



Wind Energy Integration in the Urban Environment

Study Tour

Amsterdam – October 26th -27th 2006

Intelligent Energy  Europe



GENERAL FRAMEWORK

Wind energy integration in the urban environment

Objective : Promote the general knowledge and the development of urban wind turbine in partners countries and Europe

WHY ?

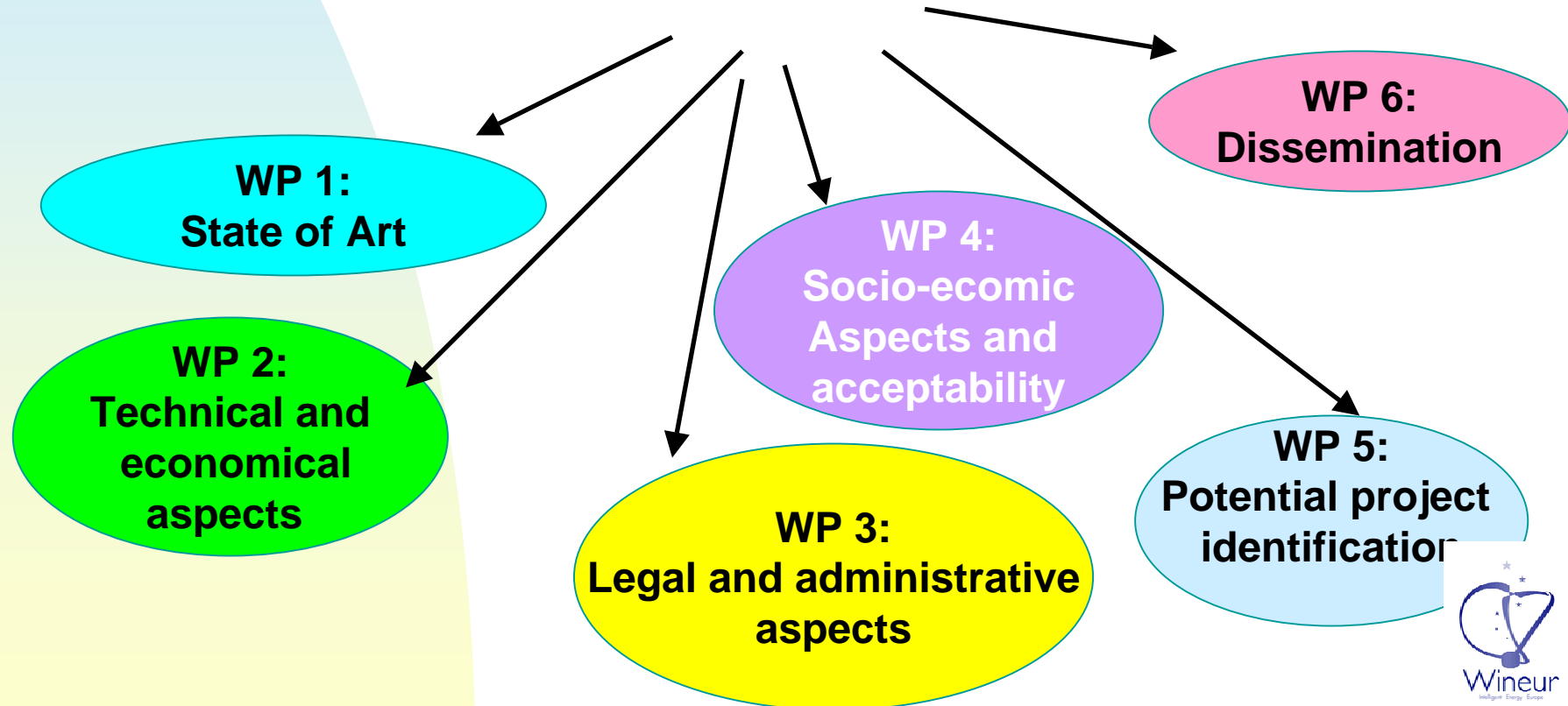


To contribute to the:

- 👉 European target for renewable energy of 12 % within 2010 ;
- 👉 Reduction of CO₂ emissions ;
- 👉 Creation of sustainable communities across Europe ;
- 👉 Creation of new market opportunities & local jobs

Wind energy integration in the urban environment

HOW ?



Wind energy integration in the urban environment

WP	Topic	2005												2006												2007					
		Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Nov	Dec	Jan	Feb	Mar	April				
1	State of the art	█																													
2	Technical & economical aspects			█				█																							
3	Legal & administrative aspects			█																											
4	Socio-Economic aspects & acceptability			█																											
5	Potential project identification				█																										
6	Dissemination & Website				█																										

Completed work

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State of the art & experiences gained

Review of the:

- ◆ **existing technologies**
- ◆ **technologies in development**



**Catalogue of wind turbine manufacturers and operators
Available on Project website:
Urban-wind.org**

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Technical and economical aspects:

- **General economical data**
- **Typical costs**
- **Grid connection issues**



Reports and documents
available on Project website:
Urban-wind.org

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Administrative an planning issues:

- Legal framework
- National planning policy
- Administrative and planning barriers



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Works in
progress

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Socio-economical Survey:

- **Attitude regarding energy**
- **Opinion on some urban wind turbine**
- **Opinion on the best implantation of urban wind turbine**
- **Foreseen obstacles to wind turbine installation**
- **Individual socio-economic criteria: niceness, size, safety, noise, energy balance, financial balance, attitude regarding (renewable) energy, experience with (renewable) energy**
- **Level of acceptance of urban wind turbine on roof**

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Potential sites Identification:

- **Site constraints: legal, technical, socio-economical**
- **Wind potential assessment**
- **Appropriate technology definition**
- **Economical analysis (electricity production, external costs avoided..)**
- **Design of project:**
 - urban integration**
 - architectural integration**

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Dissemination phase :

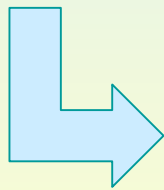
- **Raising awareness in local communities**
- **Raising awareness of decision makers in city councils**
- **Facilitating information exchange between town planners and project developers**
- **Identifying potential projects and actors**

Focus on
technologies and
costs

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Main French features:

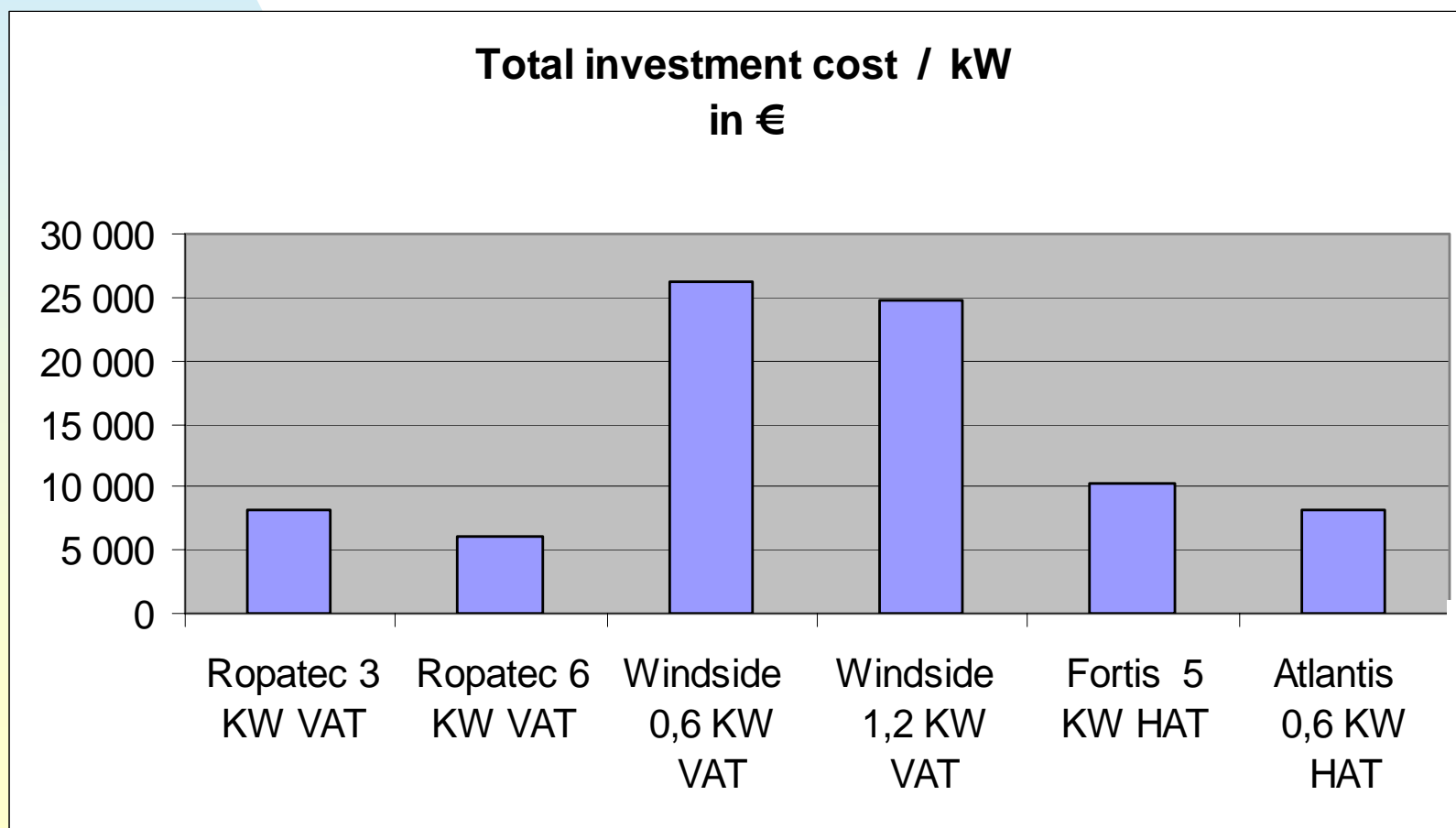
- Absence of technology support policy
- Absence of feed in tariff
- Market just emergent



Investigations were led with the four following manufacturers:
Ropatech- Fortis- Atlantis- Oy Windside

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Comparison of the capital costs



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Productivity of the different wind turbines

