

Experience of the Paper & Pulp Sector within CCA

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Talk Coverage

- UK paper sector
- Development of CCAs & other energy schemes
- Impacts on the UK sector
- Scheme management
- Data management
- Trading
- Summary

The UK Paper & Pulp Sector

- 2001 - 90 paper mills, producing 5.5m tonnes
- 2010 - 50 paper mills, producing 5.0m tonnes

Overall UK consumption 12-13m tonnes (& declining), with most imports coming from other parts of the European Union

Only two UK pulp mills – all others use recycled paper or imported pulp

High recycling rates - but over 50% exported

Energy use in the sector

- Extensive use of CHP (due to steam required for drying)
 - gas/biomass/waste fired – either owned by the mill or a third party (issues with target boundaries)
- Direct firing mostly gas (only one coal mill)
- If grid purchased electricity – approx Gas 52%, Coal 16%, Nuclear 27%, Renewables 5%
- Total energy about 20 terra watt hours & falling
- Total energy use 35% less than 1990 (4.5m t)
- Energy plus raw materials & labour key variables
- Energy cost impacts on international competitiveness

Background

- CCAs first actual govt set targets for energy efficiency
- Voluntary agreements and give 80% tax relief of CCL for achievement of sector targets which reduce either energy or emissions
- 50 sectors across industry and mostly adopted specific energy (kWh/t) targets (not carbon targets)
- Required to pass 5 biennial milestone targets (plus the later addition of 2 extra annual targets for those opted out of EU ETS Ph I)
- CCA are valuable – current estimate is the value of the levy discount to the sector is approx £15M p.a. or over 2001-2012 about £180 Million
- Value to a small mill today 7% of its annual energy bill

Background & management

- CCA targets pass at sector level – for the paper sector the responsibility of the Trade Association
 - the formation of a separate company to manage CCA
 - the introduction of additional agreements with mills
 - rigorous monthly data collection and validation systems
 - subsequent decisions to independently verify all target achievements and bank or trade allowances created by over-achievement to safeguard future Milestone performance
 - Trading carried out at sector level

UK Policy Instruments

- Climate Change Levy (2001)
- Climate Change Agreements (2001-12 and extended in new form to 2017)
- Good Quality CHP Scheme (2002 ongoing)
- Renewables Obligation (2002 and revised)
- EU ETS (2005–2012) and Phase III 2013
- Carbon Reduction Commitment (2009+)
- Climate Change Bill (2008)
- Carbon Tax?

CCA facts & figures

- 1990 – 6,500
- 2002 – 4,465 (target 4,623)
- 2004 – 4,270 (target 4,453)
- 2006 – 4,046 (target 4,287)
- 2008 – 3,927 (target 4,235)
- 2010 target 4,200
- 2010 onwards targets to be re-negotiated

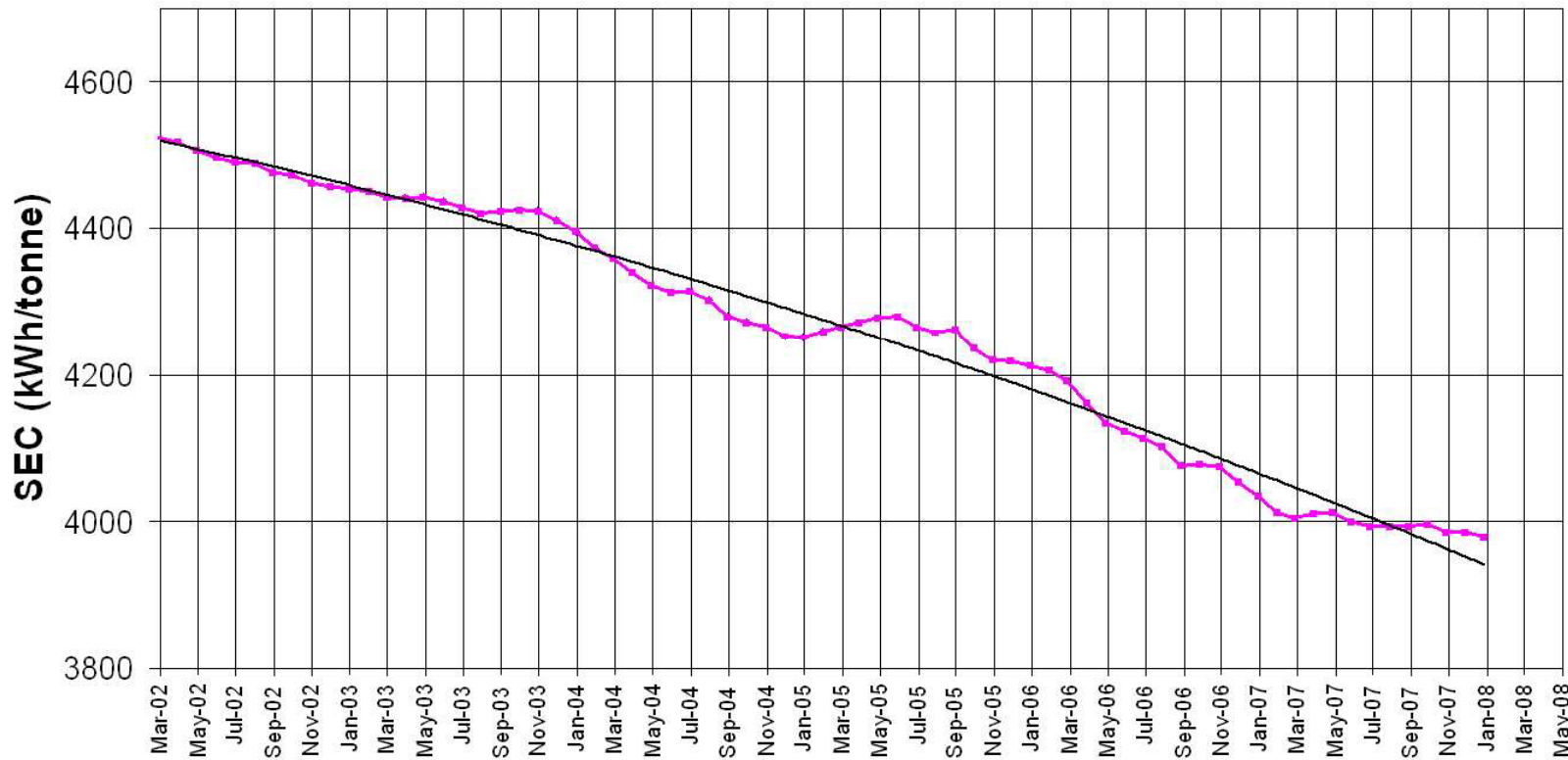
Double count adjustment with over-performance in EU ETS
means likely sector fail at 2010

Overall about 40% lower SEC than in 1990

Figure is sector average Specific Energy Consumption required to produce
one tonne of product in kWh

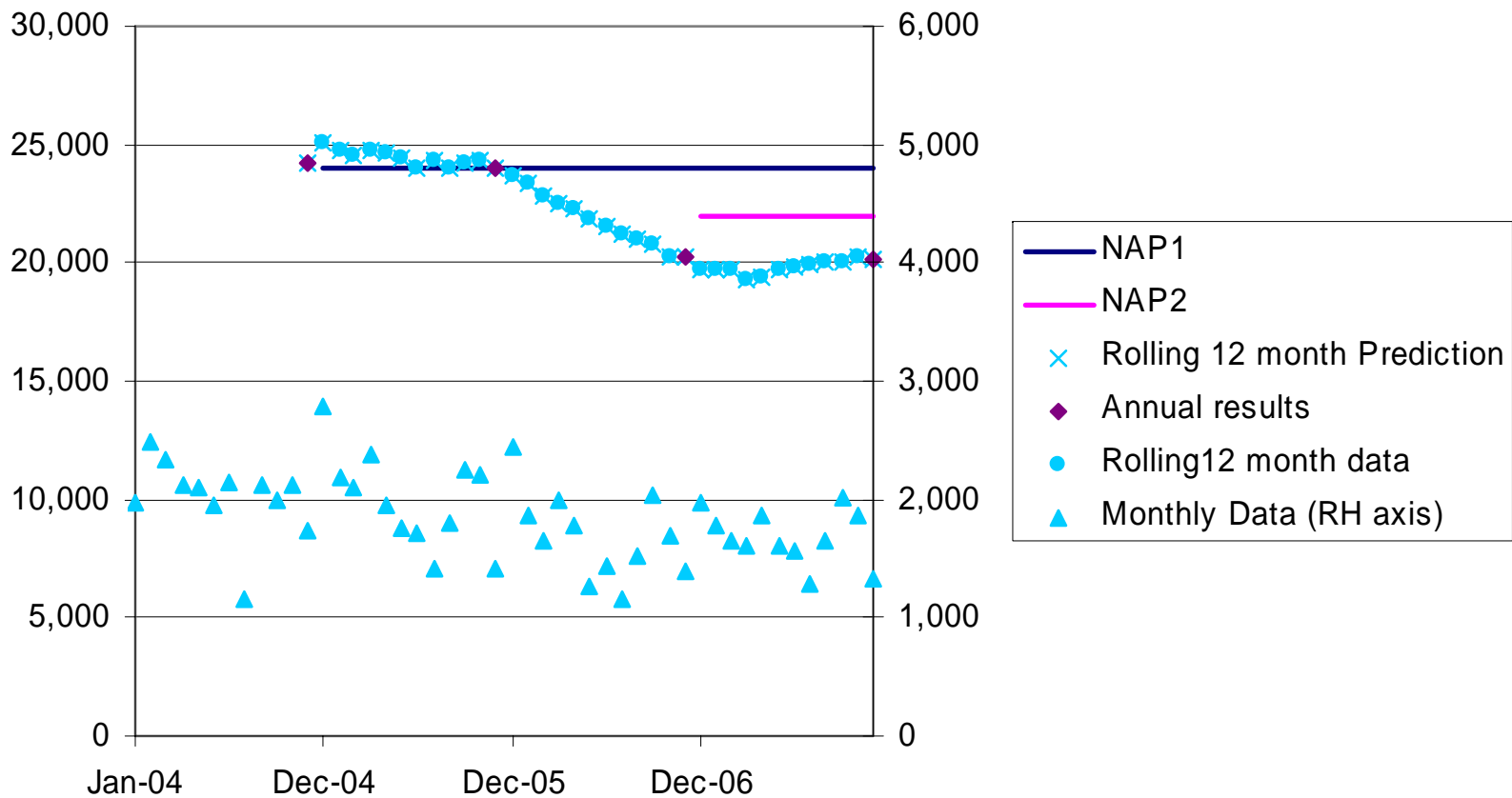
Sector rolling SEC over preceding 12 months

Whole Sector rolling SEC over preceding 12 months

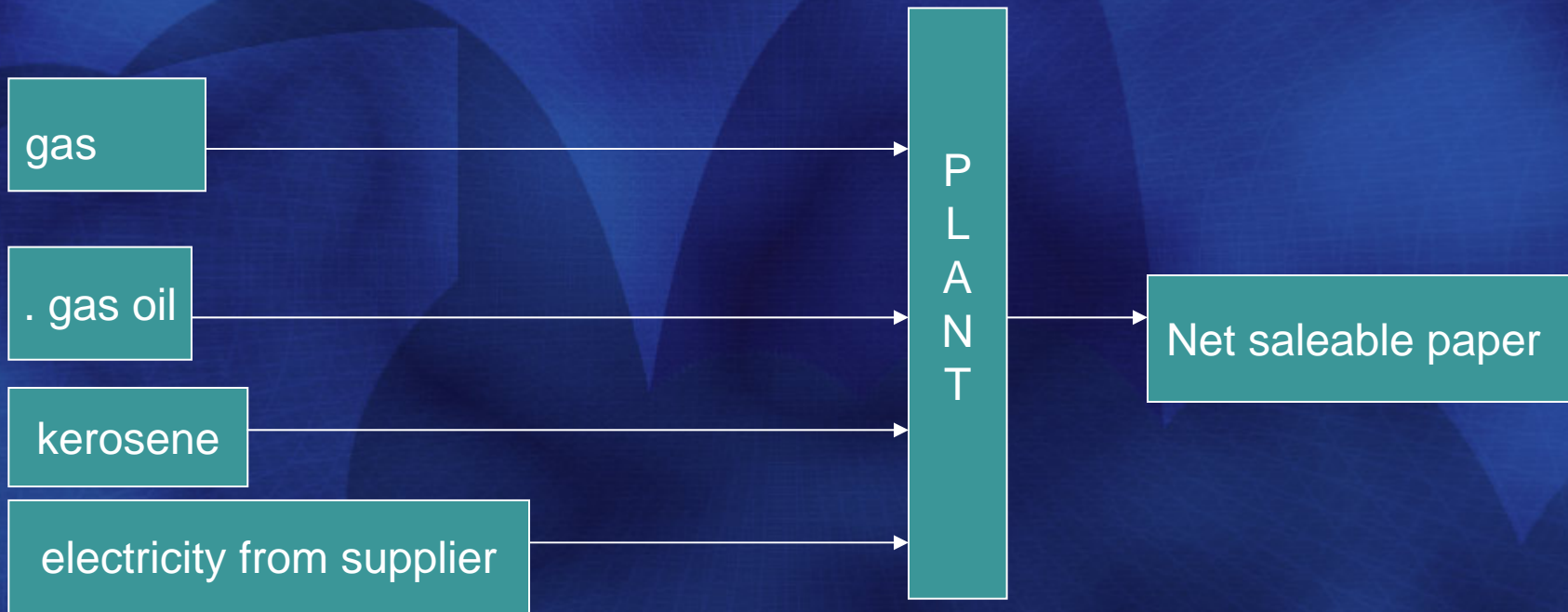


Central database

Arbitrary Mill, tonnes CO2 emission



Energy Schematic – basic mill



Trading Issues – Background

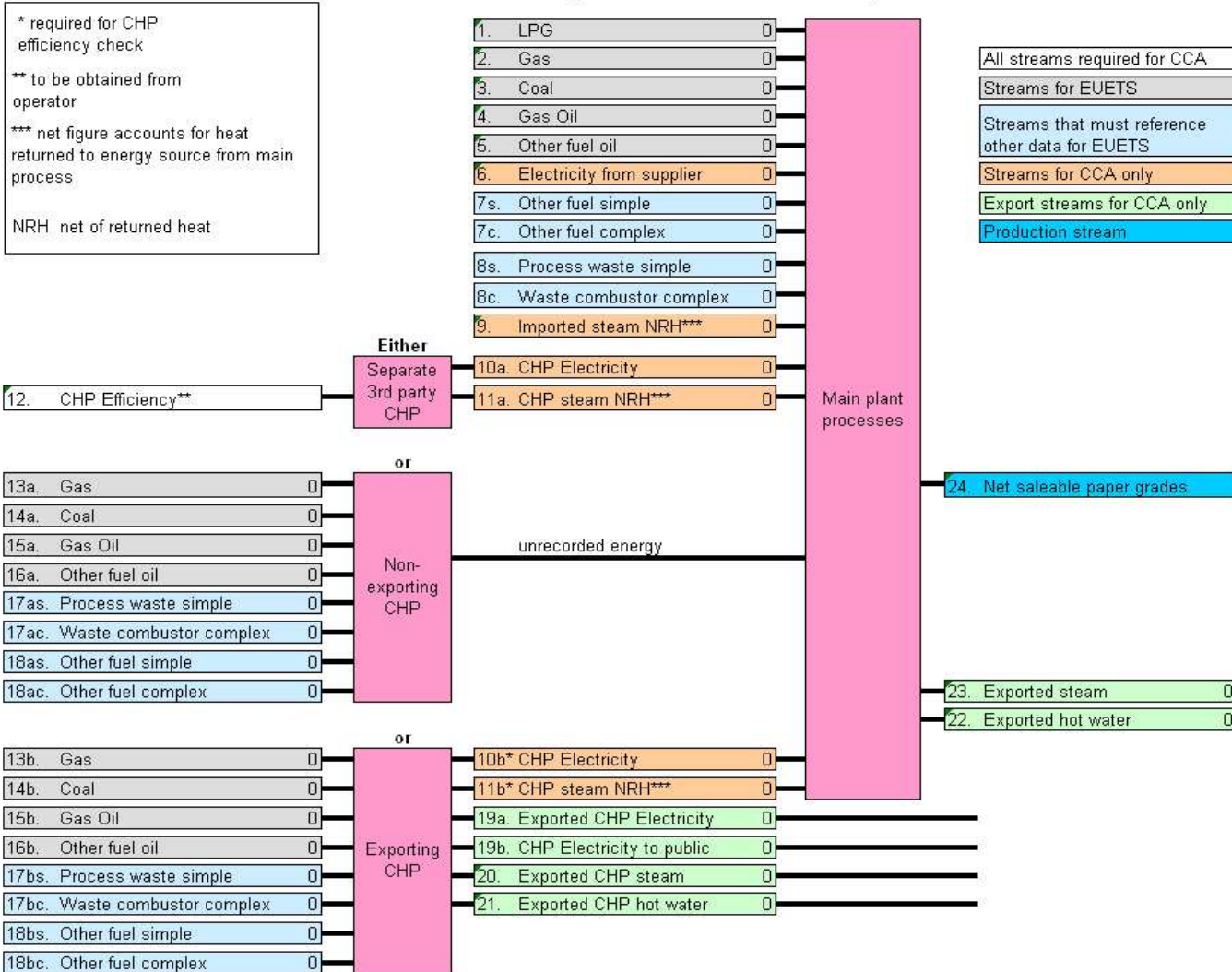
- Trading is fundamental to the concept of compliance
- Provided the cost of allowances is below the cost of compliance this satisfies the overall target at lowest cost
- Improvements to energy performance mean saving to fuel cost as well as possible trading income
- Key focus is to pass targets to keep CCL discount
- Trading at sector level and to date we have sold allowances
- Main trading via EU ETS
- All Installations have registry accounts in the relevant MS
- These registries connect with the CITL – the Community Independent Transaction Log

Annual Report EU ETS

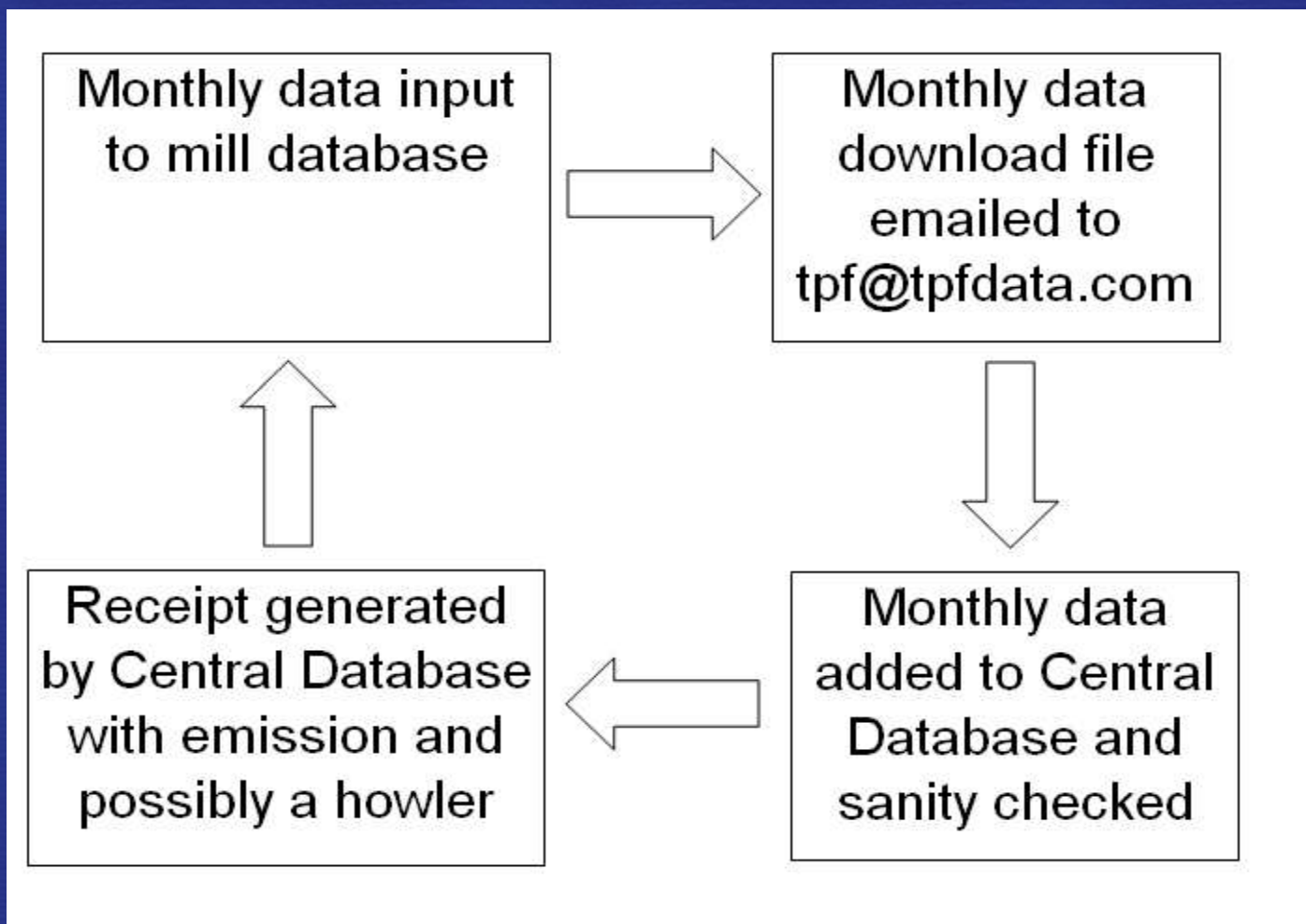
* NCV - Net Calorific value			
Type of fuel:	Natural Gas fuel stream ref 2		
Sources included	S1 Boiler		
Parameter	Units	Data	Tier applied
Activity data (mass/vol.)	m ³	1,195,254	Tier 2a
(NCV)*	TJ/m ³	0.0000353	Tier 2
Emission factor	tCO ₂ /m ³	0.00201246	Tier 2a
Oxidation factor	no units	0.995	Tier 1
Emissions	tCO ₂	2,393.37	

General Energy Reporting Schematic

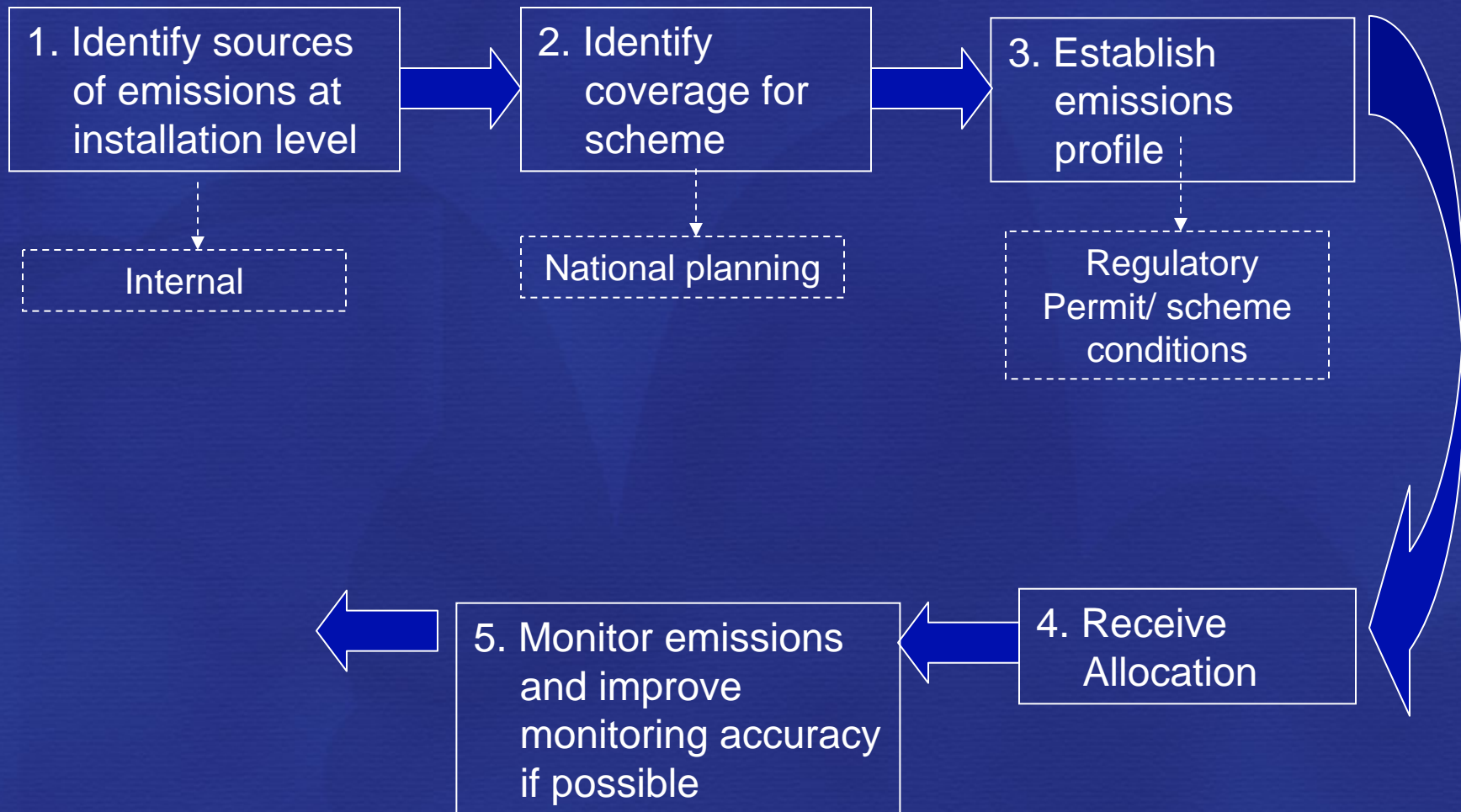
General Energy/Production Schematic for the Paper Sector



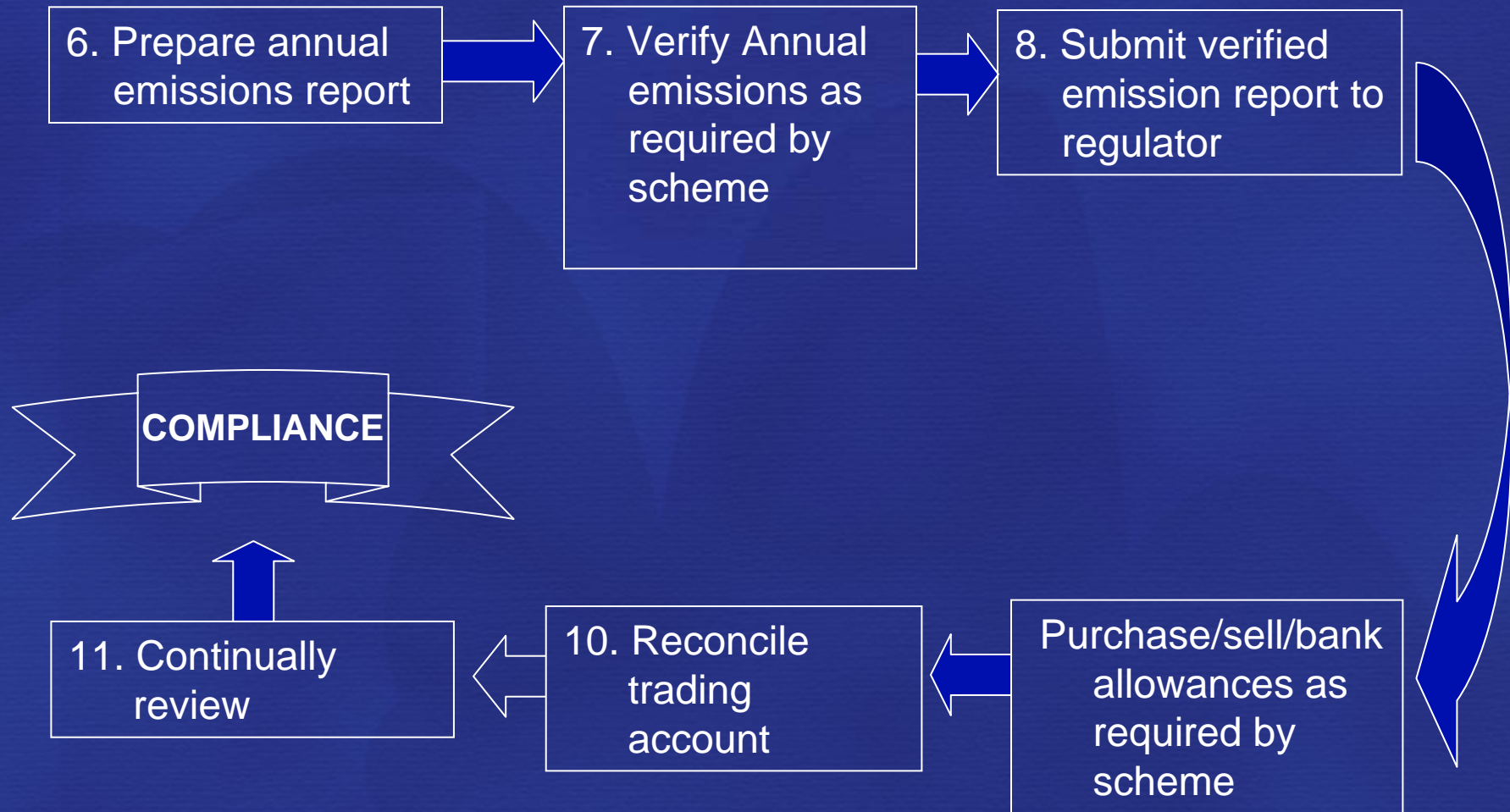
Dataflow to and from mill



Managing & Reporting Emissions (1)



Managing & Reporting Emissions (2)



Phase II Key Documents

1. Consolidated GHG Emissions Permit
2. Monitoring and Reporting Guidelines
3. Defra guidance notes
4. Competent Authority Docs:
 - ETS 5: Annual report on improvements towards the use of the highest tier approach for monitoring of major resources
 - ETS 6: Annual report on potential improvements in monitoring
 - ETS 7: Annual emissions report
 - ETS 8: Notification of temporary closure
 - ETS 9: Permit variation request

Overall experience from UK Paper Mill Operators

- Adds to costs & administration
- Not welcomed at the time, but could have been worse!
- Certainly forces very close look at energy use
- Provides management with data
- Informs investment decisions
- Incentivises sharing of ideas & networks energy managers
- Target setting difficult especially in early days – historic data?
- Questions raised over meter accuracy
- Data from CCA helped with EU ETS
- Data confidentiality issues
- Govt have listened to concerns & closely worked with industry
- Now accepted as cost of doing business & mill staff are experts!

Thank You

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