



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

**Bundesamt für Energie BFE**  
**Office fédéral de l'énergie OFEN**  
**Ufficio federale dell'energia UFE**  
**Swiss Federal Office of Energy SFOE**

## Feed-in tariff in Switzerland



Regula Petersen, Swiss Federal Office of Energy (SFOE)

6th Workshop International Feed-in Cooperation - 3rd November 2008 Brussels



# Swiss Federal Electricity Supply Act dated 23 March 2007

*Vorlage der Redaktionskommission für die Schlussabstimmung*

## **Bundesgesetz über die Stromversorgung (Stromversorgungsgesetz, StromVG)**

vom 23. März 2007

*Die Bundesversammlung der Schweizerischen Eidgenossenschaft, gestützt auf die Artikel 89, 91 Absatz 1, 96 und 97 A der Bundesverfassung, nach Einsicht in die Botschaft des Bundesrates vom 11. März 2007, beschliesst:*

### **1. Kapitel: Allgemeine Bestimmungen**

**Art. 1** Zweck

<sup>1</sup> Dieses Gesetz bezweckt, die Voraussetzungen für die Elektrizitätsversorgung sowie für einen wettbewerblichen Markt zu schaffen.

*Projet de la Commission de rédaction pour le vote final*

## **Loi sur l'approvisionnement en électricité (LApEl)**

du 23 mars 2007

*L'Assemblée fédérale de la Confédération suisse, vu les art. 89, 91, al. 1, 96 et 97, al. 1, de la Constitution<sup>1</sup>, vu le message du Conseil fédéral du 3 décembre 2004<sup>2</sup>, arrête:*

### **Chapitre 1 Dispositions générales**

**Art. 1** Buts

<sup>1</sup> La présente loi a pour objectif de créer les conditions propres à assurer un approvisionnement en électricité sûr, économique et respectueux de l'environnement.



## Objectives, players

### Objectives

- Overall target: + 5,400 GWh
- Hydropower target: + 2,000 GWh
- Efficiency target: household consumption keep “2000-level” by 2030

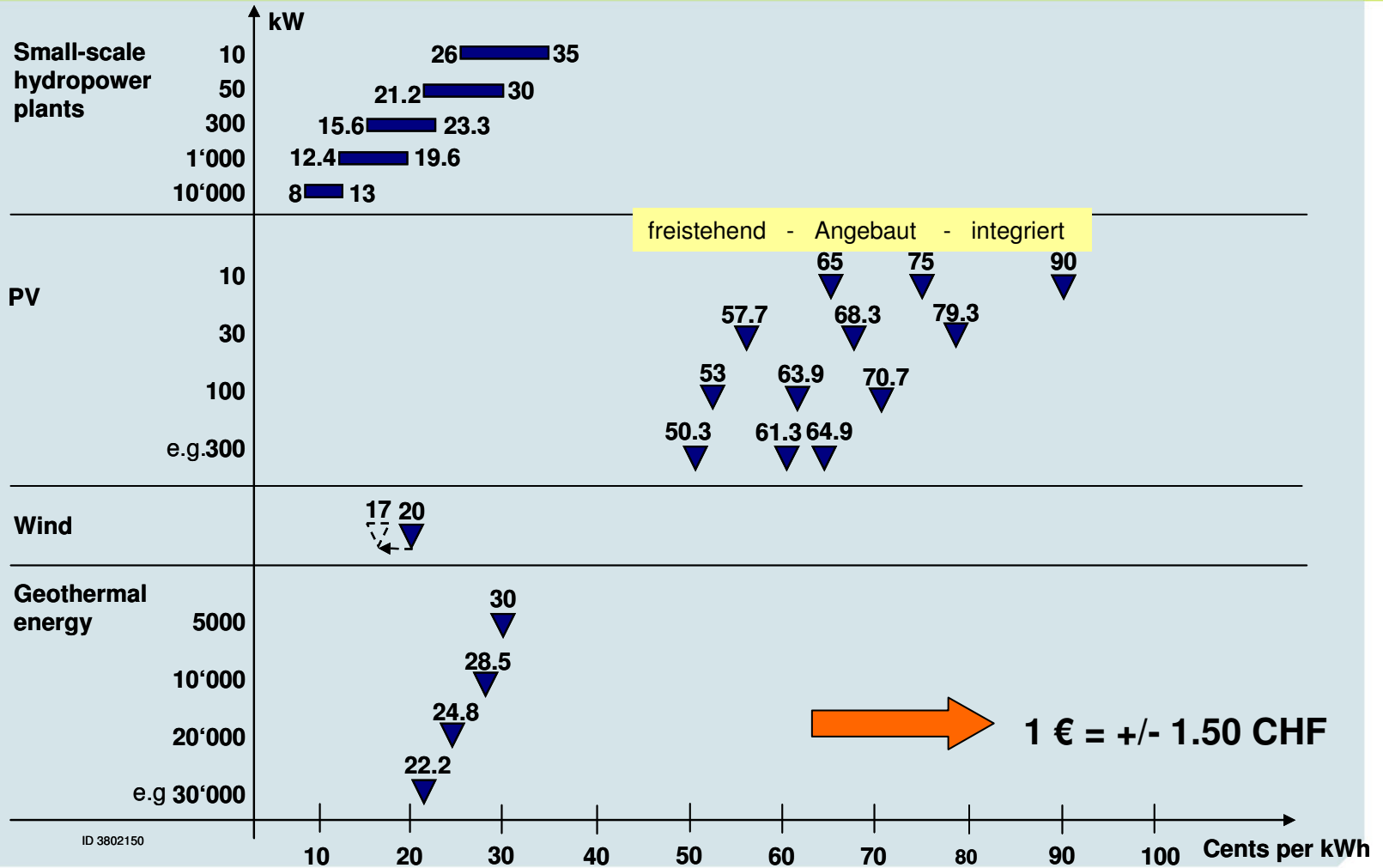
### Players

- SFOE (strategic management, state responsibilities)
- National TSO swissgrid (operation on behalf of SFOE)
- EICom (monitoring of El. Supply Act, regulatory body)
- Producers
- Transmission system operators
- Traders
- Suppliers
- Consulting commission



# Tariffs

HS1



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## Diapositiva 4

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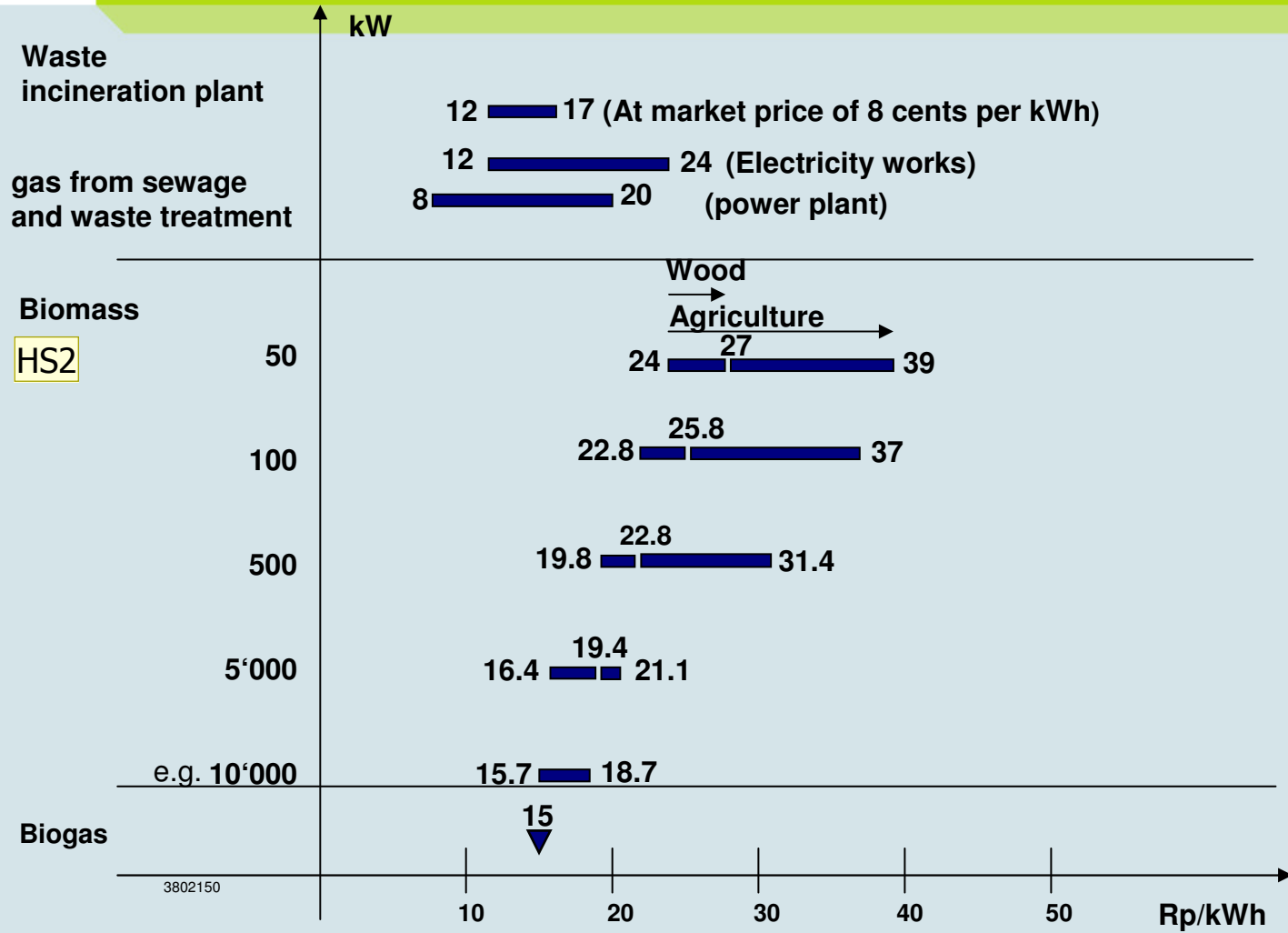
**HS1**

Die Grafik existiert auch als Version "nicht anteilmässig" und ist zu finden unter 3802150

Hulliger Sandra; 03/04/2008



# Tariffs



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## Diapositiva 5

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**HS2**

Die Grafik existiert auch als Version "nicht anteilmässig" und ist zu finden unter 3802150

Hulliger Sandra; 03/04/2008



## Timetable – Feed-in tariff

- facilities online after 1 January 2006 count as new installations
- registration of facilities starting 1 May 2008
- payments starting 1 January 2009
- no retroactive payments

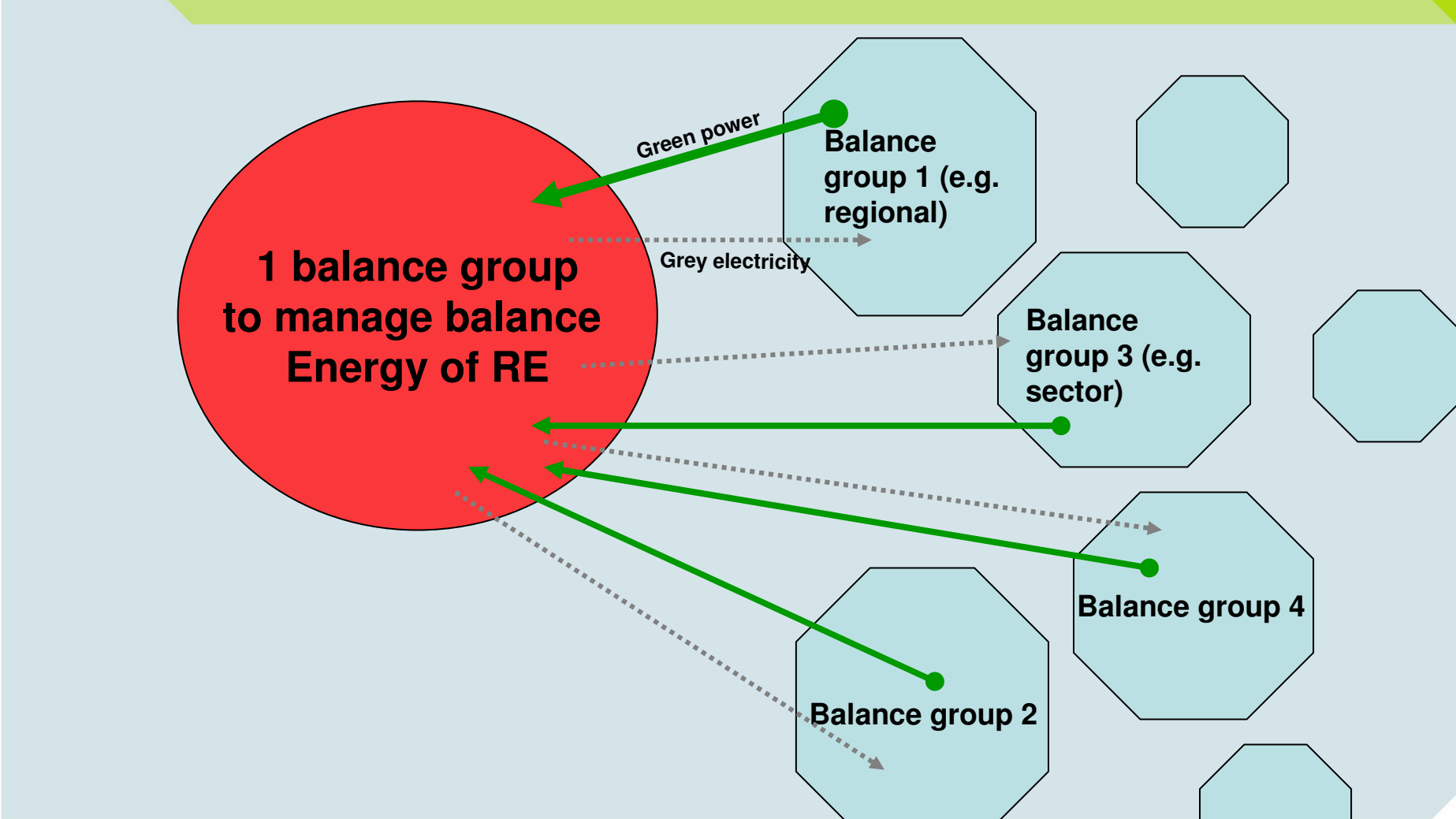


## Allocation of additional costs and financing

- Periodical payment of producers
- Additional costs = reference price – market price
- Market price is calculated from spot and trade prices (swissix, see eex.com, adjusted periodically)
- TSOs to be unburdened in billing system
- Fund is periodically stocked up with surcharges up to maximum of 0.6 cents per kWh end consumption. Surcharge is collected from TSOs' end consumers on basis of report system (demand-based). SFOE specifies surcharge based on reports from national TSO swissgrid.
- Frequency of pay-out and accumulation of funds should be the same

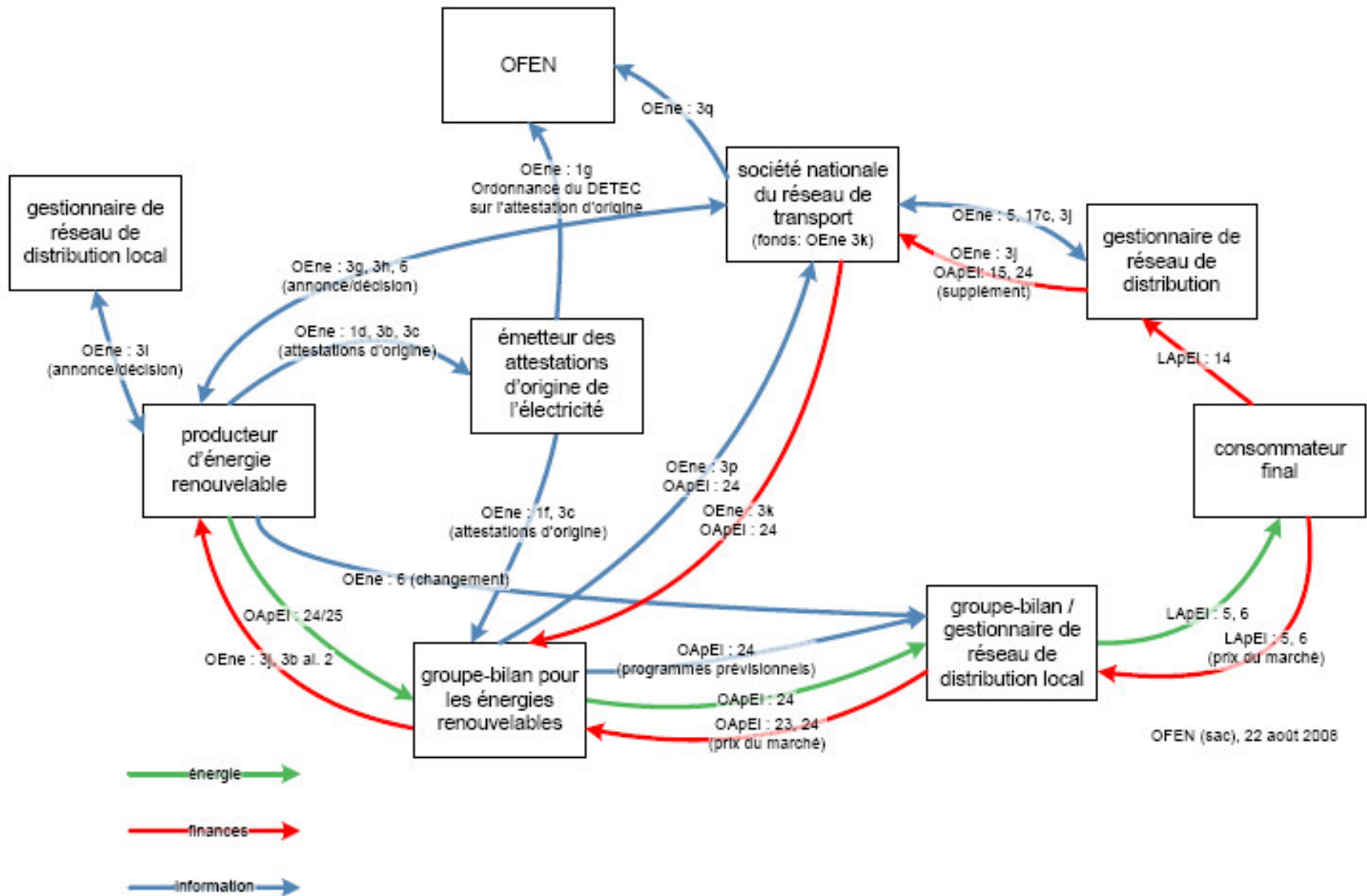


# Balance management group for renewable energy





# Process for producers





## Balance group for renewable energy

### **SYSTEM**

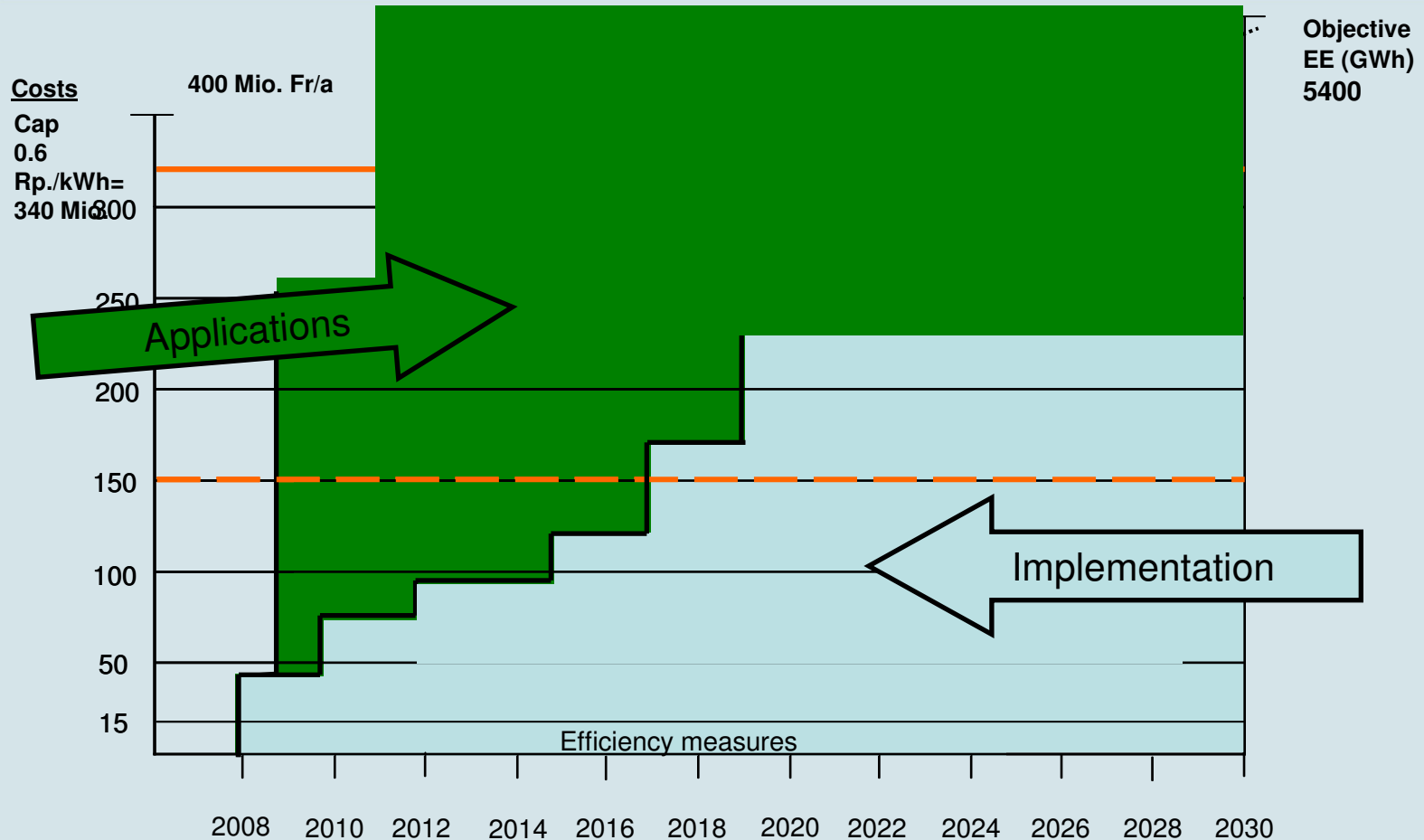
- Entire renewable energy production as per Article 7a in RE balance group
- Certificates of origin
- electricity allocated proportionally to balance groups
- RE Balance group is responsible for regulated energy

### **BENEFITS**

- All forms of RE covered by one single balance group
- RE balance group creates uniformity throughout Switzerland (schedules, balanced energy)
- RE balance group assures complete billing (allocation of additional costs)
- RE balance group eases burden on TSOs



## Managing the Feed-in Cap (by law at max. 0.6 cents/kWh)



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## Cap management

### **Requirements / criteria:**

- Investment security
- Adherence to specified caps in the law

### **multi stage procedure:**

1. Registration with national TSO, with consent of owner of land/building  
→ Notification issued by swissgrid, next steps required within x months
2. Progress note: building permit and consent of TSO for connection to grid)  
→ operation required within x months
3. start of operation → tariff specification by TSO, facility approved for certificates of origin, contract with RE balance group...

**goal:** → Transparency & Quality, avoid “ghost” projects



## Application Procedure

### Basic Principles

- „first in – first served“
- If cap is reached: same day → largest projects first; rest wait-listed

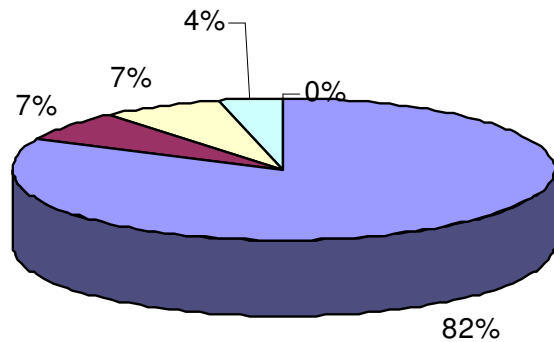
### Application

- As from 1 May with TSO (swissgrid)
- swissgrid checks applications and fund availability (within cap)
- swissgrid notifies project promoter
- Project's feed-in allocation is „reserved“ during pre-determined realisation period
- In case project fails to materialise within deadlines, feed-in allocation is freed for other project

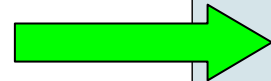


## Registration process – first results

numbers of registered facilities

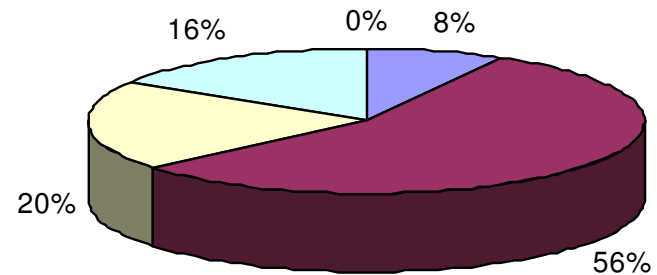


■ PV ■ Wind ■ Hydro ■ Biomass ■ Geothermal



More than 5'000 facilities registered

registered capacity of all registered facilities



■ PV ■ Wind ■ Hydro ■ Biomass ■ Geothermal

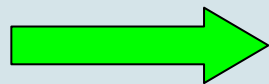


Facilities with production of ~ 3 TWh registered → 1/2 of „2030 goal“



Max. caps

Technology	%
PV	5 (up to 30)
Wind energy	30
Geothermal	30
Biomass	30
Hydropower	50



Temporary moratorium declared on further PV applications



**Thank you for your attention**

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## Labelling, certificate of origin, marketing of green power

- Labelling as before
- Certificates of origin now compulsory → transparency of system
- Ecological added value after feed-in cannot be allocated via Article 7a. The certificates of origin for “7a production” are kept back at swissgrid in order to avoid double counting.
- Ecological added value as per Article 7b (green power market) can be attained and marketed (to end users or in form of certificates). Certificates of origin are compulsory.
- Switching between 7a and 7b is possible on annual basis



## Previous “15-cent” deal and general principles governing feed into grid (old and new Article 7)

- Volume guarantee as per existing agreements in accordance with Article 28a (up to 2025 / 2035 for hydropower)
- Integration into new system:  
Facilities online after 1 January 2006;  
renovation/upgrading ( $\geq 50\%$  investment of a new facility  
or  $\geq Y 5$  production increase \*)
- Importance for existing facilities with renewable energy (waste combustion plants)
- Market price: previously: avoided costs; now: weighted exchange prices (swissix see eex.com)