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Organizing Renewable Electricity Support Flanders experience

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Introduction

Skipping context and frameworks:

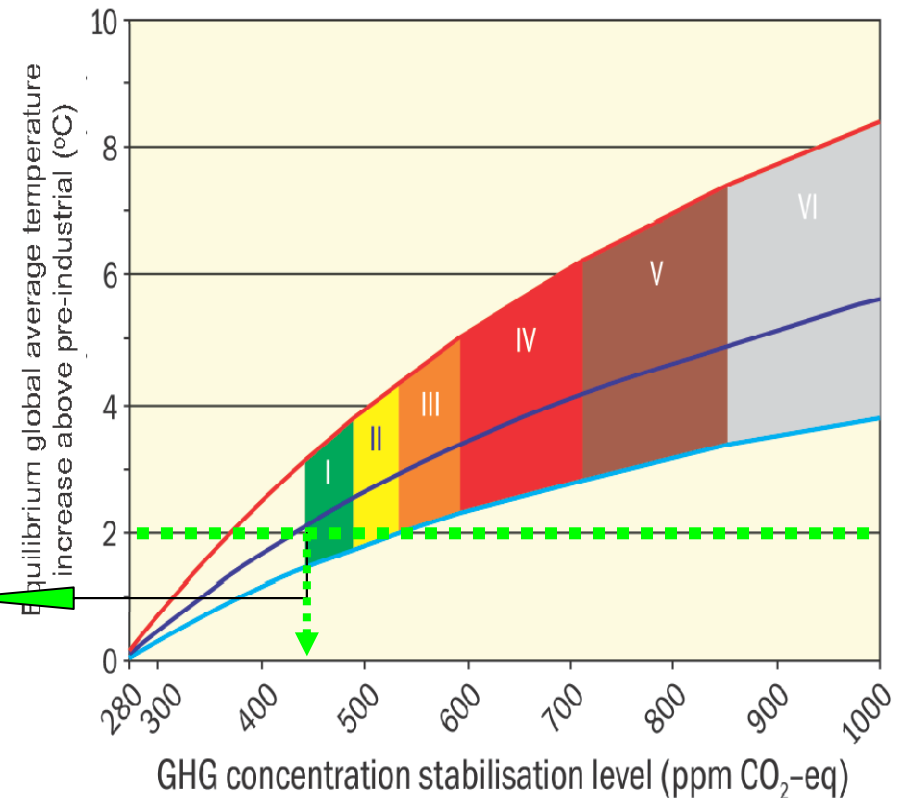
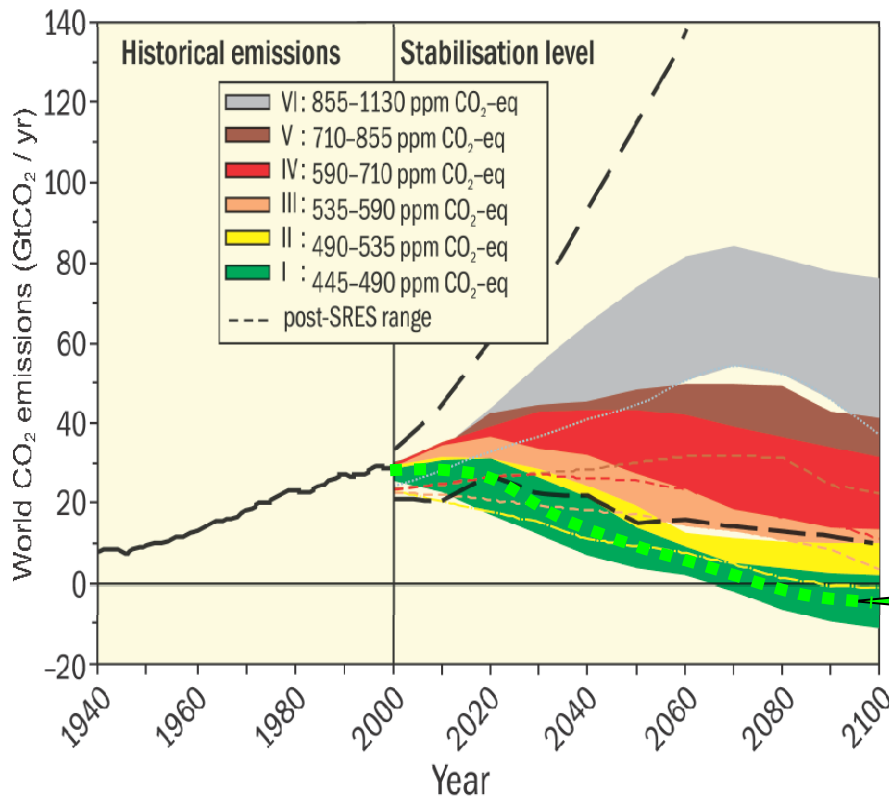
- Phenomenon Electricity
- Characteristics RES-E
- Integration Power Demand, Supply, Systems
- Market Structures: **Monopolies vs. Markets**
- Regulatory Capability
- Charging Grey vs. Supporting Green Electricity

Focus on Flemish experience:

- Instruments
- Comparing €uro German FIT vs. Flemish TGC
- Attributes, Performance, Findings



IPCC: +2°C limit → ~450ppm limit → CO2 emission reduction trajectory





Implications for international agreements on Greenhouse Gas Emissions Reductions

Scenario category	Region	2020	2050
A-450 ppm CO ₂ -eq	Annex I	-25% to -40%	-80% to -95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia	Substantial deviation from baseline in all regions

By 2050:

Almost carbon-free energy systems

Fossil fuels limited to auxiliary role



RES-E SUPPORT in Europe: Instruments

CITERIA for selection (limited to basic set):

- **Effectiveness: the RES-E sources are developed**
 - Incl. technological diversity + disruptive discoveries
- **Efficiency: development at least *social costs***
 - Incl. dynamic efficiency + technological innovation
- **Fairness**
 - Fair distribution of Costs and Benefits of the transition

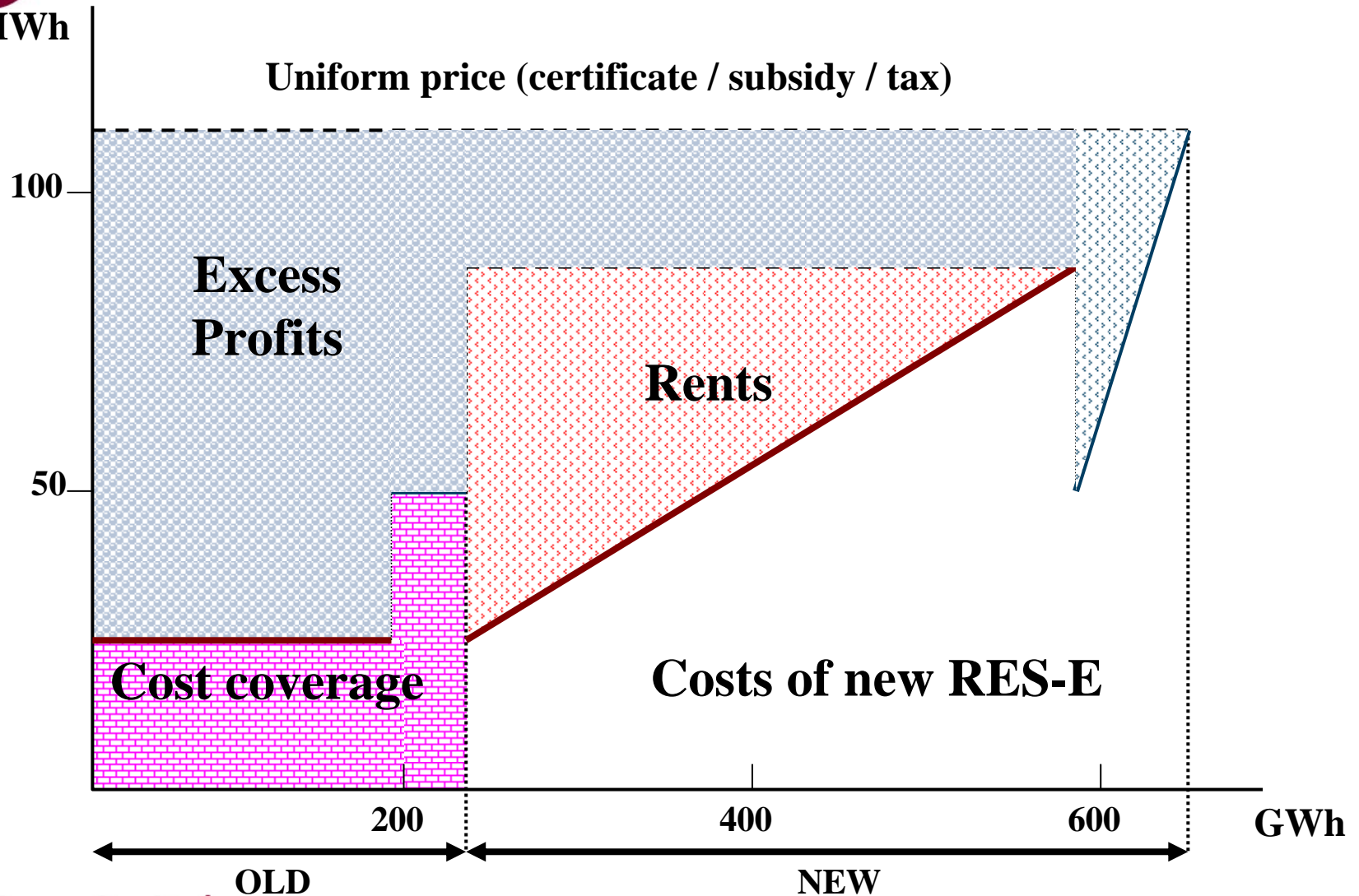
Crucial Choices:

Levies on Grid power > < Subsidies for Green power?

- **Subsidies: Y/N limited by fixed Targets (% of Grid power)?**
- **Subsidies: Y/N mingled with Grid electricity pricing?**
- **Subsidies: Y/N source, technology, scale specific?**



Rents and Excess Profits





RES-E SUPPORT in Europe: German Success Story

German Subsidy Choices

- Not limited by fixed Targets (% of Grid power)
- Not mingled with Grid electricity pricing
- Yes source, technology, scale specific

Effects

- **Effectiveness**
 - All RES-E gets Priority in the electric systems merit order
 - Technological diversity + frontrunning explicitly targeted
- **Efficiency**
 - Source, technology and scale adapted
 - Dynamic efficiency by fine-tuning support
- **Fairness**
 - Costs spread over all end-users of grid power
 - Excess profit making avoided



RES-E SUPPORT in Europe: Flanders Story

Flanders Subsidy Choices

- Yes limited by fixed Targets (% of Grid power)
- Yes mingled with Grid electricity price
- Not source, technology, scale specific

Effects

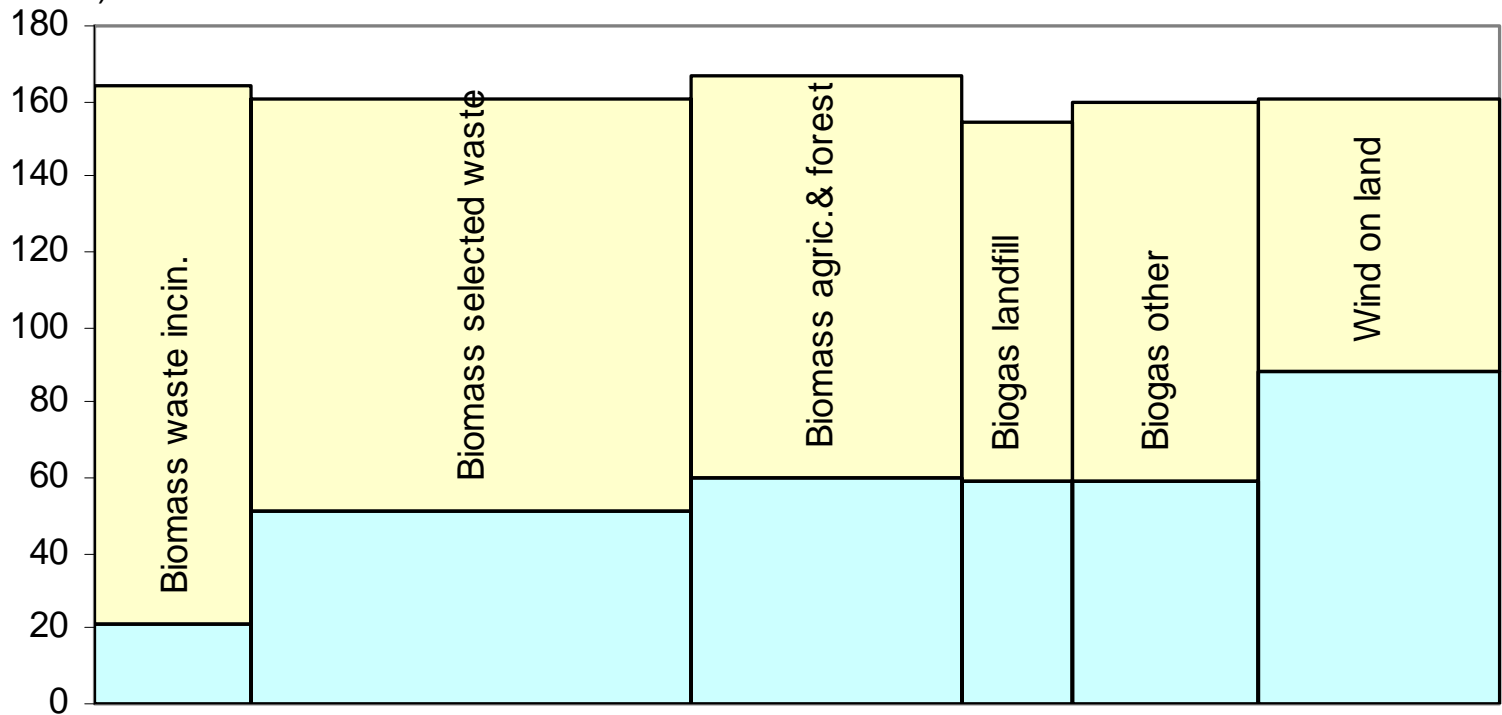
- **Effectiveness**
 - RES-E balancing cost accounting unclear
 - No technological diversity targeted
 - High GCprices trigger projects, most bio-waste processing
- **Efficiency**
 - Excess profits are excessive
 - Dynamic efficiency out of scope (bio-waste dominance)
- **Fairness**
 - Excess profits paid by most end-uses of grid power



RES-E SUPPORT 2002-2007: € traffic German /Flemish prices

€/MWh received by
RES-E (price grid
power + certificate)

Uniform treatment of technologies causes swindle profits



□ Cost coverage □ Swindle

Share in RES-E MWh generation

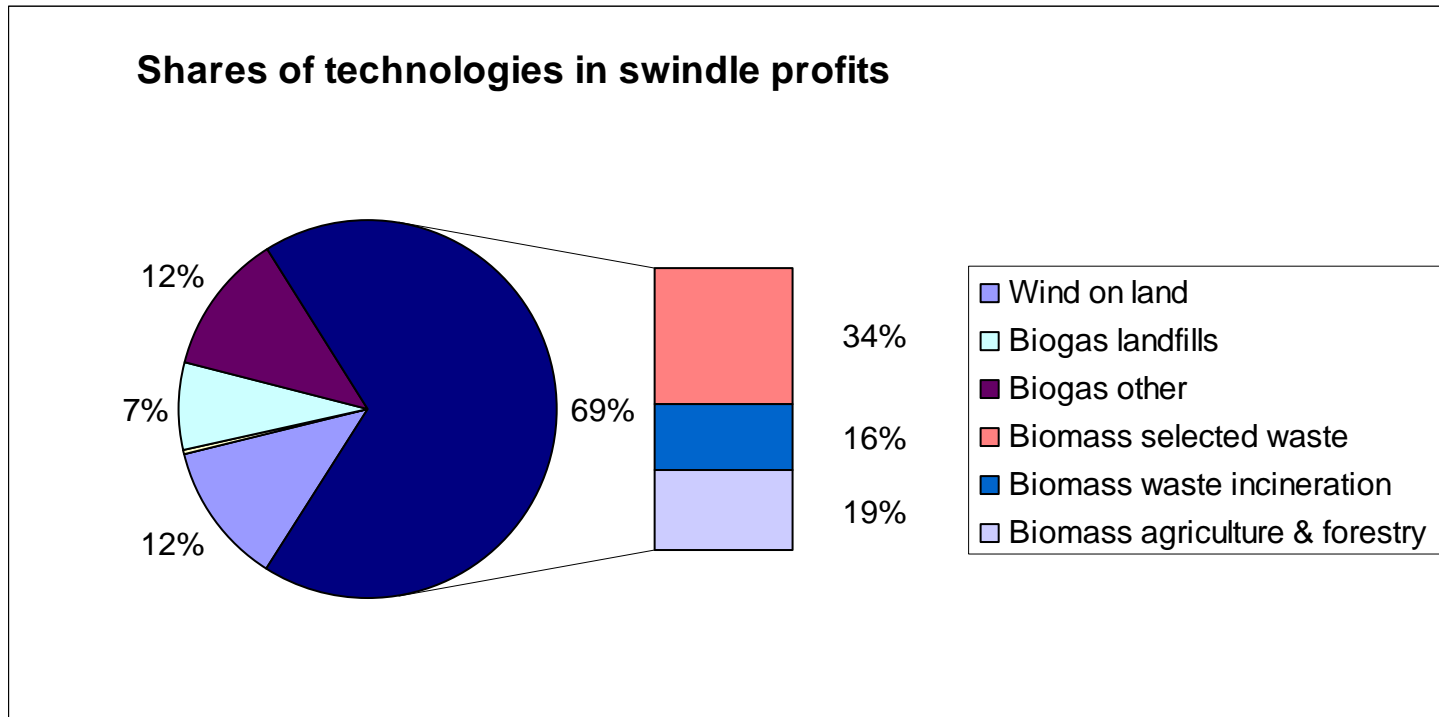


Flanders 2002-2007: Size of excess profits

Flemish consumers paid M€809 (=100%)

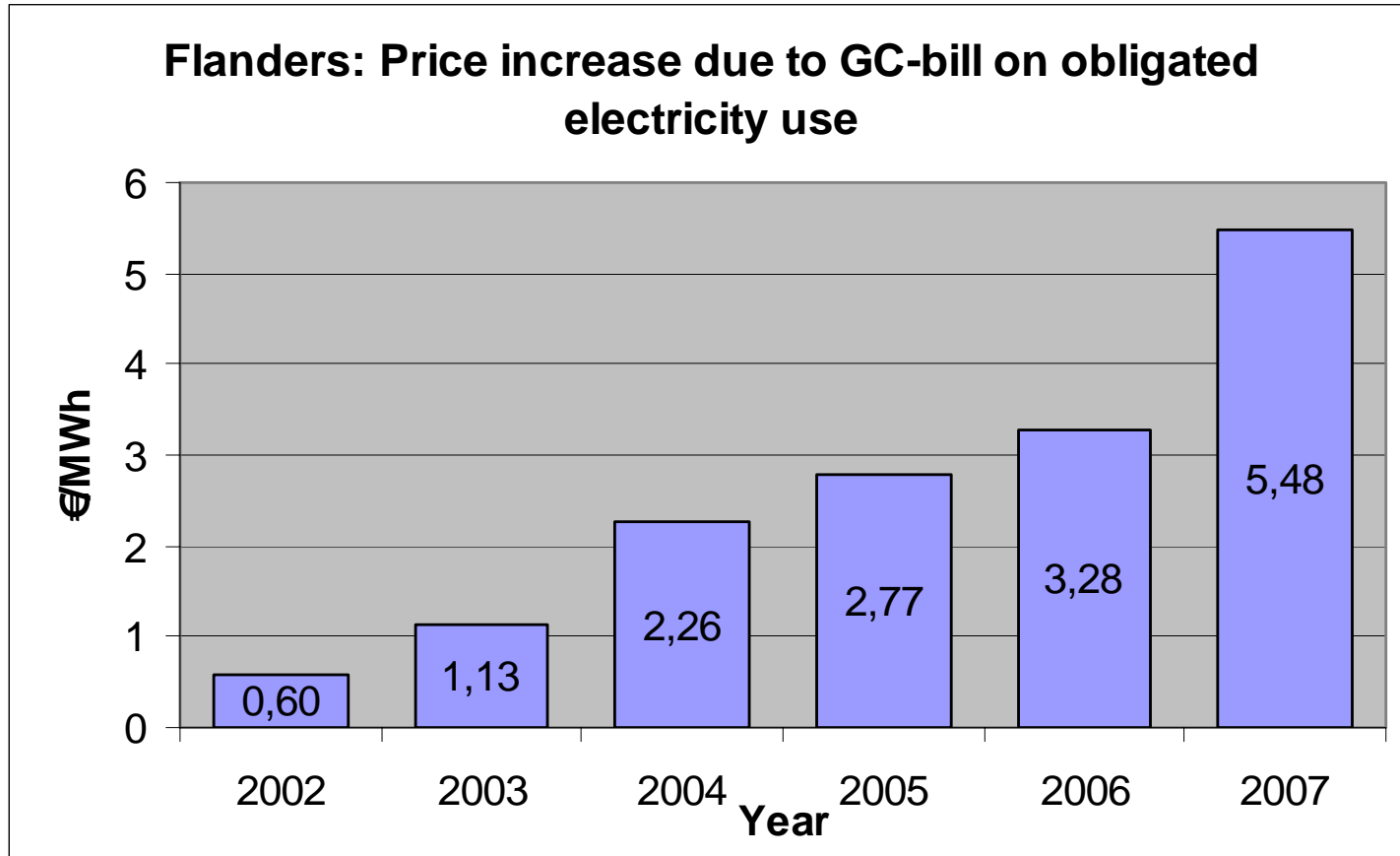
If German FIT applied: M€287 (=35,4%)

Excess (swindle) profits: M€522 (=64,6%)



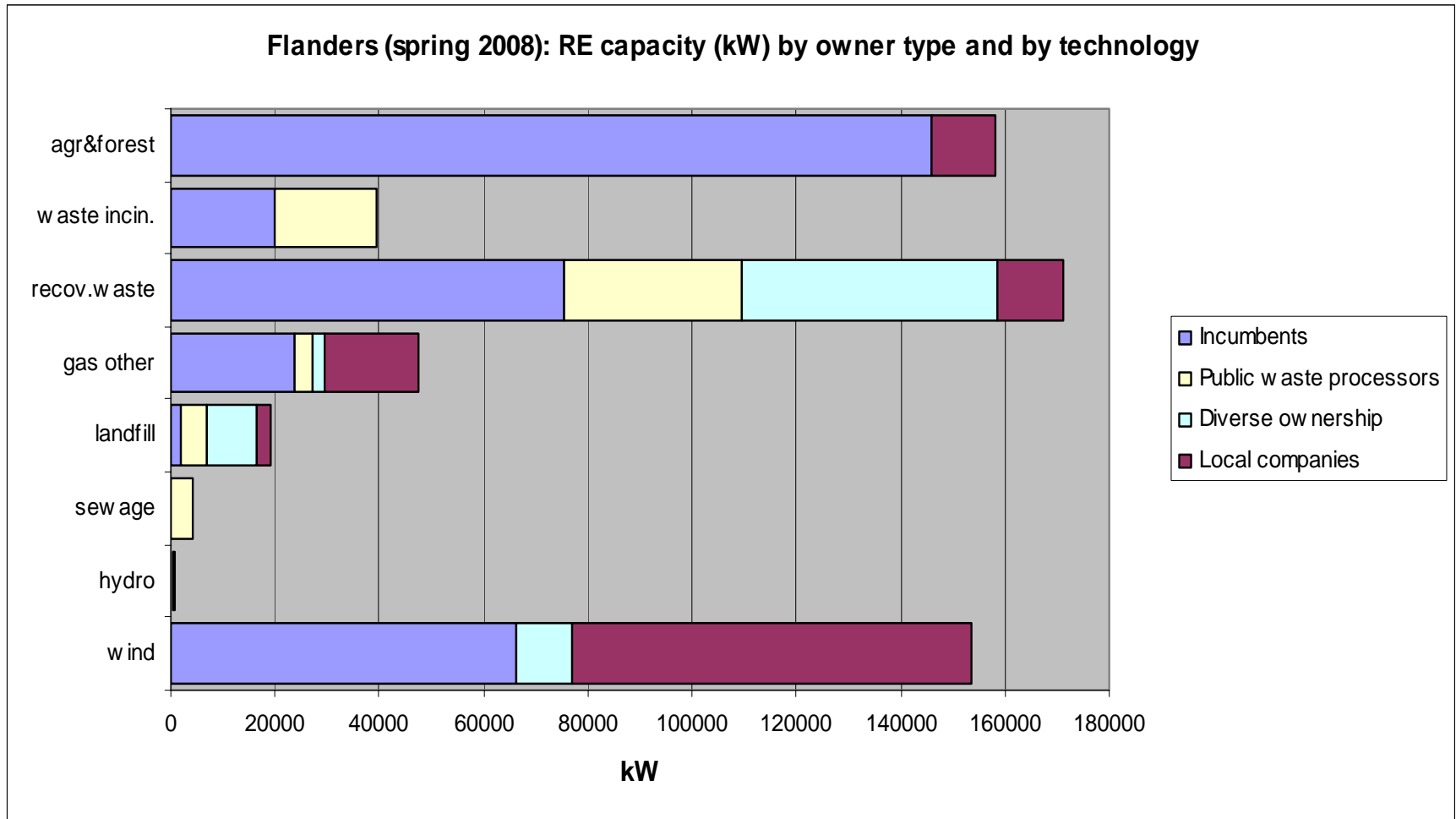


Flanders 2002-2007: end-users pay





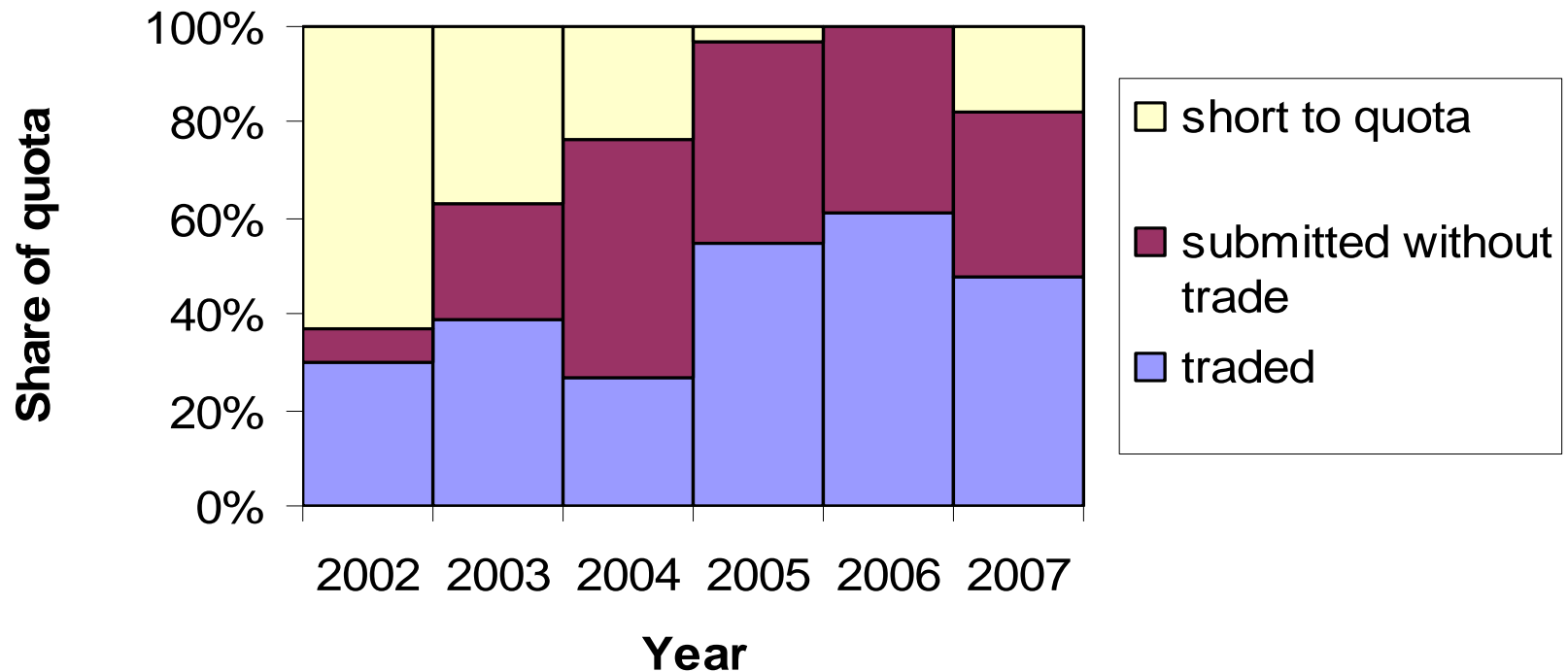
Flanders 2002-2007: who owns RES-E?





Flanders 2002-2007: market clearing?

Flanders: certificates short, traded and non-traded





Findings about Flemish TGC

1. **NOT a market system**

1. Dominant position of incumbents
2. Trade = distribute burden over el.suppliers
3. Quota set ex-post at actual output
4. Also minimum prices guaranteed

2. **BUT premiums with high excess profits**

1. Full cashing by incumbents
2. Outsider el.suppliers nipped



Conclusion: Flemish experience

- **Simplistic approach occasions huge excess profits + other bias**
- **Flanders: representative for (bad) premium system, not for Tradable Certificate Market**

CRUCIAL:

- **Clear LT goal: 80~95% RES-E by 2050**
- **Public Governance: energy policy, regulation**
- **Qualify RES-E Sources & Technologies**
- **Interaction Green & Grey power systems**
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