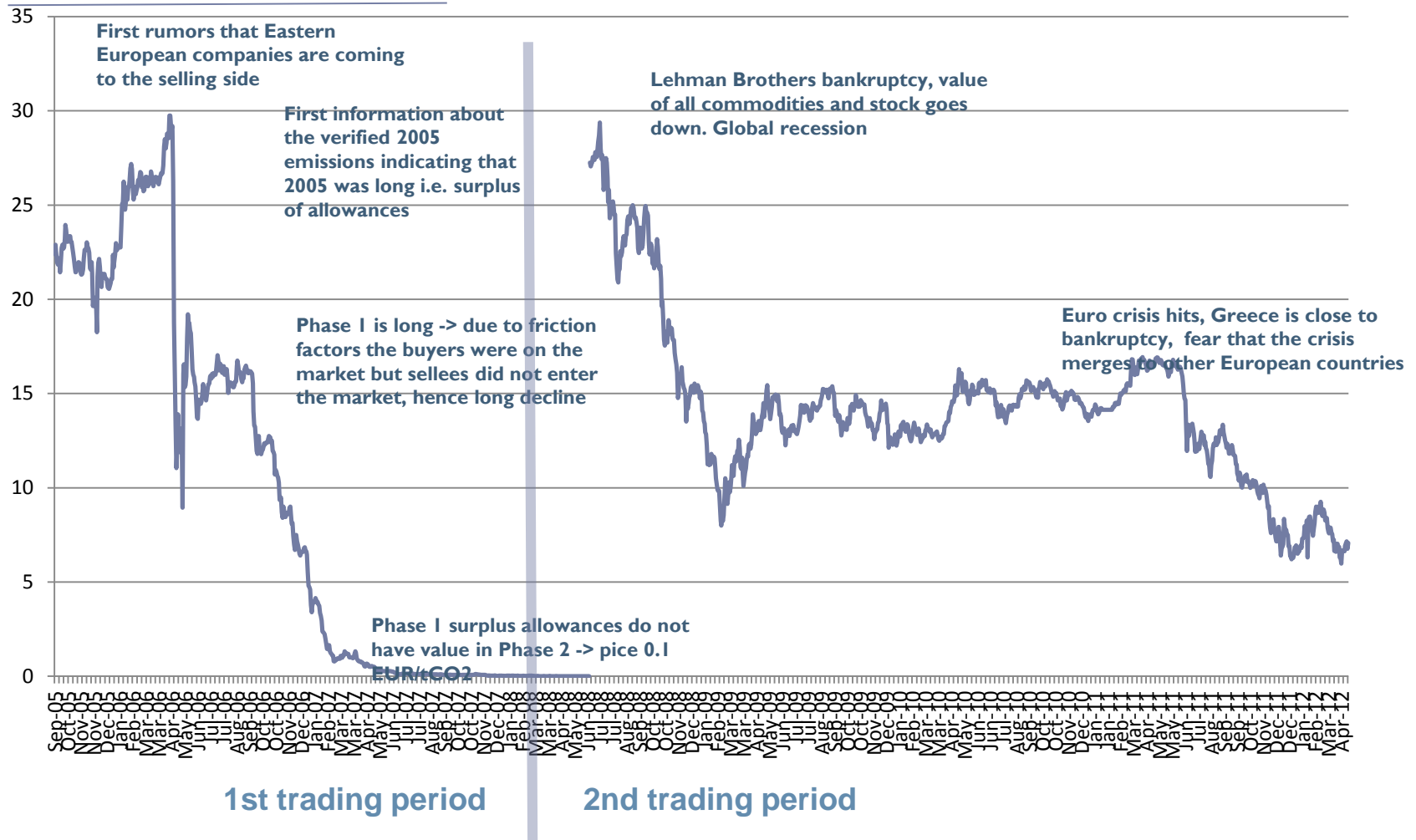
3. Identify how much abatement will need to be bought at market price and how to manage

- Business entities eligible for allocation under the KETS must prepare an application for emission permits, which should include the following
 - total number of emission permits applied for the commitment period
 - number of emission permits applied for in each compliance year
 - amount of GHG emissions during the three years immediately preceding the year in which entity was designated eligible
 - plan to expand or alter facilities during commitment period
 - plan to introduce facilities and technologies for reducing GHG during commitment period
 - estimate of increase or decrease in GHG emissions upon implementation of plans
 - statement for the preceding year (reporting and verification of amounts of emissions)
- An emissions permit register is maintained to register and manage the allocation and trading of emission permits

3. (cont.) The nature and risks of carbon markets

- The significance of market risk depends on how the scheme is designed
- Political influence constantly present
 - Regulatory changes
 - Regulatory loopholes
 - International scope
- Relatively new market, volatility typical
- Heterogeneous group of companies who came from very differing starting points

3. (cont.) Case: turbulence in the developing EU market



3. (cont.) Remarks on carbon price risks

- Volatile price increases market risk and makes the decision making more challenging
 - A robust hedging strategy is needed
 - Time and product diversification is important
 - Volatile market increases market activity
- In a flat oversupplied market short term supply can be a challenge
 - Decreases selling interest and overall market activity
 - Finding counterparties can be more challenging
 - Time diversification important

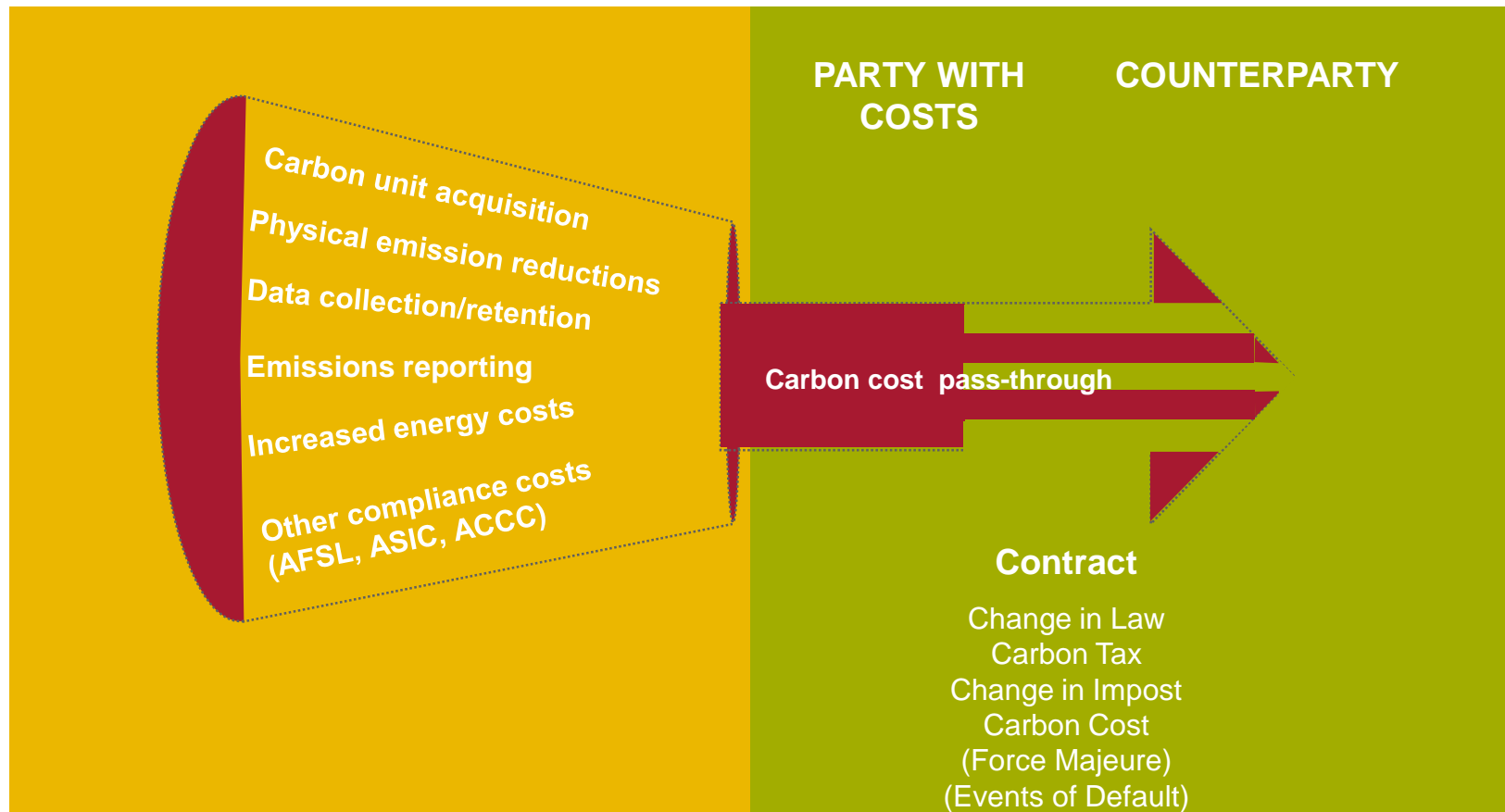
3. (cont.) Remarks on carbon price risks

- Scheme design impacts on hedging opportunities
 - Is banking and/or borrowing allowed
 - Can offsets be used for compliance
 - What kind of products are available (spot, forwards, options...)

4. Manage incurred costs using contractual terms to avoid or minimise carbon cost pass-through

- Consider whether carbon costs can be 'passed-through' to contractual counterparties or business partners
- This will depend on the status of commercial relationships and any relevant contractual terms
- Examples
 - electricity generators – pass increased fuel costs through to retailers or retail customers
 - cement manufacturer – increased input costs from increased electricity and transport prices; seek to pass this through to customers

How does carbon cost pass-through work?



Cost pass-through – Pass-through clauses

- Particularly important to non-manufacturers in agri and food sector because not themselves covered entities
- Enable one or both parties to pass to the other or a third party all or part of a new or anticipated cost imposed on one or both parties after contract execution
- Key questions:
 - is the clause prescriptive or general?
 - what is in and what is out – inclusive or exclusive?
 - can liability be voluntarily assumed
 - any quantified limit on cost pass-through?

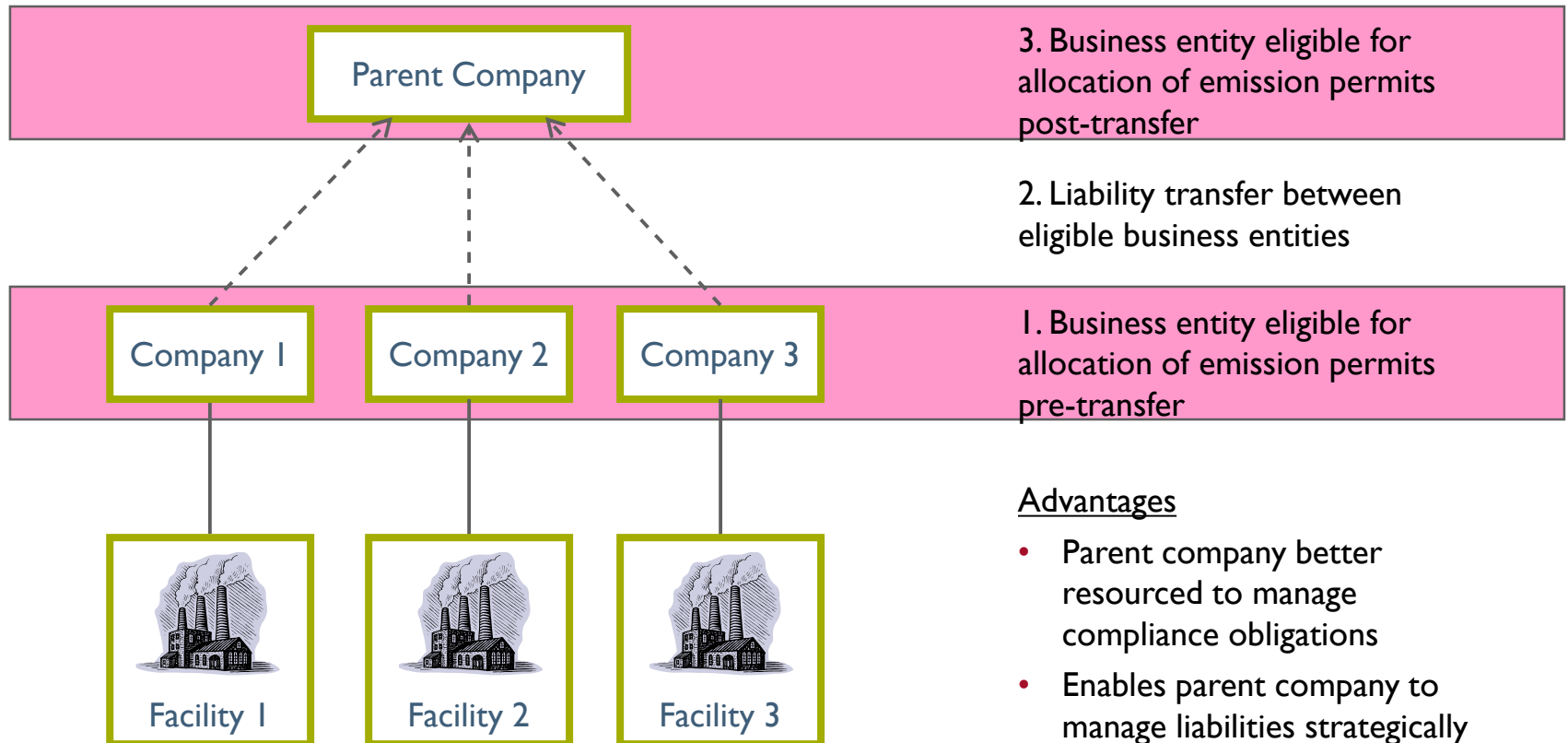
Cost pass-through – Change in law clauses

- Generally impose a good-faith obligation on the parties to negotiate amendments required to keep a contract on foot in the event of a change in law
- Provide a way to allocate between the parties new costs imposed on one
- Key questions:
 - how broadly or narrowly is “Change” or “Change in Law” defined?
 - what are the specified change in law triggers?
 - are there any timing constraints?
 - how strong is the obligation to negotiate/amend?

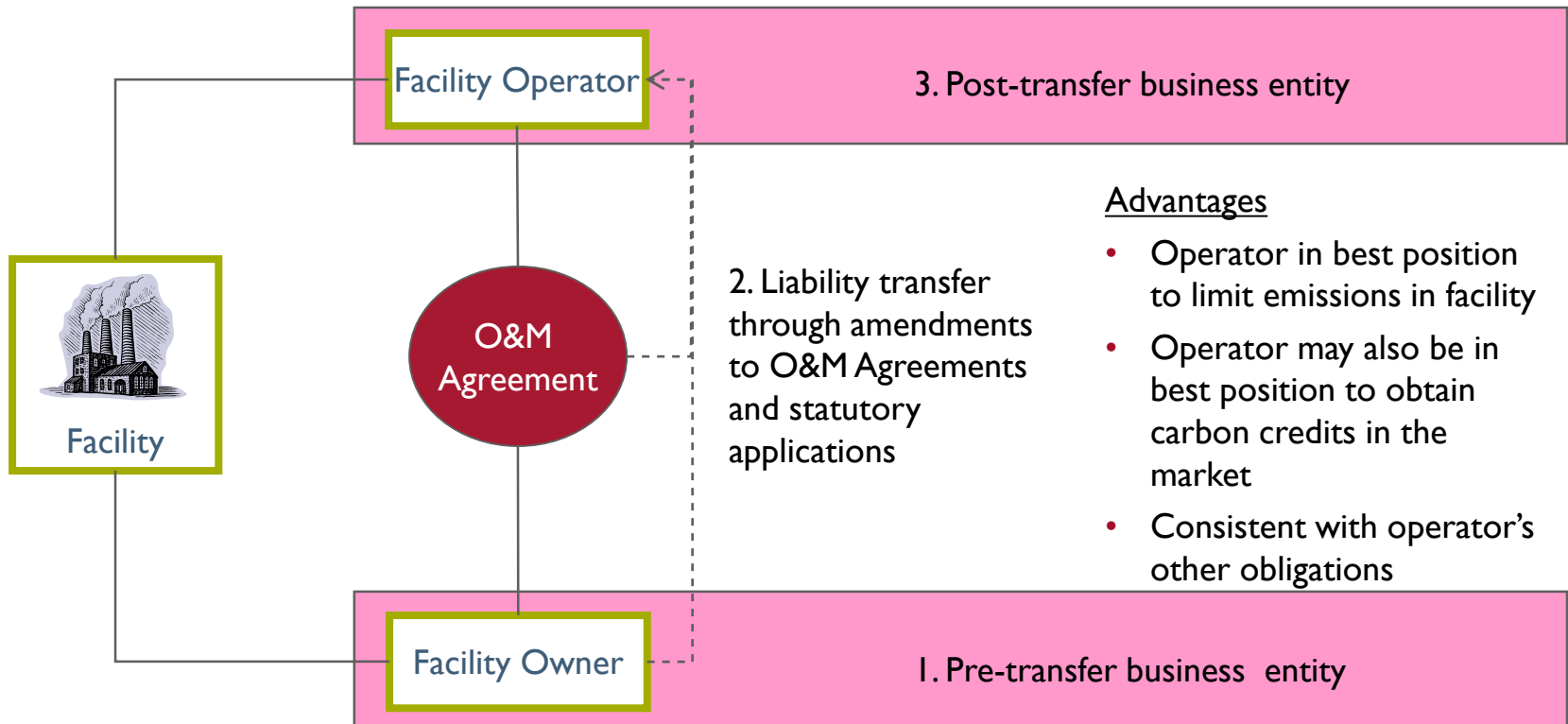
Conclusions

- Develop a view early on key legal issues: coverage, scheme boundaries, tracking sales
- Ensure that you have compliance matrices which set out all key dates for all relevant schemes
- Develop internal compliance resources e.g. CFO function
- Discuss with financiers and counterparties
- Build relationships with key regulators
- Be proactive in developing a company carbon market strategy
- Aim to be involved in policy development and be realistic about what is achievable

Case study of a power station – Liability transfer within corporate group of business entities eligible for allocation under the Korean ETS



Case study of a power station – Liability transfer to facility operator



Thank you

Paul Curnow

Partner, Baker & McKenzie

paul.curnow@bakermckenzie.com

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