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SOLWATT

RÉGION WALLONNE

Photovoltaic Energy
In Wallonia

eF4 Energie Facteur 4

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Outline

1. PV historical review in Wallonia
2. Regional and Federal PV Support Scheme
3. The role of a Regional Association
4. Significant PV Project in Wallonia

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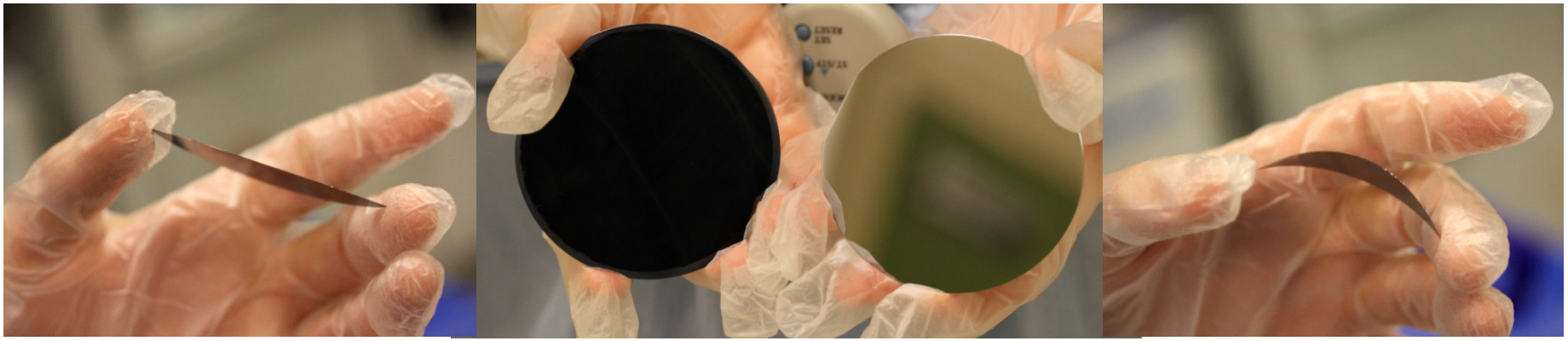
Historical Review
Wallonia, a pioneer in PV

- The Chevetogne site, a PV pilot plant trough time :
  - 1983 : one of the first 16 photovoltaic plants
  - 2009 : the first major site to be recycled

The Chevetogne PV Plant, an exemplary project in 1983… and 2009

Historical Review
Wallonia, a pioneer in PV

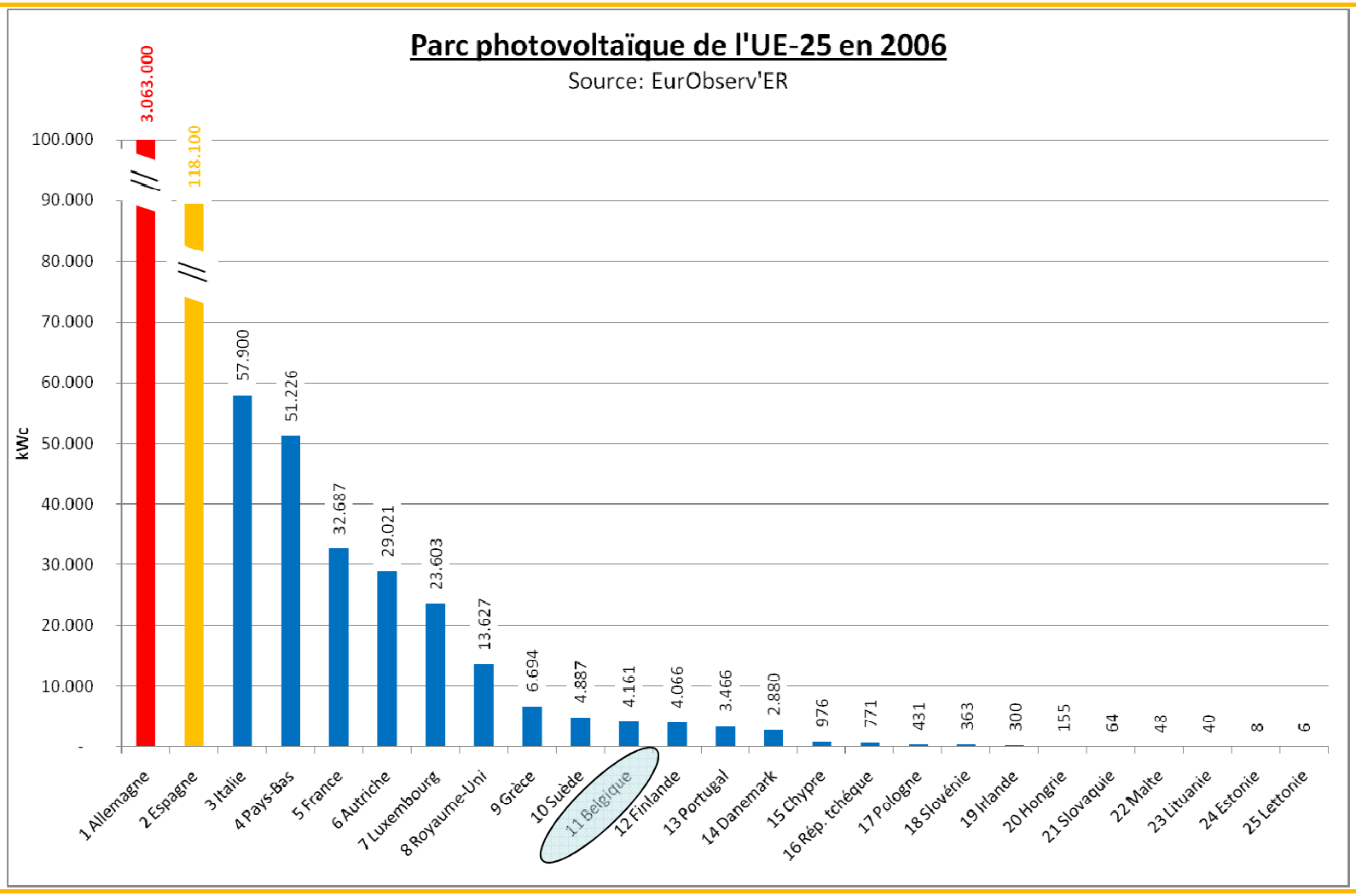
- A research team of the UCL :
  - has lead the world's efficiency race during the end of the 80's
  - took part in the founding of the well-known Californian company : SunPower
  - managed the R&D of SunPower until 2001



Silicon Flexible Solar Cells : a new opportunity for the walloon R&D ?

Historical Review

Before the Support Scheme



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REGIONAL AND FEDERAL PV SUPPORT SCHEME

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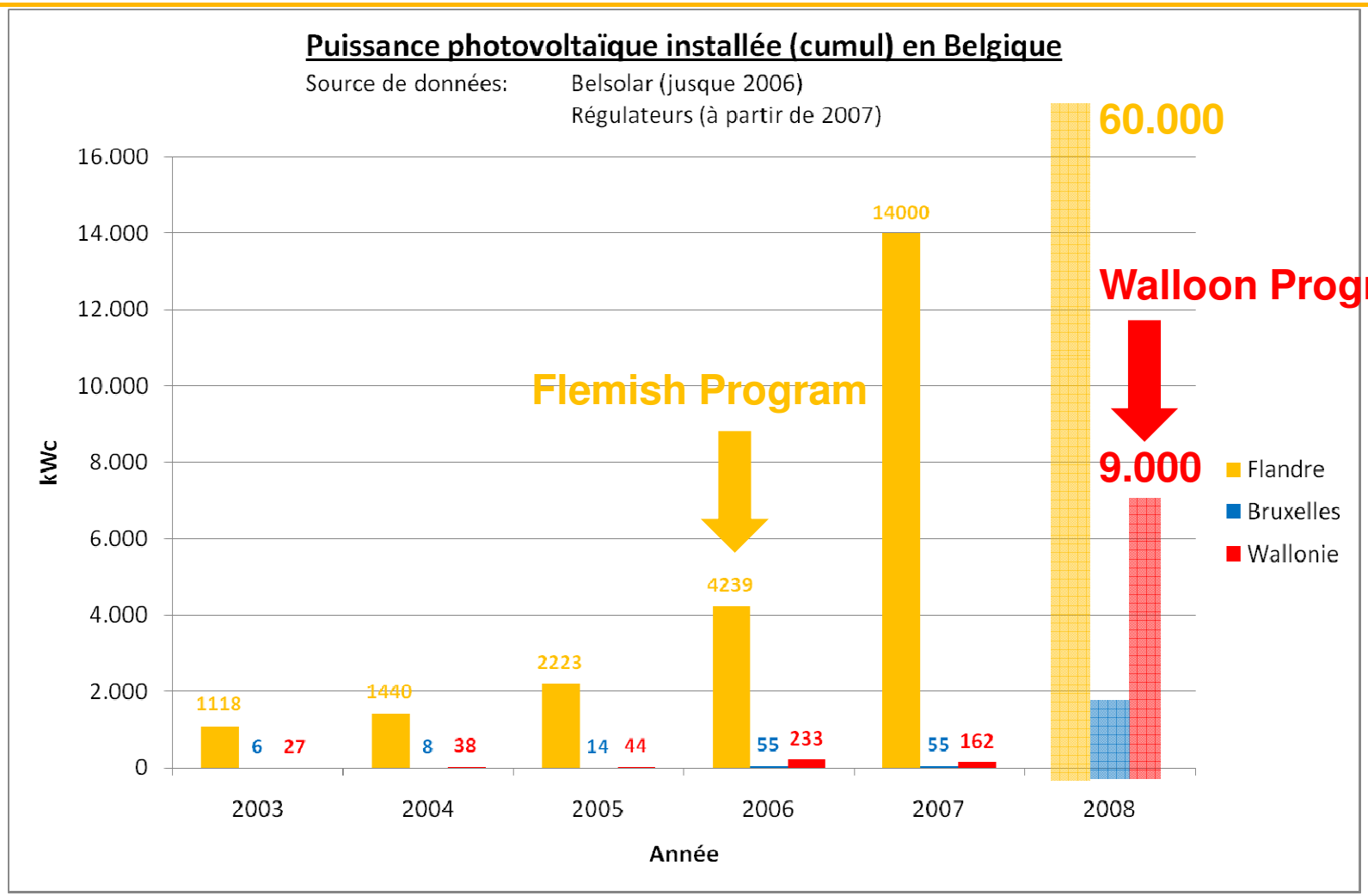
The Belgian Support Scheme
Key Features

- Green Certificates for PV:
  - GC-cost financed by levy on consumer tariffs
  - Price and duration depends on the region
- Net Metering
  - reverse metering up to 10 kW (~80 m²)
  - every kWh from PV avoids "conventional" kWh
  - additional revenue for PV = 15 – 20 c€/kWh
- Federal Fiscal Deduction for investement and loan
  - for private persons
  - for compagnies

The Belgian Support Scheme
Effects on PV Deployment



The Belgian Support Scheme
Key Markets in 2008

	Country	MWp
1	Spain	2.282
2	Germany	1.500
3	USA	340
4	Italy	200
5	Japan	200
6	Korea	190
7	Czech Republic	51
8	Belgium	50
9	France	46
10	Portugal	42

Source: EPIA, provisional figures

Flandre	41 MWp
Wallonie	9 MWp
Bruxelles	< 1 MWp

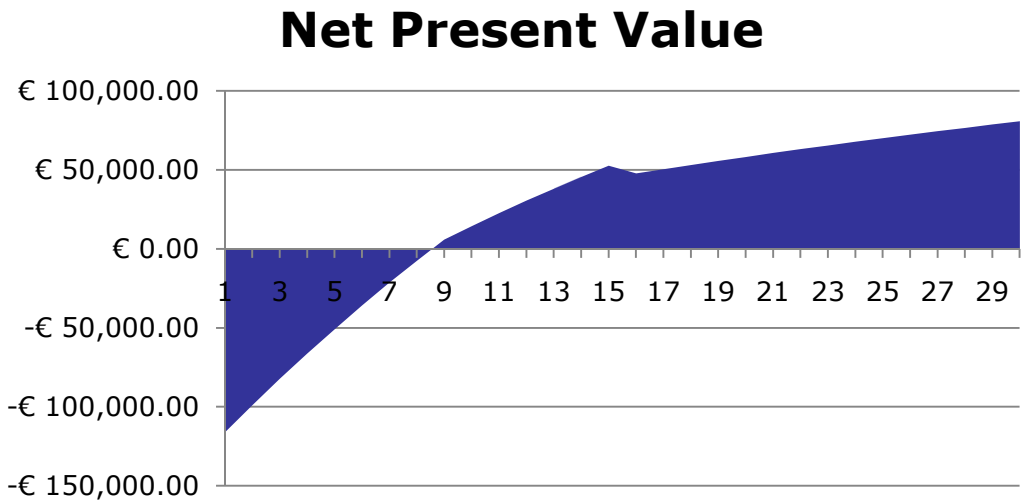
The Walloon Support Scheme
Effects on PV Deployment

- Installed Power (31 dec 2008)
  - cumulative installed power = 9,3 MWp
  - increase 2008: + 8,9 MWp (from 0,3 MWp in 2007)
  - total number of PV installations: 2750

- Market segments (2008)
  - essentially small residential PV system
  - average system size 3.4 kWp (~25 m²)
  - Average system production : 2900 kWh/year
  - 2,7 kWc/1000 inhabitants or 550 Wc/km2

Source : EPIA

The Walloon Support Scheme
Economic Aspect



- Classical Payback Time
  - For Private Persons : ~ 6 Years
  - For Compagnies : ~ 8 Years
  - For public and non-profit sectors : ~10 years
- But economic aspects are only the tip of the iceberg…

The Walloon Support Scheme
Other aspects

- PV Support Scheme and deployment :
  - Not only a question of ROI
- Other crucial aspects :
  - Complexity/simplicity of administrative procedures
  - Environmental Aspects
  - Social impacts and awareness of energy issues
- And novelty generates many questions from :
  - Politics, Public sector, Industries and private persons
- It is therefore necessary to provide :
  - Information, training, advices and answers

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PROMOTION, ADVICES AND ENERGY AWARENESS

THE ROLE OF A REGIONAL ASSOCIATION

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A Regional Association
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- Non-profit association
- Role: promote the supply and demand of renewable energy and rational use of energy
- Vision: increase by four energy efficiency while developing and creating industrial activity and employment in Wallonia.
- Actions :
  - Promotion of photovoltaics and heat pumps
  - Training on renewable Energy for jobseekers
  - Technical expertise in the field of renewable energy
  - Organization of conferences

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Activities and Projects

- Three « Facilitators » for photovoltaics and heat pumps
  - Free consultancy for the pv project manager
  - Subsidized by the walloon administration
  - « Harmonious » developement for PV

- Project Management for :
  - « 10 communes photovoltaïques pilotes »
  - Solwatt Tour
  - Perex Demonstration Project

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SIGNIFICANT PV PROJECTS IN WALLONIA

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Significant projects in Wallonia
« 10 Communes PV Pilotes »

- Promotion project of PV in Wallonnia
- Associated with the « Plan Solwatt »
- Implemented in 10 different cities on schools, Town halls and stadium

- The project was designed to answer the questions :
  - What is photovoltaic ?
  - How will this work in my house?
- It is not just putting panels on a roof !

Significant projects in Wallonia
Example of realization

- Primary School of Attert
- 160 m² of integretad solar panels
- a reduction of 66% of the electrical consumption
- CO^2 economy of 10 Tons/year.

- Not only a possibility to produce green electricity
- PV Panels are an educational and practical tool to raise awareness about of energy issues (Students and Parents)

Significant projects in Wallonia
The project Galaxia

- Only Belgian components and expertises
- Occupied by European Compagnies
- A technological showcase for Wallonia and Belgium
- 4400 m² of semi transparents solar panels
- CO^2 economy of 168 Tons/year.

- A Perfect example of using solar panels as a construction material
- Production of electricity *and* protection against rain and wind

Significant projects in Wallonia
The project Perex

- Large-scaled test PV Installation
- All the technologies present on the market
- All the possibities of implentation
- Scientific monitoring
- Completed in early 2010

- A scientific and technical tool to develop walloon expertise in pv
- Information tool for the private persons

Significant projects in Wallonia
The Solwatt Tour

- 30 conferences in 30 cities
- A film explaining « What is PV ? »
- Follow by a Q&A's Session
- 2000 participants
- Between June and December 2008

- For many people PV is a gateway to understanding energy
- Participants came out with a better understanding of energy issues, energy mix and PV applications

Photovoltaic Energy in Wallonnia
Conclusions

"Most people think that solar energy is something for the future, when prices have come down and cell efficiencies have further improved"
Well, this is your wake up call, because this future is closer than you could imagine."