



The labour market in the Dutch Energy Sector

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Economic Policy: Dutch *Top Sectors*

- Agri & Food
- Chemical industry
- Creative industry
- ***Energy***
- High Tech Systems and Materials
- Life sciences & Health
- Logistics
- Water
- Horticulture

Dutch Energy Sector

Increase share of sustainable energy:

from 4% to 14% in 2020

Job openings in Energy sectors

- **Employment growth**
- **Replacement demand**

Employment growth in energy innovation themes

	2011	2020
Offshore wind	2,300	12,000
Solar panels	2,100	10,000
Smart Grids	few	14,000
Gas	70,000	100,000
Bio Energy		?
Efficiency in manufacturing		?

Replacement demand in Energy sectors

- **25% of all employees is in 55+ age group**
- **This will create high demands for new employees in the near future**

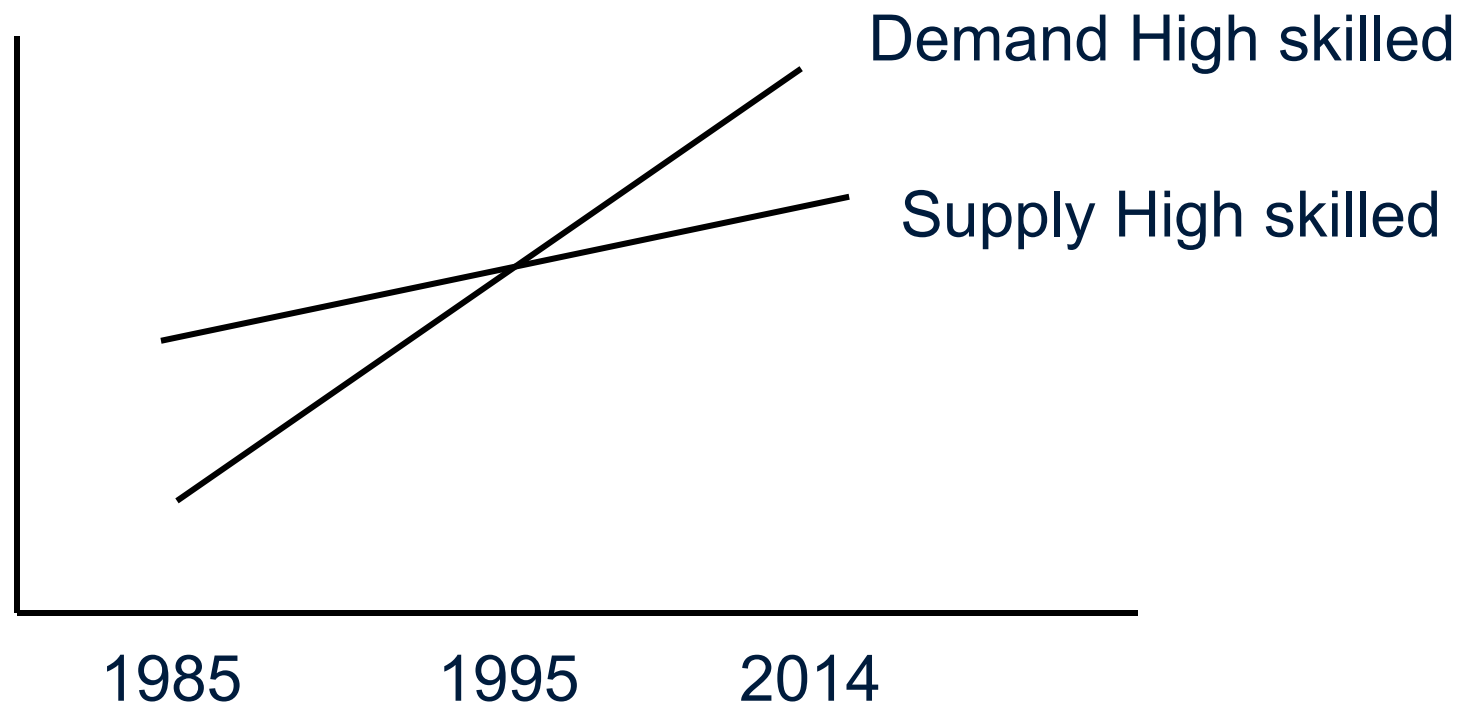
Energy sector: Upgrading of skill requirements

- **This will create high demands for high skilled engineers**

Causes of skill upgrading

- Specialisation in knowledge intensive sectors of industry and work packages
- Technological and organizational innovations
- Quality management

Tinbergen's *race between technology and education*



Forecasting labour market developments

Components of ROA forecasting model:

Demand:

- Expansion demand
- Replacement demand

Supply:

- Inflow of graduates
- Currently unemployed

ROA: Labour market shortages for technical studies 2018

<i>Skilled vocational workers</i>	Labour shortages
<ul style="list-style-type: none">• Laboratory• Electrical Engineering• Mechanical Engineering	Large

ROA: Labour market shortages for technical studies 2018

	Labour shortages
<p><i>Higher Vocational level (Fachhochschule)</i></p> <p>Electrical engineering, Civil engineering, Chemical engineering, Laboratory, Mechanical engineering, Transportation and logistics, Science and technology teachers</p>	Large
<p><i>University level</i></p> <p>Electrical Engineering, Mechanical Engineering</p>	Very large

Shortages are particularly due to

- **Upgrading of skill requirements**
- **High replacement demand**

What kind of skills is the Dutch energy sector looking for?

Dutch energy sector's *human capital strategy*

- **Innovative professionals**
- **Intrapreneurship**
- **Lifelong learning**

Future skill demands for innovative + intrapreneural engineers

- **Technical expertise**
- *Problem solving abilities*
- *Relationships with customers*
- *Flexibility*
- *Initiative*

Risks on skills obsolescence

Half-Life of a Professional

“Half life of an engineer” (Dubin, 1972):

*“the time after completion of professional training when, **because of new developments,** practicing engineers have become roughly **half as competent** as they were upon graduation to meet the demands of their profession”*

Half life of an engineer:

1940 : 12 years

1970 : 7 years

now : 3-5 years?

Lifelong learning
is a major focus point of in
Dutch energy sector

Continuous skill updates :

- further training
- informal learning on-the job

prevent skills obsolescence

% of working time Dutch employees spend on tasks from which they learn

- **Average** 31%
- **Young workers** 40%
- **50+ workers** 25%

94%
of the time
that full-time employees
spend on learning refers to
learning on-the-job

**This emphasizes the
importance of a
*rich working environment***

Dutch energy sector's *human capital strategy*

- **Innovative professionals**
- **Intrapreneurship**
- **Lifelong learning**

What makes the energy sector attractive for graduates?

- **Interesting tasks:** 52 %
- **Salary** 37 %
- **Challenging work** 37 %
- **Career opportunities** 28 %
- **Dynamic sector** 21 %

Thank you for your attention

