



**KONING
WILLEM I
COLLEGE**

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Hans de Jong



Kennispact
MBO Brabant



Fontys

University of Applied Sciences

avans
hogeschool

The province of North Brabant has about 2.5 million inhabitants,

Eindhoven 238.000 inhabitants

's-Hertogenbosch 150.000 inhabitants

With 15% of the gross domestic product

In livestock farming, North Brabant is the largest when it comes to pigs and poultry.

Of economic importance are also

- the manufacturing and knowledge industry in the region of 's-Hertogenbosch, Veghel & Oss & the Eindhoven Metropolitan Region (Brainport)
- the process industry at Moerdijk, and a variety of company's in the wide region of KW1C
- A large number of distribution centers.

Why do we need to collaborate?

- Increasing pressure out of the EU, climate (global) goals
- Very big shortage of workers (in the tech sector)
- The energy transition affects every sector
- Developments are going very fast, increasing technology solutions due to lack of manpower
- The training of teachers is a challenge
- The inflow of new MBO students in the tech departments (overall in Holland) is troublesome
- Increasing need for soft skills
(communication, teamwork, social behaviour)
- Co-operation (also in research)



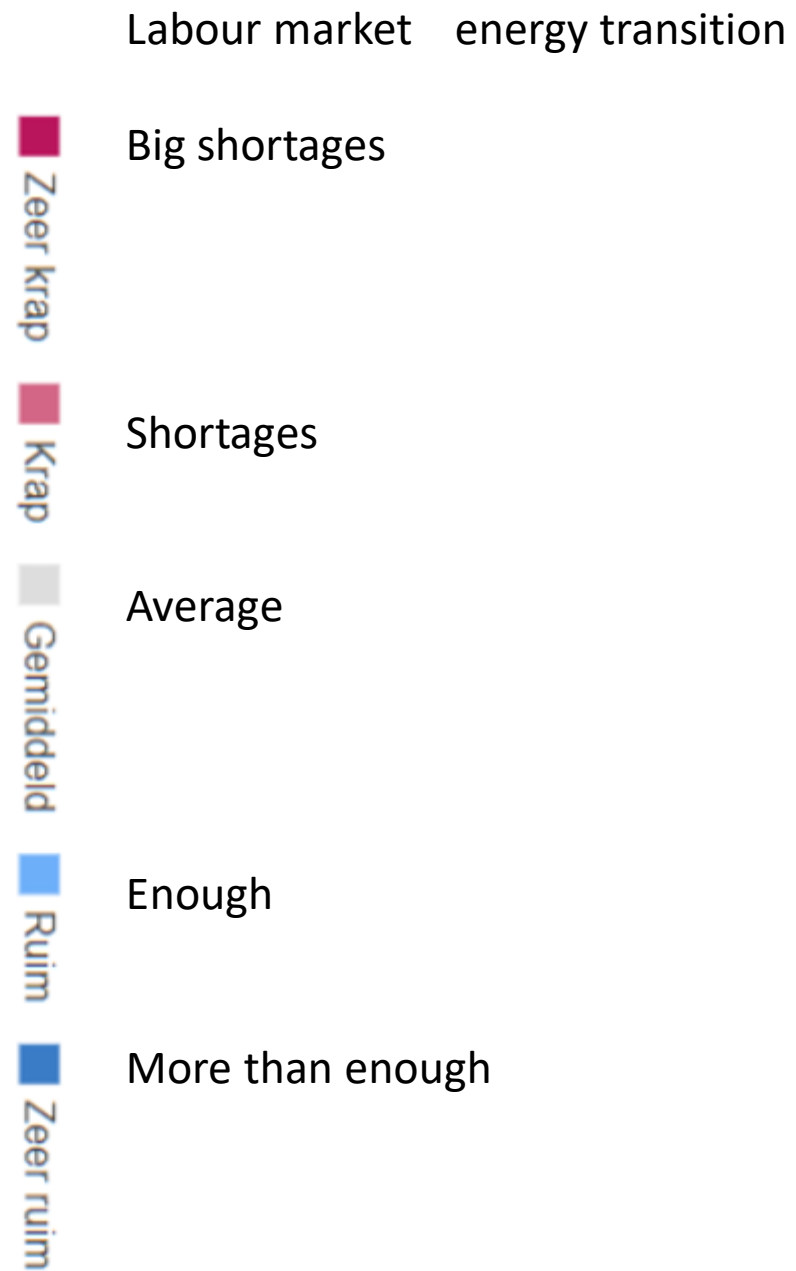
What?

- Better education programmes, focusing on the energy transition
- More national and regional cooperation between education, government and industry
- Involving adults for technical training & education (Long Life Learning) > Job rotation
- Involving people with a distance to the labour market
- To enthuse students for the energy transition (adults, youngsters, immigrants, women)

The Challenges



In 2030 10-15.000 extra labourers necessary.



1. Vacancies in the Tech sector; 1st quarter 2022

6.800 education level 1

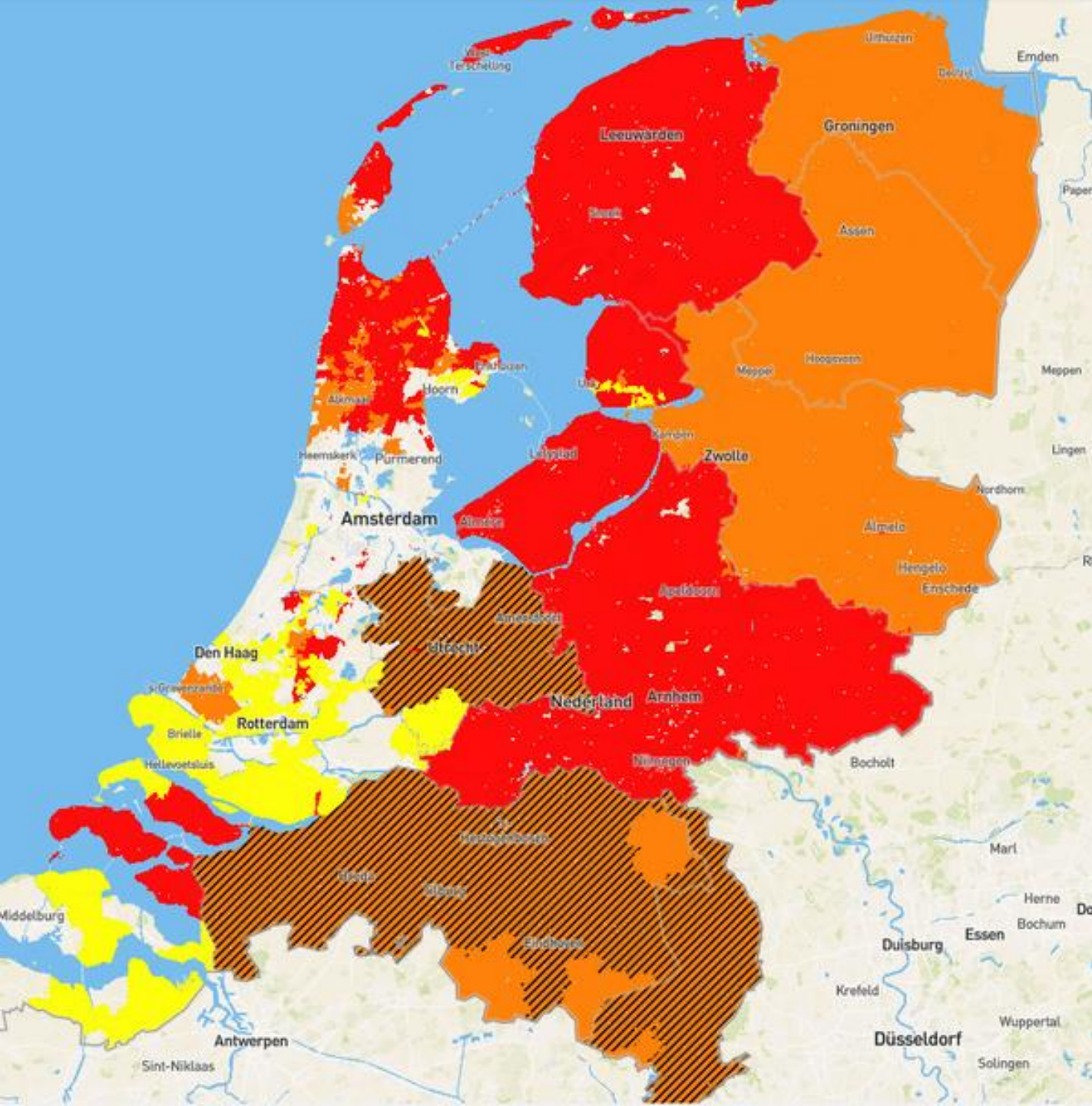
50.000 education level 2

11.900 education level 3

12.900 education level 4

1. Bron: UWV. Zie hier voor informatie over de methodologie. UWV heeft de methode per kwartaal 1 van 2022 herzien. Dit is met terugwerkende kracht toegepast. Daardoor lopen de data terug tot en met 2017. Zie hier de [Lijst met technische beroepen per beroepniveau](#).

2. De beroepsniveaus zijn volgens de ISCO-indeling. Beroepsniveau 1: eenvoudige routinematige taken; elementair of lager onderwijsniveau vereist. Beroepsniveau 2: weinig tot middelmatig complexe taken; lager of middelbaar onderwijsniveau vereist. Beroepsniveau 3: complexe taken; middelbaar of hoger onderwijsniveau vereist. Beroepsniveau 4: zeer complexe gespecialiseerde taken; hoger of wetenschappelijk onderwijsniveau vereist.



Net congestion very severe



Net congestion severe



Net congestion with congestion management



No congestion



No problems

2. Infrastructure challenge

How do we deal with these challenges?

The mission

Noord-Brabant educates enough and good qualified people for the energy transition

The vision

We can create great impact by cooperation with partners to achieve the mission

Regional Investment Funding (RIF):

[Regionaal Investeringsfonds mbo \(RIF\) | Subsidie | Dienst Uitvoering Subsidies aan Instellingen \(dus-i.nl\)](#)

Five tracs:

1. Improve & sustain cooperation
2. Develop new tracks for education, also based on skill training level
3. Futher improvement of existing education course
4. Stimulation of life long learning
5. Improve research

WHAT:

- electrification
 - conversion of electricity into hydrogen
 - home automation, sensoring
 - augmented reality
 - the production of grey and green hydrogen
 - Insulation, Ventilation
 - Heating pumps
-
- Keeping education up-to-date with developments in society is also a major challenge.
 - There is currently a great pressure on teachers for the technical courses.

VET innovation and expertise centres (MIEC; MBO INNOVATION & EXPERTISE CENTRE)

Kennispact



Life long learning

VERDER



Macro efficiency

VERDER



Continuous learning trajectory

VERDER



Stimulation of expertise

VERDER

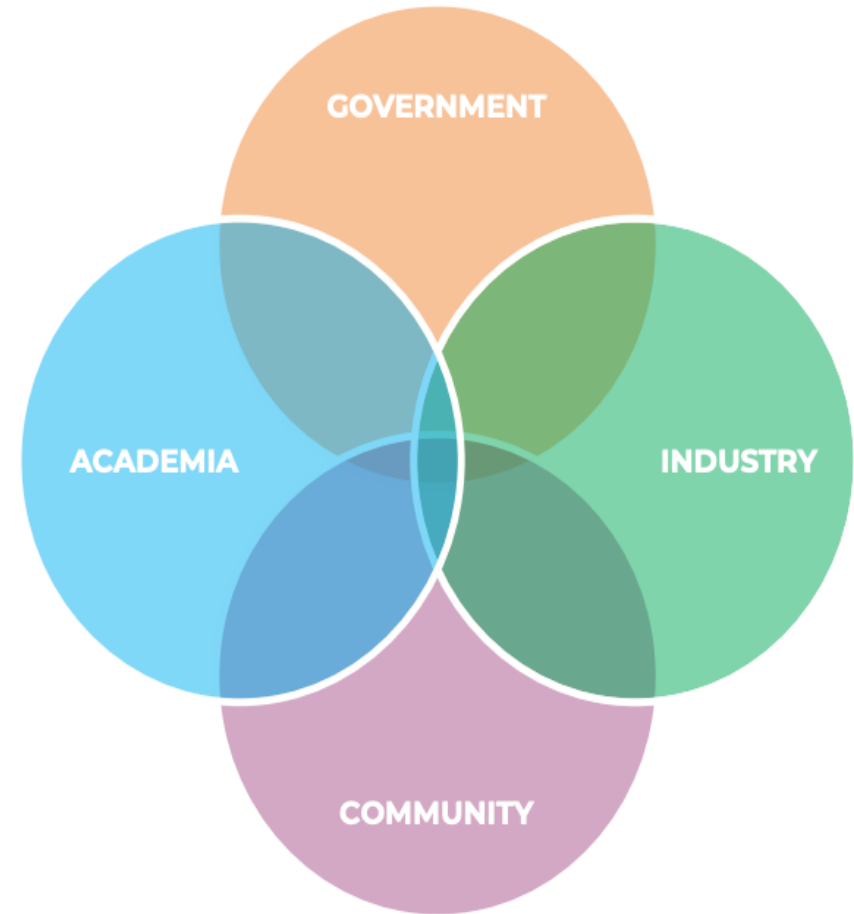


Innovation and expertise

VERDER

Cooperation

- educational institutions, knowledge institutions,
- business, government and community
- train more and better qualified people for the energy transition.
- Continuous technological innovation and system breakthroughs.
- By working together, knowledge is shared faster and each other's expertise is used



1. After 4 years, the MBO institutions have set up a sustainable **collaboration** for Brabant **to train broadly for the energy transition**, which can be extended to related themes.
2. After 4 years, **training routes have been made transparent** for (future) students, professionals, HR(D) employees from the business community and for (study) career coaches.
3. After 4 years, education for the energy transition has been **further developed** from existing training trajectories and gaps within the educational offer, so that developments in the labor market and in society can be responded to.
4. After 4 years, **the need** for further training was **investigated**, education was made **more flexible** for regular VET students and retraining or retraining professionals, the LLO mindset was stimulated and teachers were professionalized to improve teaching regular students, professionals and side entrants.
5. After 4 years, knowledge gained from the established VETknowledge and expertise centre is converted into **useful tools and innovations for education**.
6. After 4 years, there is **5% more** total intake into VET for courses related to the energy transition, compared to the academic year 2022-2023. This includes both regular and non-regular inflows. When setting this objective, it was taken into account that a contraction from regular MBO education is expected.

International cooperation

- Energy education Interreg (International co-operation)
- Smart Grids/Technology,
- Biobased Energy,
- Built Environment,
- Offshore Energy,
- Sustainable Hydrogen,
- Thermal Energy,
- (Sustainable) Energy Systems,
- Climate Neutral Production (in the chemical sector)



Some Facts:

- First quarter 2023: 42.000 (Hybrid) heatpumps installed
- Every year 430.000 traditional gas heating installations replaced, however the majority of people still makes the choice for gas installation.
- In 2026 is the purchase of a (Hybride) heatpump obliged when a gas installation needs to be replaced
- Every region in Holland has courses for heatpump mechanic.

Partnerships:



211 students (level 3 and 4)
Low voltage, high voltage, gas



56 students (level 2, 3 and 4)
Gas and water



33 students (level 2 and 3)
Low voltage, high voltage, gas and water



44 students (level 2 and 3)
Low voltage, high voltage, gas and water



43 students (level 2 and 3)
Building services engineering
(plumbing)



754 students* (level 2, 3 and 4)
*other studies

Partners in the RIF Energy transition

RWE	vmbo school 5 (Campus 013)	Agristo	Stichting MOED, Jan Snelders,	Kanters Electro
Avans	Croonwolter en dros/TBI	Breman: Leo Groeneveld	Techniek Nederland	Solarconcept
Essent	Eckart College Eindhoven	Unilin	Volker Wessels: Martijn Jansen	Vanderlande Industries
Heerkens van Bavel	Montessori College Eindhoven	Van Delft	Barli: prefab bouw	Equans (Engie)
Kennispact	SPIE / Strukton	ZNI bv: Gom Kremers	Brabant geeft energie	Mansveld
Techniekcoalitie	Summa College	Unica	Brabant water	Tilburg University
Brainport	ROC ter AA	Bouwend Nederland	Brabant woont slim	Arbeidsmarktregio NO Brabant - geen reactie
Fontys	ROC Tilburg	Vattenfall	Club van duurzaam doen	gemeente Breda
Midpoint Brabant	Koning Willem 1 College	Witteveen+Bos	Duo Electro	Kemkens
Provincie Noord Brabant,	Curio	Burgaflex Etten Leur	Electude	Koning Koudetechniek
Bouwmensen:	Antea	Flow Serve Roosendaal	GloFlex	vmbo school 4 (graag naam school invullen)
Actemium (VINCI energies)	Yuverta	Perfetti van Melle Breda	Groene groei (uitzoeken status)	Platform Water,
APK group	Breburg	Techtalent	Hendriks bouw	FME
BAM Infra Energie en water	Remmers bouwbedrijf	Transportsystemen Sjaak Bink	Hoppenbrouwers	Koninklijke Metaalunie
Enexis	Arbeidsmarktregio West-Brabant	Van de Kar Elektro Roosendaal	Kuijpers	
Heijmans	Caspar de Haan	VDL,	BouwTalent Zuid	64
Het Techniekloket	Installatie werk BZ			