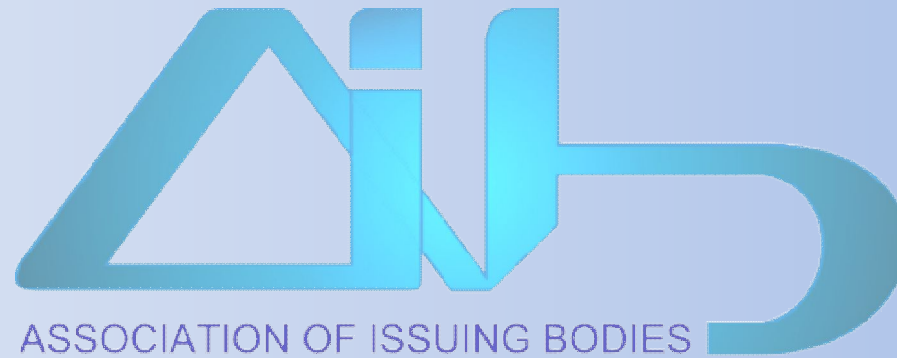


Creating a Market for Renewable and CHP Certificates



Phil Moody – AIB Secretary General

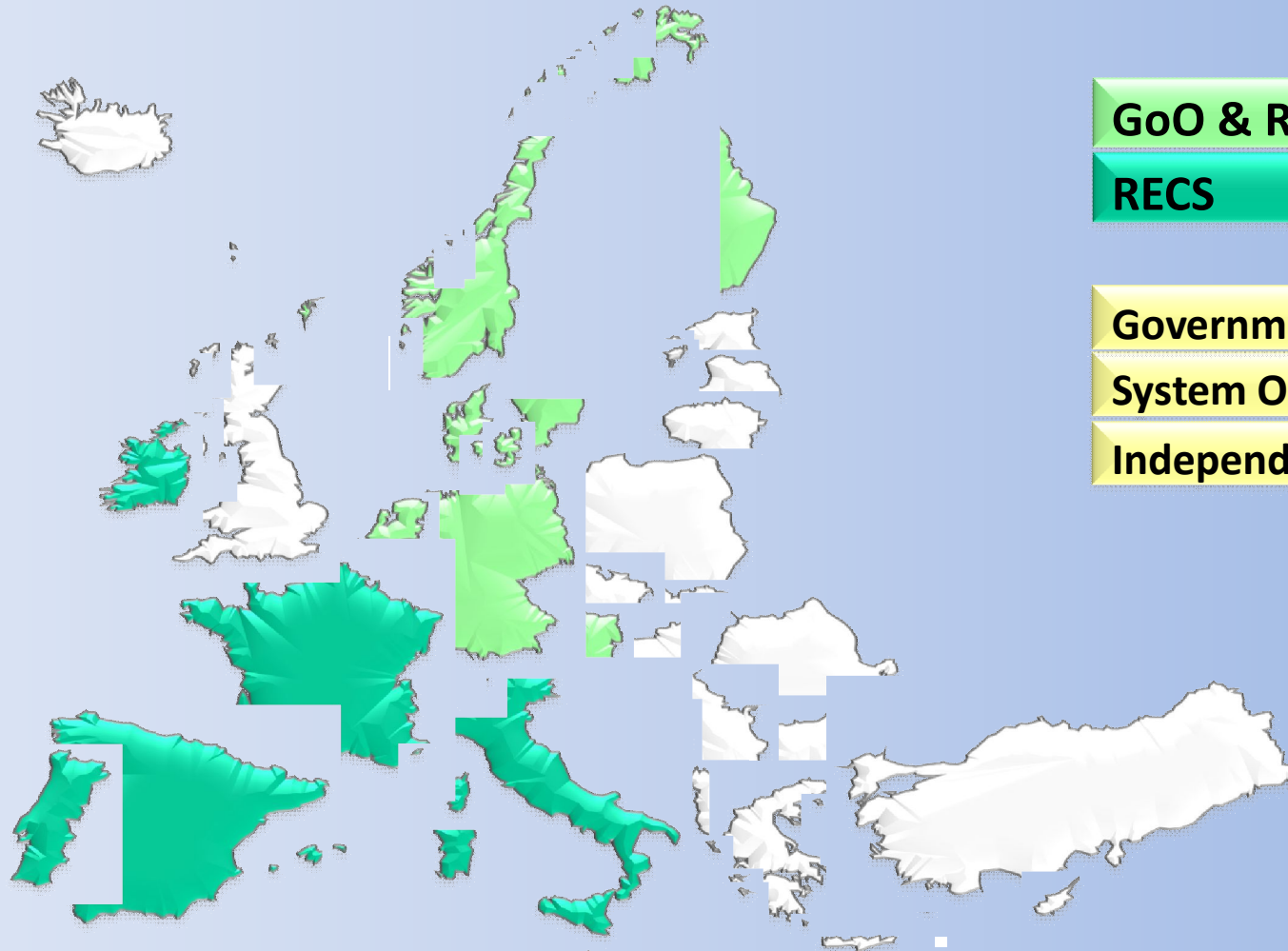
**EUROHEAT & POWER 33RD CONGRESS - CHP / DHC: BUILDING OUR FUTURE
19 JUNE 2007 – SCANDIC, COPENHAGEN**

Title | 02 July 2009 | Slide: 1

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The AIB – members



GoO & RECS

RECS

Governments (4-5)

System Op. (9)

Independent (4)

All government-appointed issuers of electronic transferable guarantees of origin from mainland Europe are members of the AIB

AIB History

Year	Action
1999 - 2002	Developing and testing the concept
2003 - 2006	<p>PRODUCT DEVELOPMENT: The European Energy Certificate System (EECS) a single system for several types of certificate</p> <ul style="list-style-type: none"> • Obligatory <ul style="list-style-type: none"> ➤ <i>RES guarantees of origin (Directive 2001/77/EC)</i> ➤ <i>CHP guarantees of origin (Directive 2004/8/EC)</i> • Voluntary <ul style="list-style-type: none"> ➤ <i>RECS certificates</i> ➤ <i>Disclosure certificates for fossil & nuclear (Directive 2003/54/EC)</i>
2007	Central communications HUB
2008...	White certificates (energy efficiency) RES heat Biofuels Biodiesel Biogas

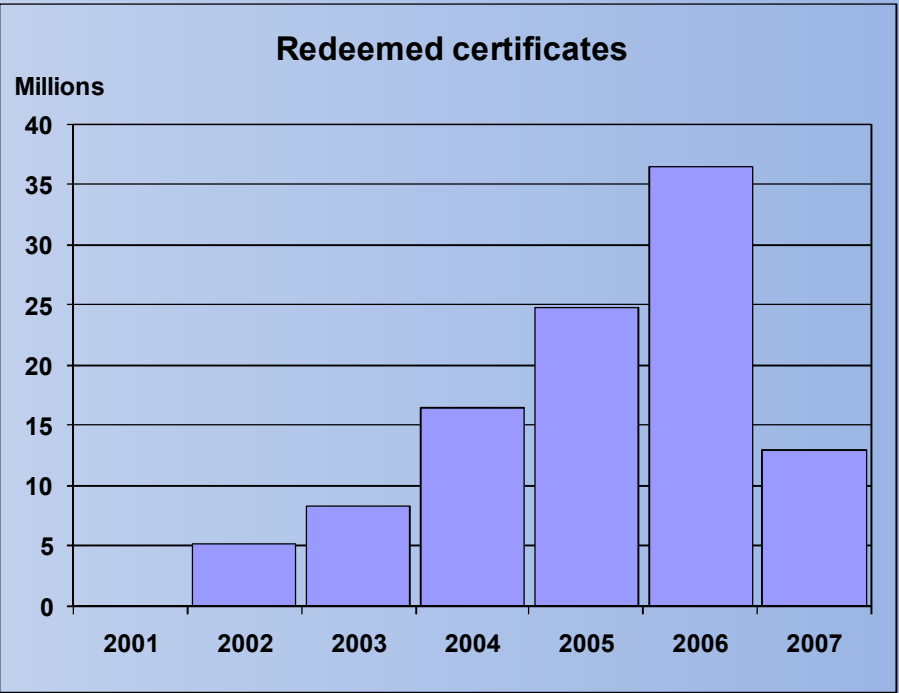
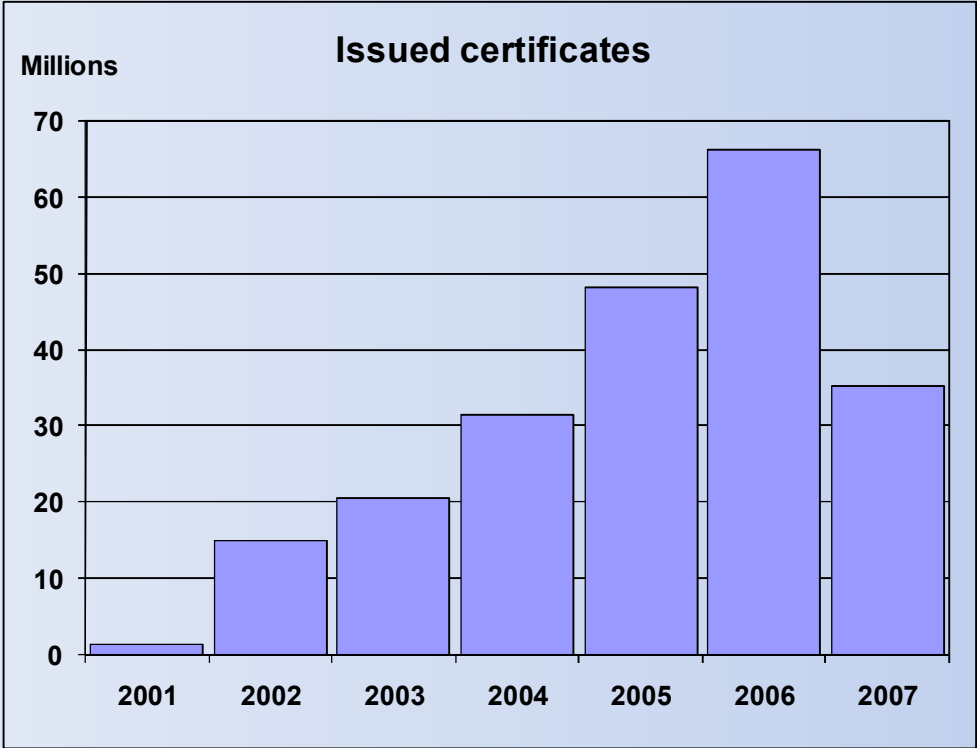
AIB Services

- Promote international certificate standards
- Provide access to international markets
- Inform the market
- Share experiences
- Achieve economies of scale

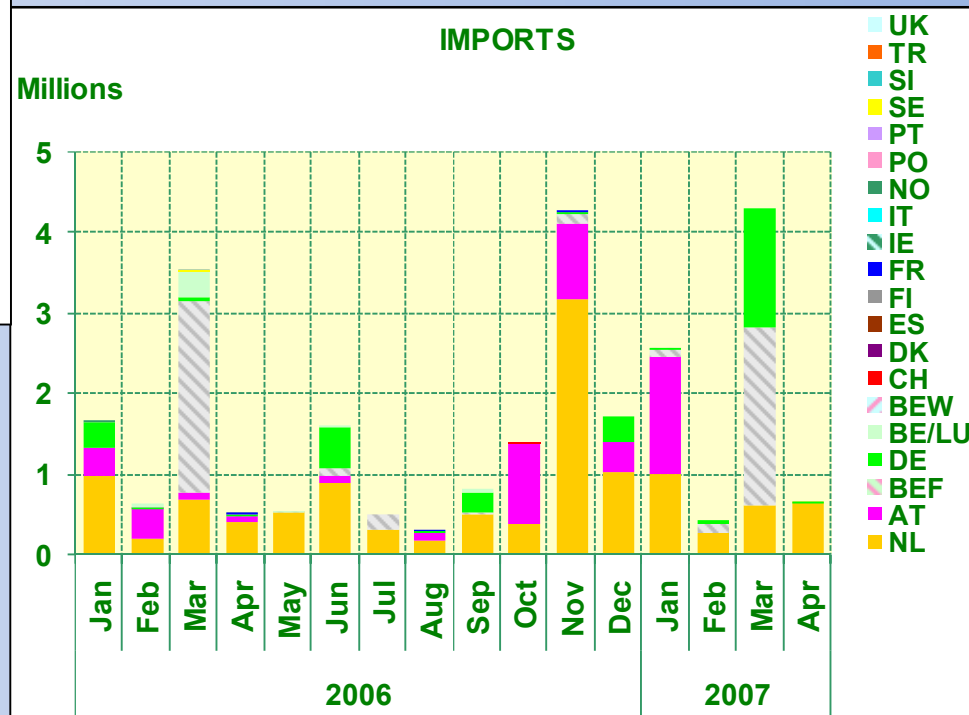
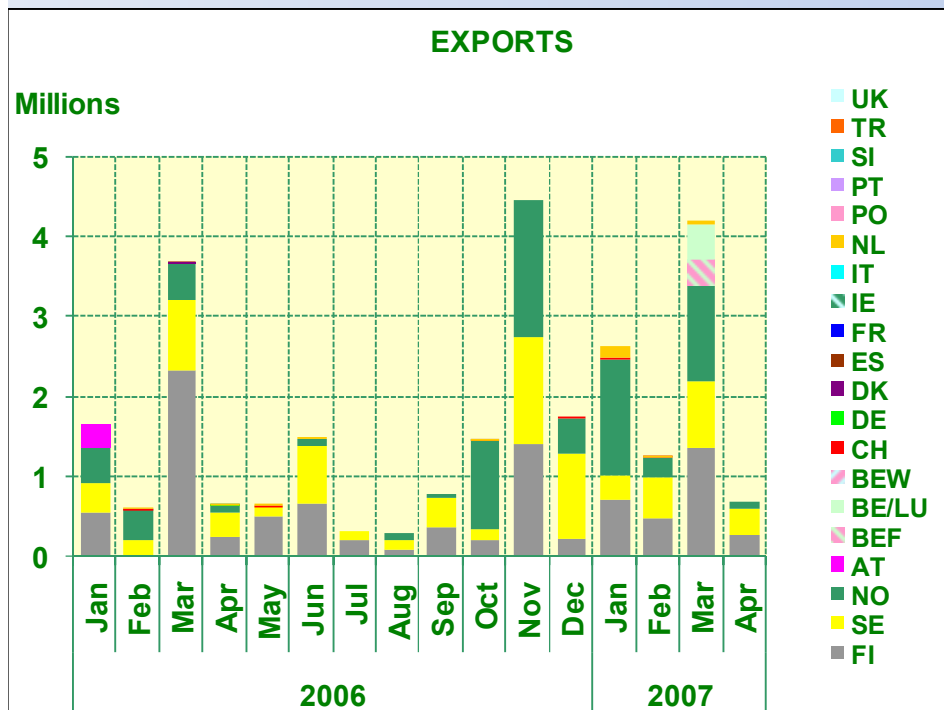
European Energy Certificate system - totals (million MWh)				
	Since 2001	2005	2006	2007 to date
Issued	218	48	66	35
Exported	56	14	17	8
Redeemed	104	25	36	13

**50% growth
per year**

AIB Activity (1/2)



AIB Activity (2/2)



Of issued certificates, 25% are transferred

This market – 17 TWh in 2006 – is made possible by EECS

- # WHAT MAKES A MARKET?
- A product
 - Supply
 - Demand
 - Facilitation
 - Rules & supervision



1/5: Product

- What is a certificate?
- What can you do with it?

Energy Certificate Systems



Contents of an EECS GO

- EECS PRO
 - Scheme..... (CHP-GO)
 - Unique certificate number
 - Production start date
 - Production end-date
 - Issue date
 - Energy source / technology
 - Production device
 - Certificate size..... (1MWh)
 - Issuer
 - Earmark..... (= support)

- CHP
 - Use of heat..... (category)
 - Lower Calorific value..... (MJ/kg)
 - Primary Energy savings
 - *Percent*..... (%)
 - *Actual amount*..... (MJ/MWh)
 - CO2
 - *Emitted*..... (kg/MWh)
 - *Actual savings (hidden)*... (kg/MWh)

Additional to Directive

(could also do this for further items on RES-GO)

CHP Codes

- Technologies
 - *Combined cycle gas turbine with heat recovery*
 - *Steam backpressure turbine*
 - *Steam condensing extraction turbine*
 - *Gas turbine with heat recovery*
 - *Internal combustion engine*
 - *Micro-turbines*
 - *Stirling engines*
 - *Fuel cells*
 - *Steam engines*
 - *Organic Rankine cycles*
 - *Other (as in Article 3(a))*
- Uses of Heat
 - *Heating, including District Heating & Cooling*
 - *Industrial use, including process heating*
 - *Agricultural use*

Possible uses of GO

1. Disclosure - importance of redemption

- *Consumers (particularly large ones) increasingly concerned where their energy comes from*
- *More and more suppliers are redeeming GO as proof of green supply*
- *Redemption prevents double use: need to redeem GO when the corresponding energy is consumed*
- *Can be used for: declarations in annual reports, audit etc*

2. Support schemes – relationship with GO

- *GO independent of support schemes, but can be used for them*

3. Target counting

- *Calculation of Member State RES production & consumption*

2/5: Supply

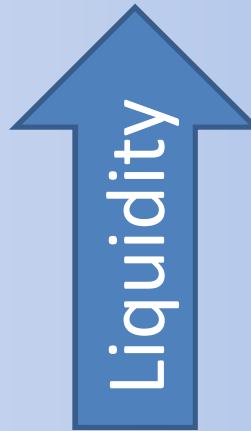
- Physical export constrains the market
 - Possible for RES-E, but not so easy for heat
 - Exports from one country may have to go via another
 - e.g. Ireland → Scotland → England → France → Belgium
 - e.g. Portugal → Spain → France → Belgium
 - This is an advantage of GO systems
- No need to interconnect
 - e.g. RES-E from north of Norway will never get to Italy
 - Iceland is already exporting RES-E certificates to Austria

3/5: Demand

- Motivation
 - *Government: security of supply / reduced imports / new industry*
 - *Consumers: environmental / climate change*
- Public demand
 - *Public demand is low (unless there is a tax incentive!)*
 - *Most people just want cheap, reliable energy*
 - *BUT given two equally-priced options, they will buy the green one*
 - *Government must educate the market*
 - *why should suppliers educate somebody else's customers?*
 - *Use of tax exemptions educates the market*
 - *“flywheel effect” when the tax exemption ceases*
- Commercial / industrial demand
 - *Shareholder power is driving businesses*
 - *Buying from foreign subsidiaries + local generators*

4/5: Facilitation

- Trade Associations
- Exchanges
- Brokers
- Bilaterals
- Suppliers
 - *Need for innovation*
 - *Product differentiation*



5/5: Rules and Supervision

Why?

Market confidence!

Features of CHP Directive

- Member States must implement a scheme for Guarantees of Origin of electricity from high-efficiency CHP (CHP-GO)
- CHP-GO are based on reference values (officially adopted 22 December 2006, and published 6 February 2007)
- Member States issue GO themselves, or through bodies independent of generation and distribution (sellers) within 6 months of official adoption of reference values
- Schemes for CHP-GO not necessarily linked to national support schemes for CHP, but this is allowed

What do Member States want?

- A simple, clear set of rules
 - *The PRO: all the rules that are necessary*
 - *A living document of lessons learned by members*
- Coexists well with all types of domestic support schemes
 - *PRO sets the acceptance criteria for national schemes*
 - *AIB members can help MS overcome obstacles to implementation*
- Simple administration
 - *Availability of expert advice*
 - *We help new members design systems that are legal and workable*
- Low level of administration
 - *System design effort is shared*
- Low costs
 - *Economies of scale*
 - *Burden sharing*

What does AIB offer?

- A harmonised approach to CHP-GO and RES-GO
 - *Demonstrable compliance with CHP and RES Directives*
 - *Commission can confirm this*
 - *Supports the internal electricity market*
- Electronic system
 - *Fraud resistant, reliable, accurate*
- AIB controlled by TSOs and/or regulators
- Already half of EU Member States represented in AIB
 - *Lots of experience in trading GOs and certificates*
 - *Voluntary: used and appreciated by major utilities & industry*
 - *Ready-to-use robust and cost-effective system*
 - *Fast implementation of GOs by Member States*
 - *Critical mass for use of GOs on a European scale*

Requirements of a GO system

- Reliable
- Accurate
- Transparent
- Fraud resistant
- Recognised by all Member States

Core Principles

The AIB's 10 Commandments

Uniqueness - a certificate is unique

Ownership - account holders own certificates

Operational reliability

Protection of Account Holders

Governance

Access & Transparency

Cost Effectiveness

Communications

Regulation & Oversight

Records

Do not copy certificates!

Look after your account-holders

Do not lose certificates

Prevent certificates being stolen

Behave yourself!

Let the market know what you're up to

Do not cost too much

Communicate clearly

Obey the law

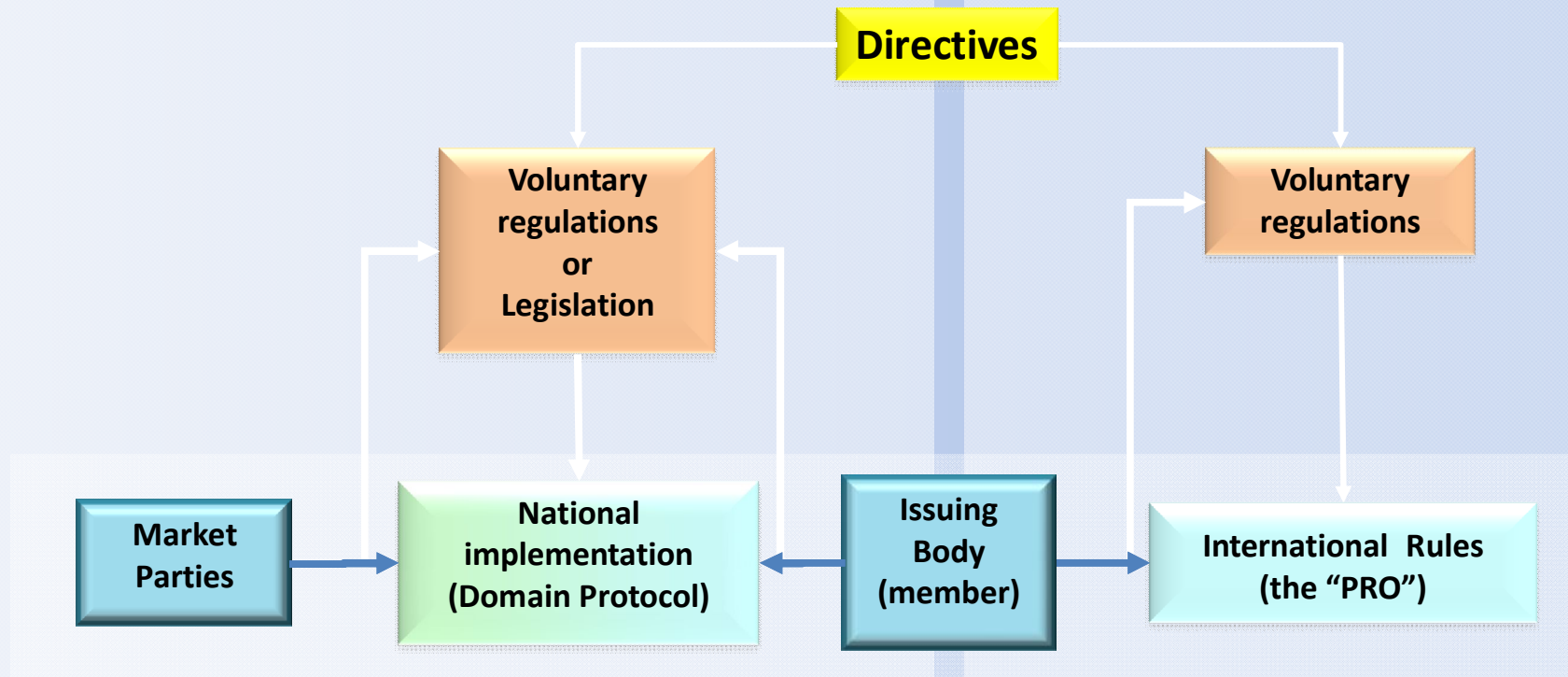
Write it all down



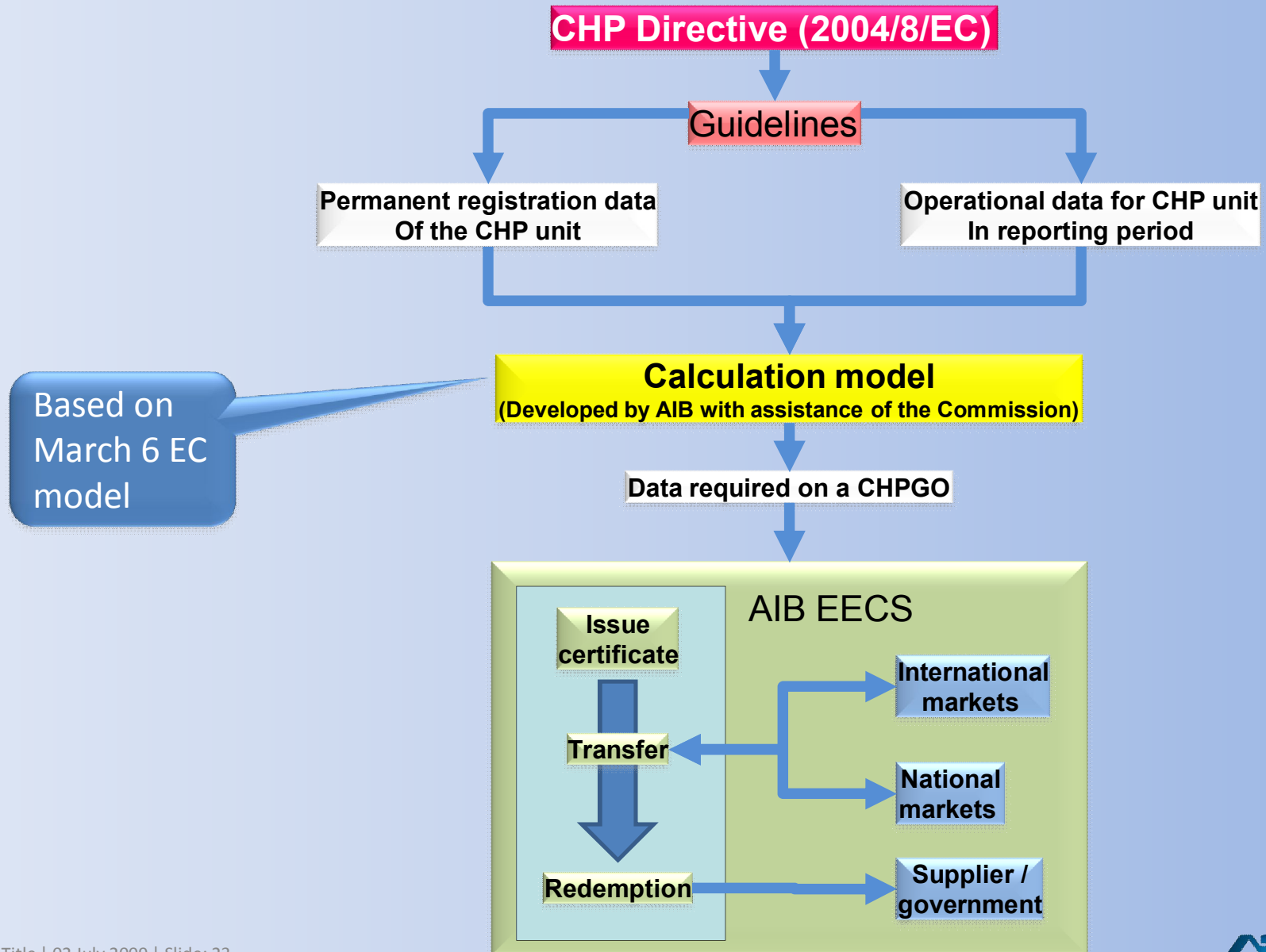
Subsidiarity

National Trading arrangements

AIB



Relationship between the CHP Directive & EECS



Development of AIB CHP-GO scheme

- Past

- Consultations of stakeholders (March & June 2006)
- Communication of results to Member States and stakeholders
- Fine-tuning of AIB text by both Commission and AIB
- Approach by Commission, AIB and stakeholders to Member States, to check which might wish to participate, and any remaining barriers
- Final fine-tuning of AIB text based on this input
- Development of CHP chapter
- Finalise calculation model

- Future

- Member States & “designated competent bodies” implement system
- AIB approval process

Thank you for your attention

<http://www.aib-net.org>

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