



## Renewable Energy

We have the experience to make a project successful.

### Origin

The need for renewable energy sources is recognized worldwide. Nowadays the reduction of greenhouse gases to protect our environment and reducing the dependency on fossil fuels have a high social and political attention. Many countries set targets or have committed themselves to realize renewable energy sources. Wind power and bio-energy are proven technologies and efficient forms of renewable energy.

### Knowledge and experience

Prodeon was founded in 2004 with the aim to realize renewable energy projects with a good return on investment for stakeholders and investors. We are specialized in three different technologies:

- wind power (on shore)
- biogas (digestion of biomass)
- landfill gas

Our team has the knowledge and practical experience to advise and support you in the development, installation and operation of wind turbines and biogas installations. We would like to be your guide and partner from the first idea up to and during operations, depending on your needs and the specific project situation.

### Independent

We operate independent and have no commercial bindings with specific suppliers of wind turbines or biogas installations. Therefore we are able to advise you the best solutions depending on project demands.

### Why Prodeon?

Prodeon owns and exploits different wind power plants and biogas installations. We daily deal with the challenges in the development, building and operation of wind power projects and biogas installations. Our experience can save you substantial learning costs. Therefore Prodeon is your best partner and guide in realizing your renewable energy project!

### Contact

Rietveldstraat 14  
NL-8013 RW Zwolle  
The Netherlands

P.O. Box 40168  
NL-8004 DD Zwolle  
The Netherlands

Phone +31 384222832  
Fax +31 842203538

[info@prodeon.nl](mailto:info@prodeon.nl)  
[www.prodeon.nl](http://www.prodeon.nl)



## Wind Power

For wind power projects we can advise you during the route from the first idea up to and during the operational phase. If you have a potential location we can make a feasibility study including a site scan, a legal assessment, investigation of permit requirements, grid connection possibilities and possible power earnings. Financial advice and the necessary preparations to be able to make management decisions are part of our expertise. We can write the business plan for the project.

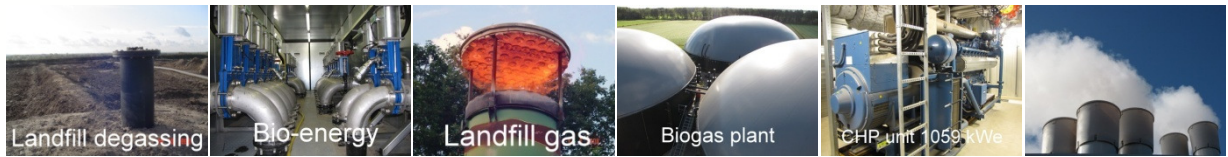
**Prodeon offers expertise in the whole range of activities necessary to realize a wind power project:**

- site scan (e.g.: layout plan, visualization, environmental issues, wind resource, accessibility)
- legal assessment
- investigating permit requirements
- selection wind turbine
- grid connection
- electricity contract
- maintenance contract
- finance and management planning
- project management
- performance monitor and reporting



Reference projects:

- |               |             |       |                |              |
|---------------|-------------|-------|----------------|--------------|
| • Zoeterwoude | 2 turbines  | 4 MW  | <b>Enercon</b> | E70 - 2.0 MW |
| • Rijnwoude   | 4 turbines  | 12 MW | <b>Vestas</b>  | V90 - 3.0 MW |
| • Kampen      | 5 turbines  | 15 MW |                |              |
| • Neerijnen   | 10 turbines | 30 MW |                |              |
| • Nauerna     | 2 turbines  | 6 MW  |                |              |
| • Emmen       | 12 turbines | 36 MW |                |              |
| • Oostermoer  | 2 turbines  | 6 MW  |                |              |



## Biogas

Biomass as a source for biogas can be an interesting renewable energy solution. The biogas can be used as fuel for a CHP-unit to provide electricity and thermal energy. It is also possible to upgrade the biogas to natural gas or transportation gas.

There are several technologies available to produce biogas. The available resources and geographical situation also play a vital role in the decision making process.

### Quick Scan or Feasibility Study

To determine the feasibility of a biogas installation many aspects need to be taken into account:

- availability of biomass (quantity, quality, logistics, costs)
- technological solutions (process and basic engineering)
- geographical condition of the site
- energy conversion possibilities (biogas, electricity, warmth, natural gas, liquid transportation gas)
- legal permit issues and waste legislation
- energy contracts



### Reference projects

- |               |   |
|---------------|---|
| • Ysselsteyn  | digestion of 43.000 ton biomass, 2400 kWe |
| • Beilen      | digestion of 36.000 ton biomass, 2000 kWe |
| • Barneveld   | landfill, 1500 kWe                        |
| • Ermelo      | landfill, 475 kWe                         |
| • Other sites | landfill, 155 - 230 kWe                   |

## Solar Boat

Prodeon sponsored a solar boat from the Polytechnic School Windesheim Zwolle (the Netherlands). In the first race the Prodeon Team finished in 3<sup>th</sup> place! During the international Frysian Solar Challenge of 2010 the team reached the 4<sup>th</sup> place.

