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Development of an International Green Certificate Trading System



CEA, consultants on energy and the environment/
RECS Secretariat

Jos Benner

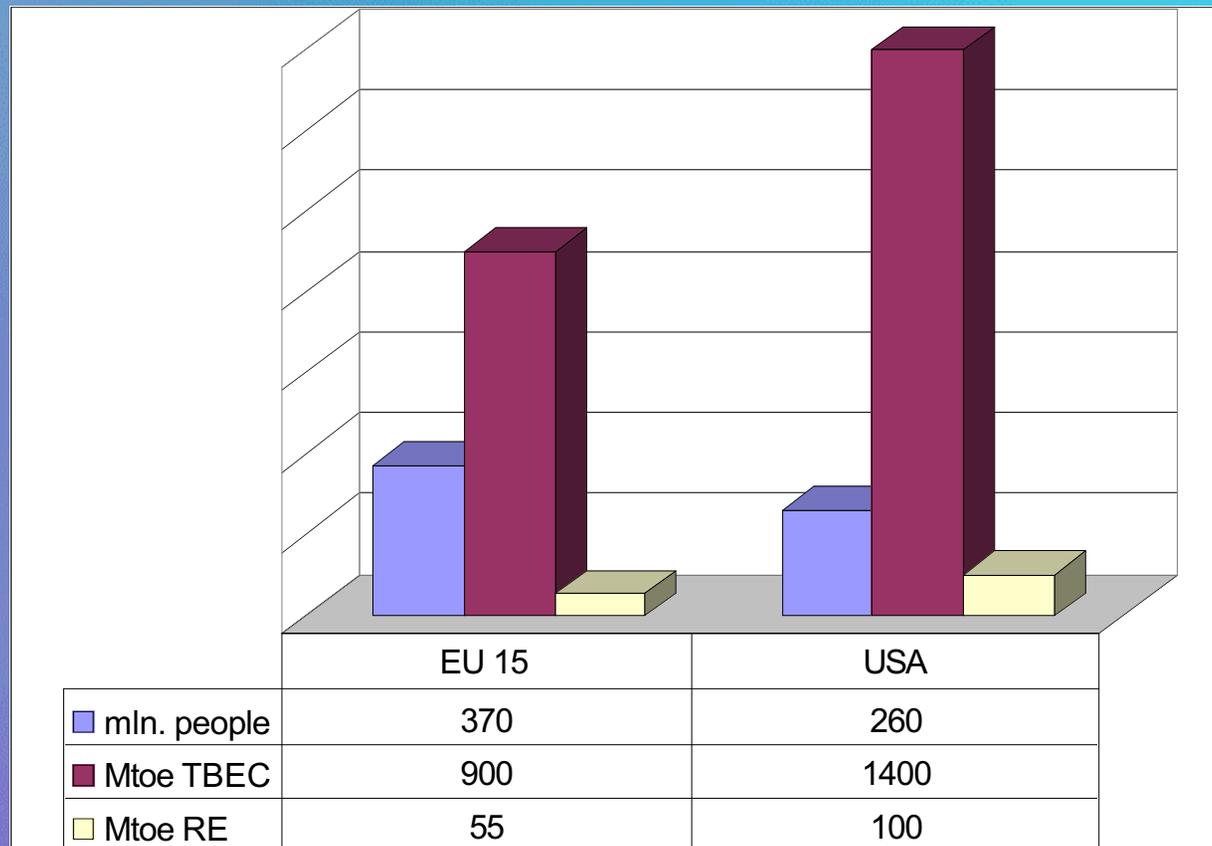
Denver Green Power Conference



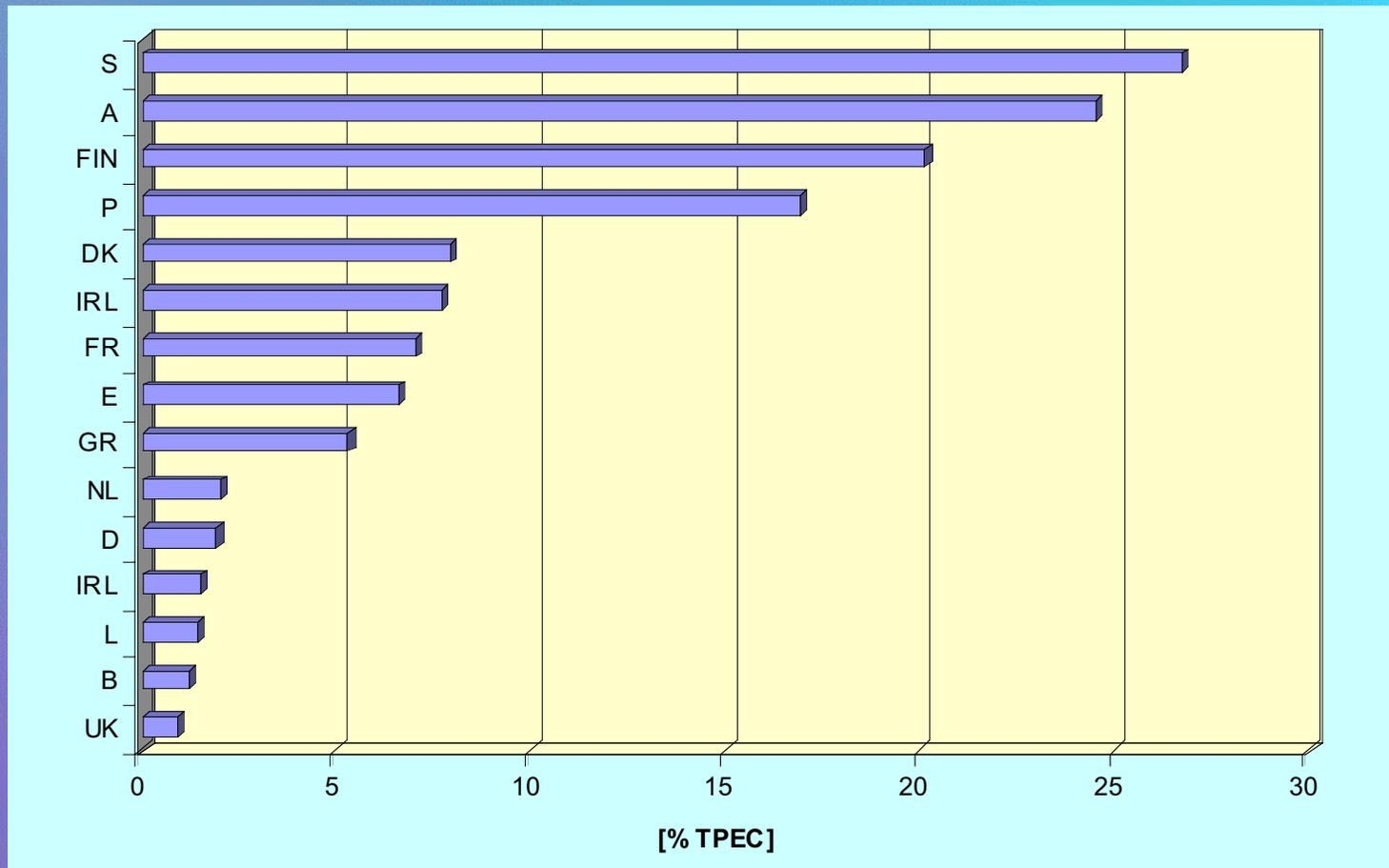
Content of the presentation

- European RE policy context
- Motives for trading and certification
- RECS developments
- Perspectives

Rough comparison EU 15 / USA



Realisation 1997 EU 15 (per country)



RE policy European Community

- Commission's *White Paper for a Community Strategy and Action Plan* (1997, final)
 - In 1997 ca. 6% renewable energy
 - In 2010 double volume (12%; RE_{el}: ca. 22 %)
 - Kyoto-commitment (after White Paper) 8% reduction of green house gasses in 2010 compared to 1990
- Set of financial and juridical instruments

www.agores.org

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AGORES
A Global Overview of Renewable Energy Sources

Europa
The European Commission
Directorate General Energy & Transport

Policy
EC and National strategies for the increased implementation of RES

Fields
Areas of Renewable Energy activity

Sectors
Information on the various sources of Renewable Energy

Who's Who
Key players from around the world

News & Events
The latest news on renewable energy and upcoming events

Website links
An extensive list of recommended websites

Community Programmes
EU funding programmes

Publications
An extensive database of relevant publications

Projects
Information on a range of Renewable Energy Projects

RENEWABLE ENERGY FOR EUROPE
Campaign for Take-Off

Welcome to AGORES, the European Commission Website for Renewable Energy Sources.

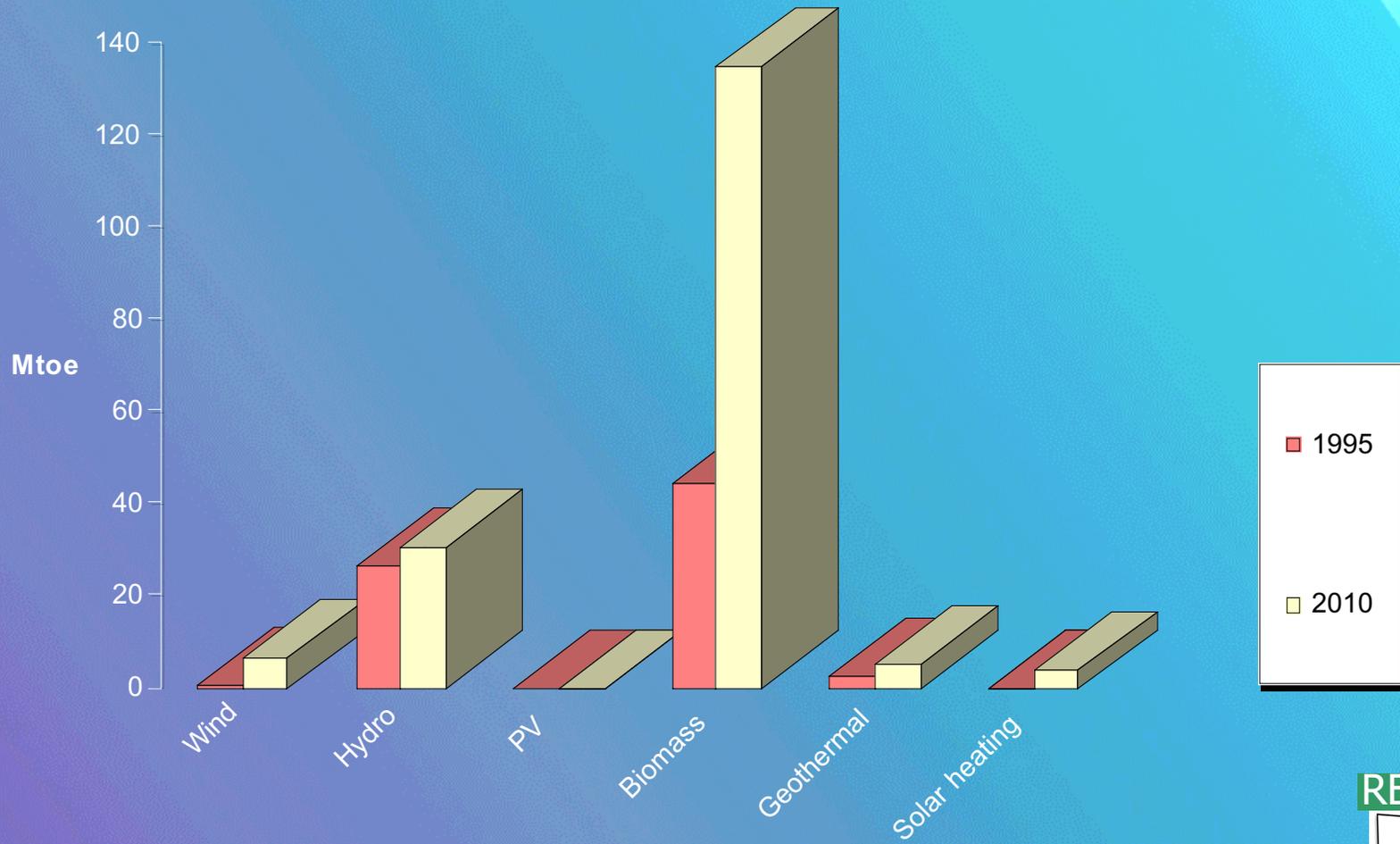
This site is designed to be the European information centre and knowledge gateway for renewable energy, helping to promote the European Union's [strategy](#) to achieve 12% of RES by 2010. Read [more information](#) about AGORES.

* NEW SECTION * : [Renewable Energy in Cities](#)

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Directive RE-ei

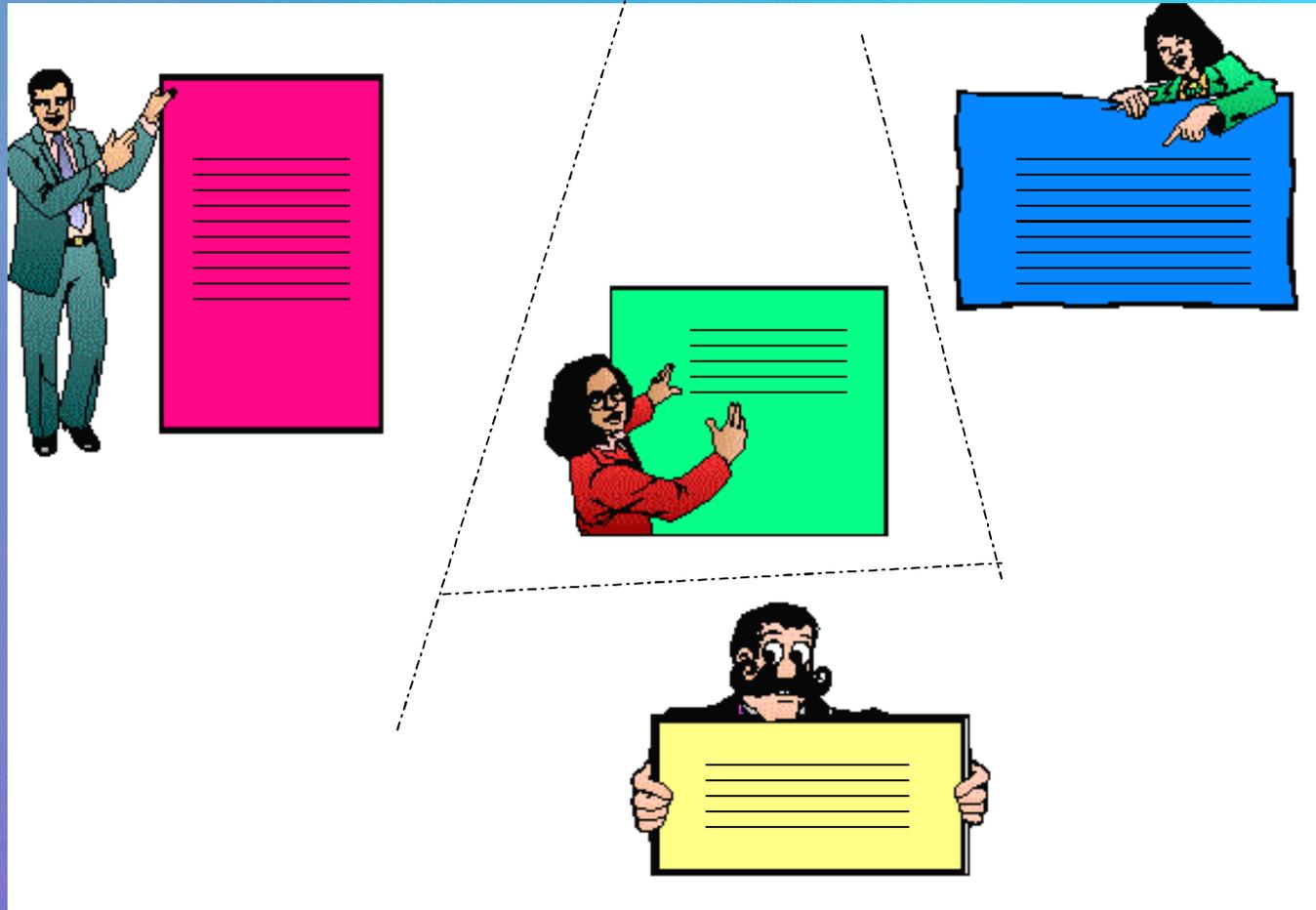
(proposed policy, May 2000)

- Targets member states < 1 year ("set and *meet*")
- Creation of trade structures (certification)
 - < 2 year
 - Certification of origin (type, place, moment)
- Harmonisation of (price) support mechanisms
 - Support is necessary and welcome
 - All mechanisms are allowed (for the moment)
 - A level playing field is crucial (also for non RE sources)

Why green certificates rather than other support mechanisms ?

- Support is necessary
- In the end all support comes from end users
- Promotional schemes (like fixed premium or feed in tariffs) lack an 'efficiency drive'
- Green certificates are market based, which stimulates efficient operation and technology improvement

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RECS



Renewable Energy
Certificate System

Green certificate initiatives in Europe

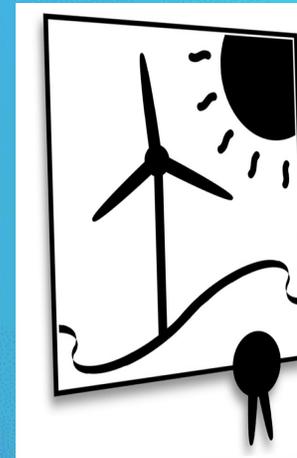
- Italy : certificates with quota on producers and importers from 2002 onwards
- Belgium (Flanders): certificates with quota on suppliers from 2001 onwards
- Netherlands : certificates linked with eco-tax exemption from 2001 onwards
- Denmark : certificates with quota on end users from 2002 onwards
- UK : certificates linked with climate levy exemption and quota on suppliers (?)

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The international
development for
harmonisation of
green certificates is:

www.RECS.org

RECS



Renewable Energy
Certificate System

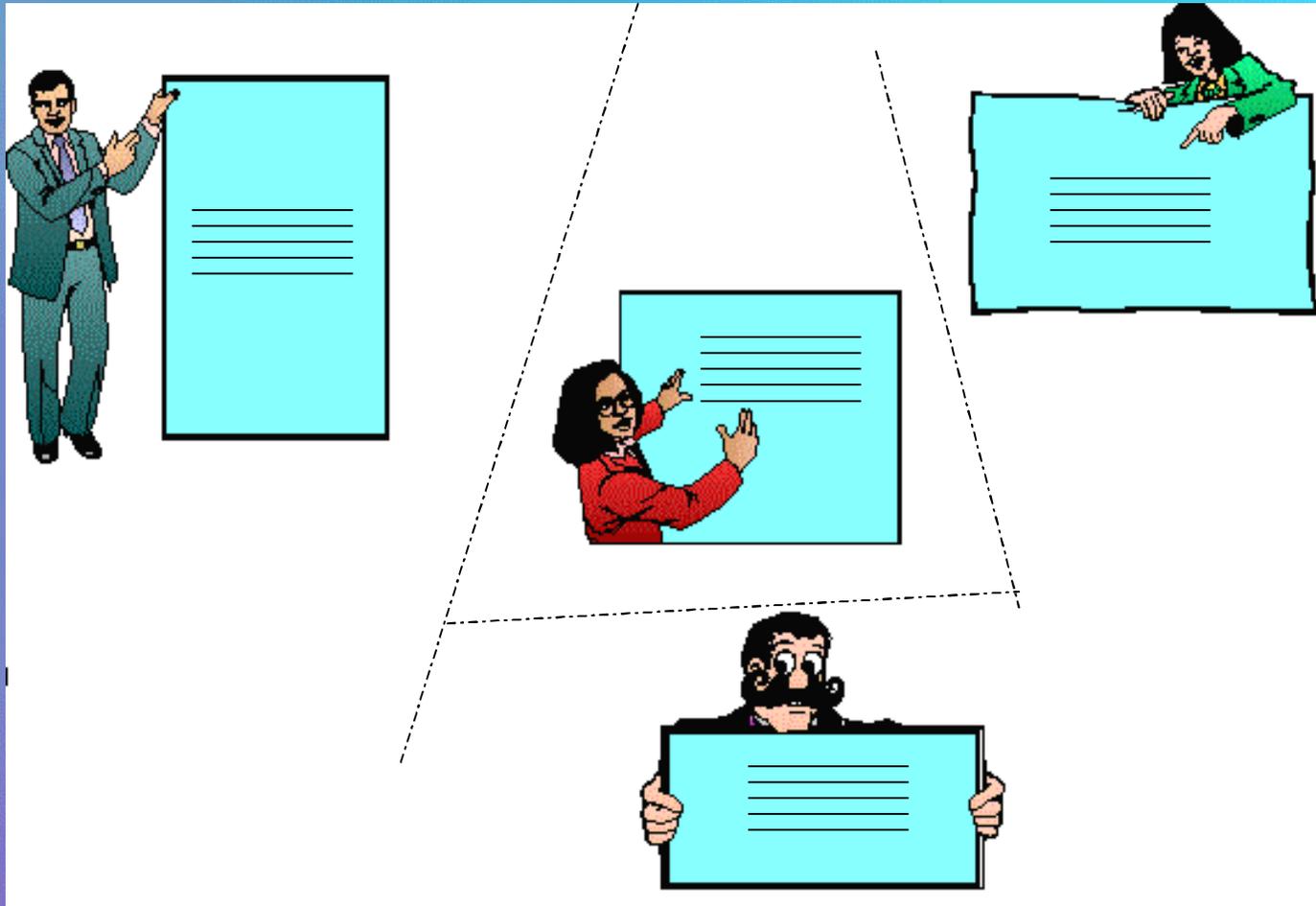
RECS



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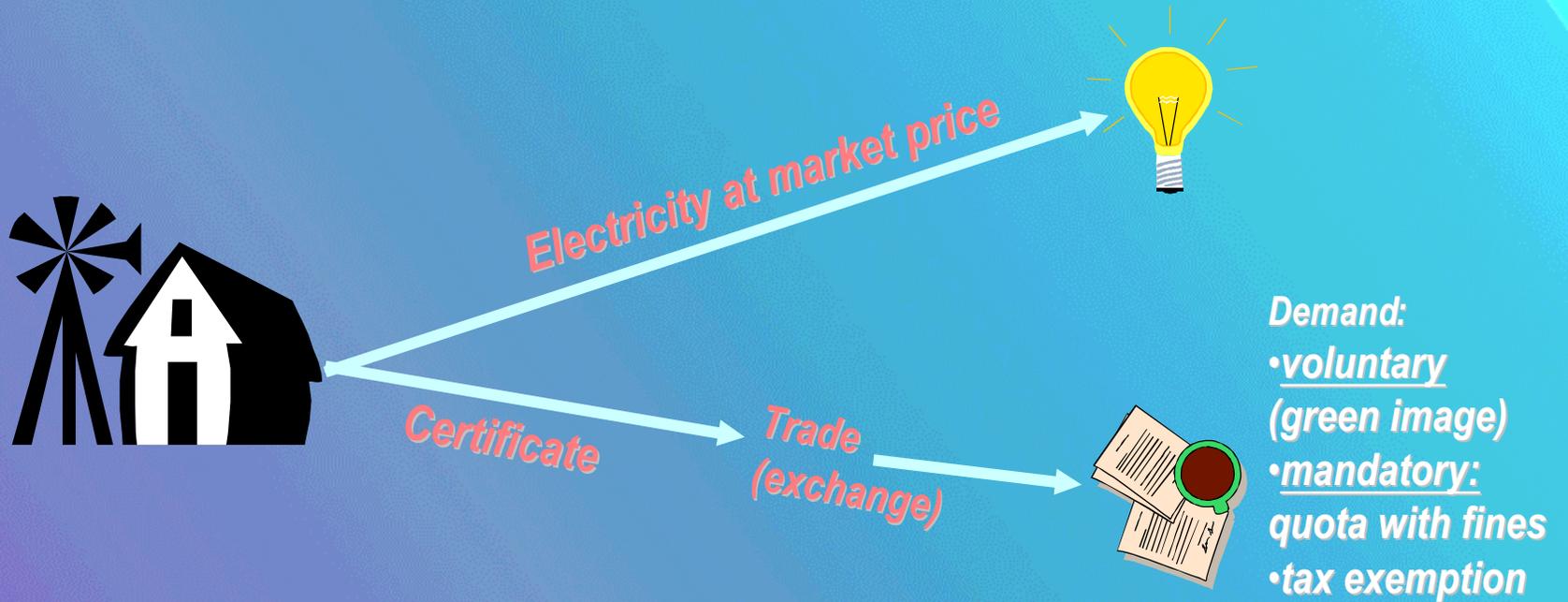
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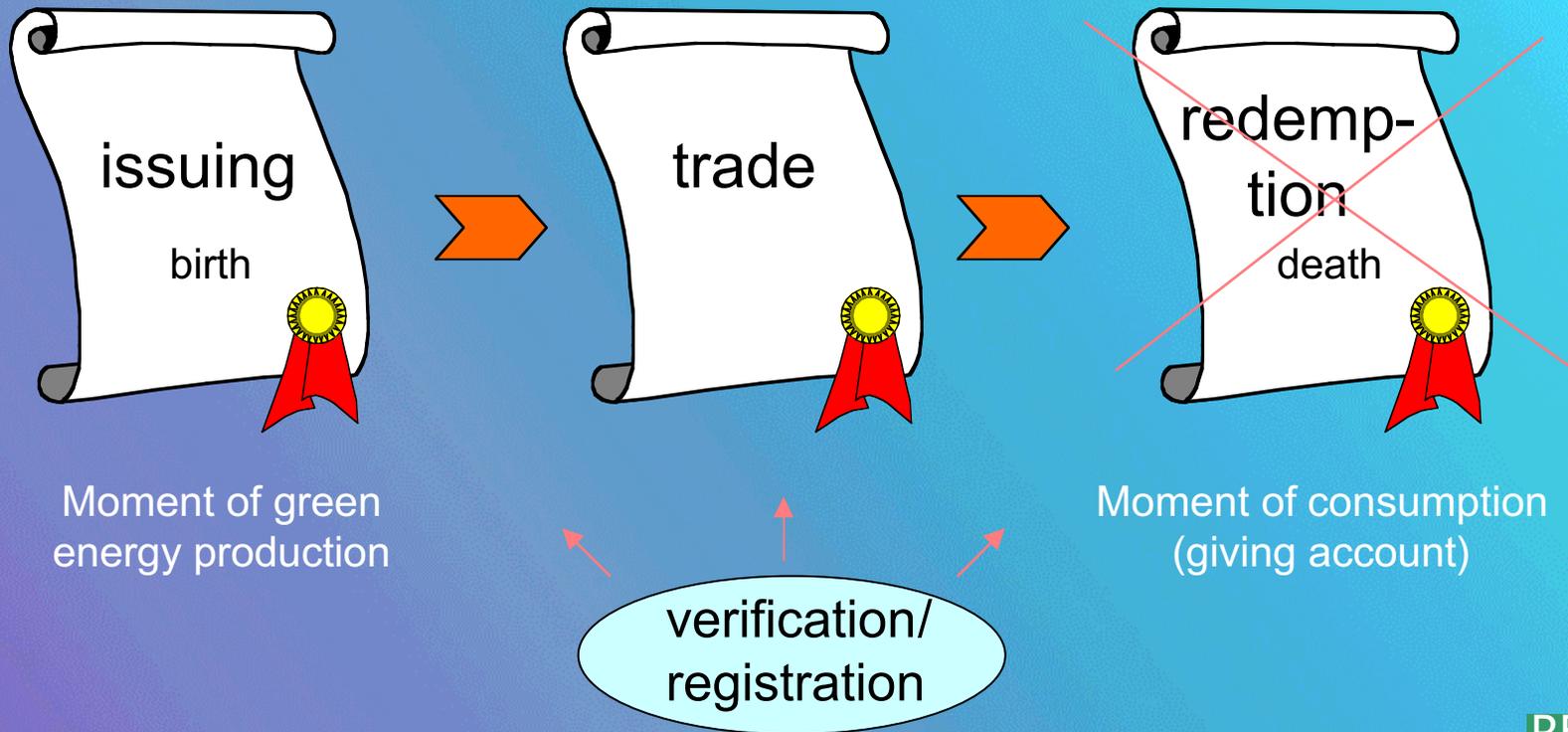
Participating countries

- **Netherlands**
(EnergieNed, NUON, Essent, Ministry, Rabobank, APX)
- **Belgium**
(Electrabel, Flanders ministry)
- **Germany**
(HEW, RWE, Ministry)
- **Denmark**
(Eltra, Elkraft, Ministry)
- **Austria**
(Verbund)
- **Italy**
(ENEL, CESI, GRTN, Edison)
- **Norway**
(Nordpool, Norsk Hydro, Statnett)
- **Sweden**
(Vattenfall, Arnesson)
- **United Kingdom**
(Shell, Powergen)
- **France**
(Total-Fina, ObservER)

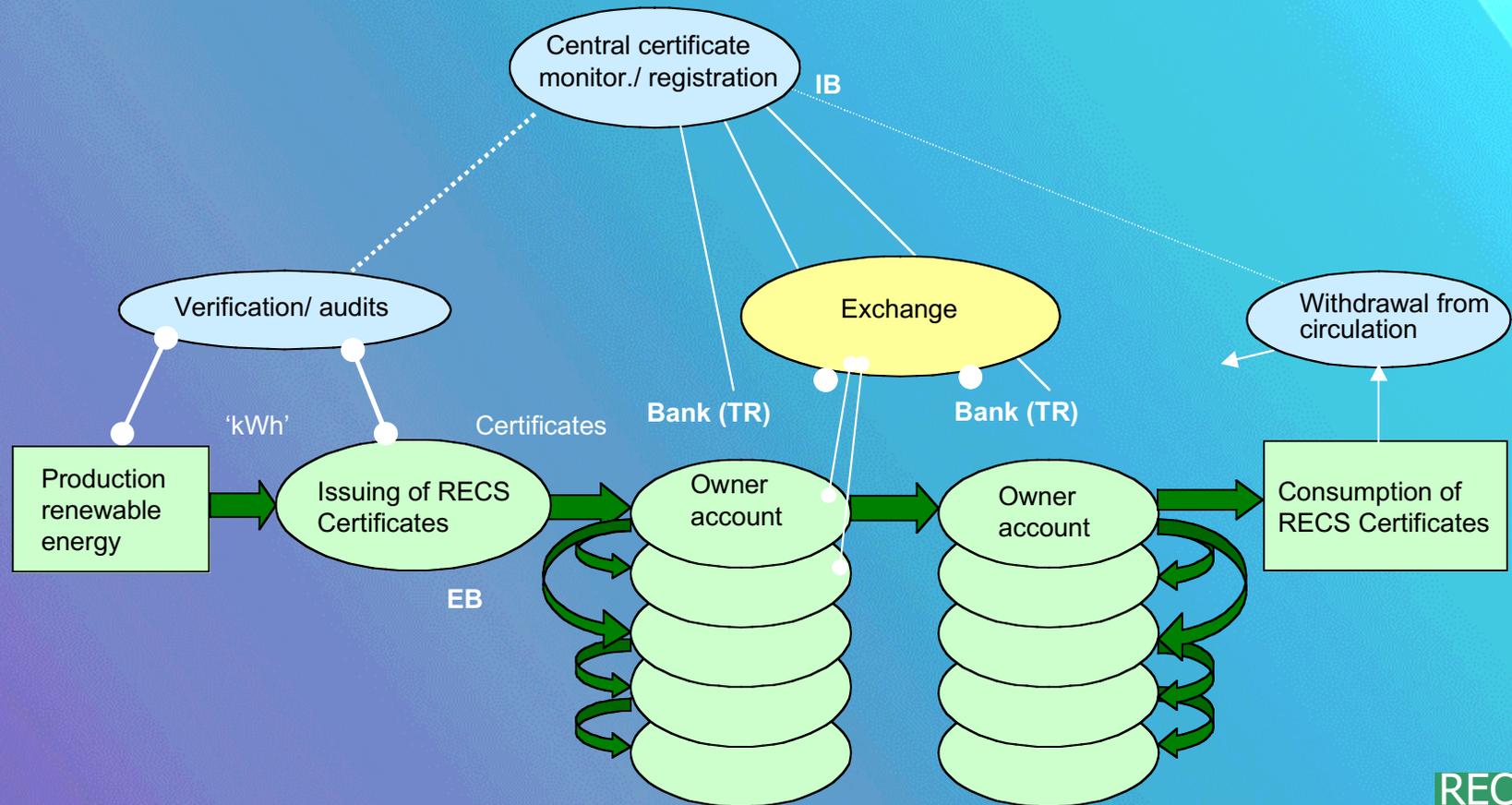
RECS Basic principles



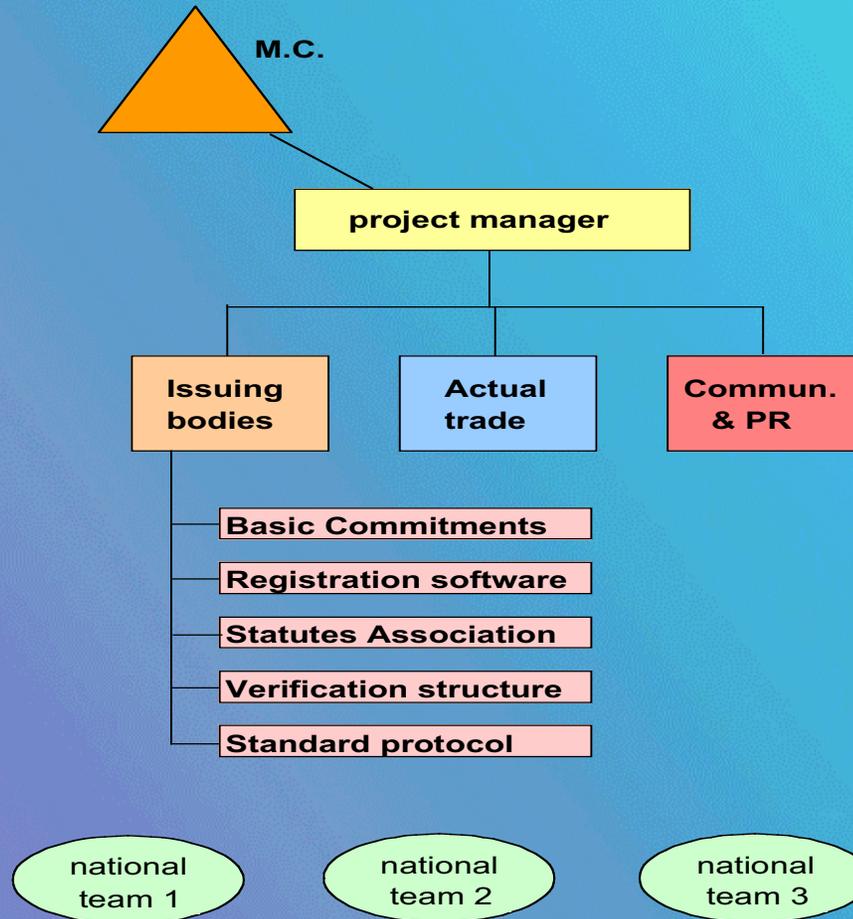
RECS life cycle



RECS structure



RECS Test phase



Related European projects

- 5th Framework programme EU
RECerT, IntraCert, Elgreen
(dissemination, other options and CO₂-link)
- ALTENER programme EU
International Benchmark Renewable Energy
(potentials, costs, instruments)
- EURELECTRIC's GETS project
Very professional green electricity trade simulation

Complexities

- EU-wide harmonisation politically impossible at this stage.
- States are only willing to accept certificates from equivalent systems or reduce the benefit of international trade by increasing their national target.
- Comparison of systems shows discrepancies and lack of equivalence: e.g. certificate contents: technology description, state aid impact, life-span, related CO₂-benefits, etc.

But: We are going to DO IT !!

Perspectives

- Link to CO₂-credits
- Certification of all energy options
- Global system

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USA:
www.APX.com

Japan:
www.jepic.or.jp

Europe:
www.RECS.org

Australia:
www.gemoz.com