

Voor de wind gaan

1st Wind Cities meeting
NDSM, Amsterdam
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Project partners

- Three northern provinces: Groningen, Friesland, Drenthe
 - 6 turbine suppliers
 - Van Hall institute
 - SenterNovem
 - Energy Valley
 - KNN Milieu
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Target

- Practical appliance of small wind turbines in different surroundings: rural, urban and industrial
- Research on: legal and organisational procedures and on technical aspects
- Answer to the question: which surrounding is the best for small wind turbines?

Turbines

- 22 wind turbines, 4 types
- With blades, 9 turbines: Fortis Wind energy, Provane and H-energiesystemen
- Darrieus, 7 turbines: Turby and WindWall
- Savonius, 4 turbines: Windside
- Venturi, 2 turbines

Turbines with blades

Fortis Montana



H-energy



Darrieus

Turby



WindWall



Savonius

WindSide



Venturi



Organisation and planning

- Province Groningen is project leader
- Suppliers are responsible for the location and placement
- Electricity for the user, surplus into the grid
- Planning 2004-2007
- Monitoring: policy, legal framework, social aspects, safety

Conclusions

- 15 of the 22 turbines will be placed
- Fortis is the most successful supplier
- Some suppliers think only about technology, not about the customer
- Bottlenecks: long procedures, permit only for height < 15 m, no clear safety requirements, no cooperation among parties within the chain