

# ‘Pathways’ to Participation

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# Questions

Why is participation important in sustainability education? How to augment, support participation in learning about sustainability?

Our aims

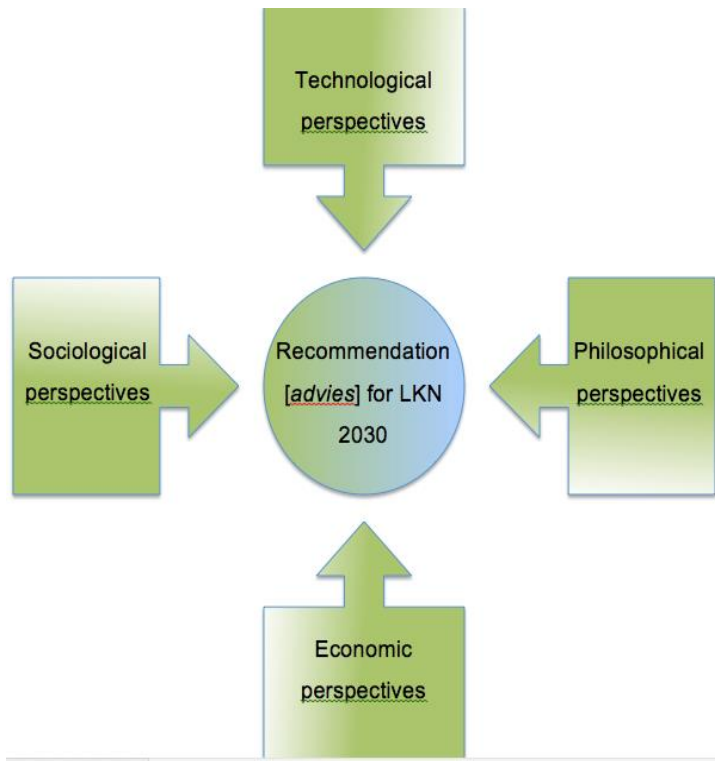
# Parameters of the 'pilot'

- Faculty of Industrial Engineering, Campus Groep T, Leuven
- 3 ECTS - "Pathways to Sustainability: Core Issues and Challenges"
- Split – 16 hours of lectures, 16 hours of 'workshops'
- 370 Master's students – Belgian and international
- Year-long course (sem1 + sem2)



# Theoretical approach to sustainability

- Four pathways or pillars covered (theoretical domains) – technological, economic, social, philosophical.
- Interdisciplinary *and* transdisciplinary
- **The key practical question then: how to allow them in some way to gain experience by ‘participating in’ sustainability, i.e. in one or other sort of effort to achieve it.**



# Past approaches to participation in the course

During 2012-13 and 2013-14

- Students had to research and assess one of the proposed initiatives of the *LeuvenKlimaatNeutraal 2030* (district heating projects, planting 10000 trees in Leuven, tap-water promotion) in terms of the *kind* and *quality* of sustainability to be achieved through it.
- Students worked in groups on the assessment, delivered in video format.

During 2014-15

- Students had to sit in on and take part in the workgroups organized around one of the *LeuvenKlimaatNeutraal 2030* initiatives. They then assessed in terms of the *kind* and *quality* of sustainability to be achieved through it.
- Students worked in groups on the assessment, delivered in video format.

Whence, participation?

There is no one 'pathway'  
to participation



# Example: a participation matrix

*“Orientation, not evaluation”*

Forms of participation				
More indirect participation		More direct participation		
<b>Information exchange</b>  One-way information collection and reflection	<b>Induced Interest</b>  Participation through rewards, incentives	<b>Social Identification</b>  Participation through (critical) association	<b>Ownership</b>  Participation through taking responsibility, making informed choices	<b>Collaboration</b>  Participation through cooperative engagement

In search of a new  
methodology for the course

# A re-design of student participation projects within the 'Pathways' course

During the 2015-16 academic year – five project options:

- **ATTEND EVENTS:** Attend and critically reflect upon eight sustainability events being organized in Belgium.
- **ATTEND A STUDY TRIP:** Participate in a week-long study trip to various European locations to learn about and reflect upon local sustainability projects and conceptions. Students have to report and reflect on their experiences.
- **BLOG ABOUT ONE'S THESIS:** Blog and write a popularizing article about the topic of one's master's thesis in the context of sustainability. The main question: "How is my research contributing to one or other form of sustainability?"
- **PLAN AN EVENT:** In groups, plan and hold a sustainability for a set of stakeholders.
- **PLAN A STUDY TRIP:** In groups, plan a week-long study trip to various European locations for other students to learn about and reflect upon local sustainability projects and conceptions.

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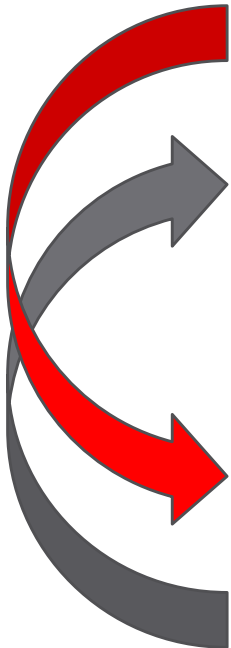
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# 'Pathways' – Student participation projects

## Forms of participation

More indirect participation

More direct participation

Information exchange

Induced Interest

Social Identification

Ownership

Collaboration

Attend sust. events (x 8)

Attend a sust. study trip

Blog about your master's thesis

Plan a sust. event

Plan a sust. study trip

# Results

# What did students choose?

- ATTEND EVENTS – 150 students
- PLAN AN EVENT – 94 students
- BLOG ABOUT ONE'S THESIS – 47 students
- ATTEND A STUDY TRIP – 44 students
- PLAN A STUDY TRIP – 20 students



# Examples of student participation: Attending events

## Windparlement

### Overview

After a short introduction on windturbine's there was a long debate between the panel. There were around 200 people present at this event with a mix of students but also a lot of older people. A lot of people present were angry because a windturbine is or will be placed in their surroundings and were looking for more information on the subject. Therefore during the debate there was a quarrel between the panel and some people present.

### Critical reflection: Are our nuclear plants affected? What to do with our nuclear waste?

It isn't easy to place a windturbine in Belgium. There are a lot of factors which you need to take into account, for example: the noise, drop shadow, the view, reserved aviation airspace. Especially in Belgium where everybody lives spread out through the country (guest lecture BUUR) it is difficult to find a place where this windturbine doesn't bother anyone. We don't live very organized in Belgium so it is hard to place these windturbine's on land. Friction technological pathway – social pathway: we have a technology that can produce clean energy but the way it operates is disruptive to the people. A first (keyquestion) which arose quickly is. "Do windturbine's produce enough energy and isn't there a lot of waste due to the big structure?" The answer is that windturbine's placed on land produce 30 times more energy than needed in its cradle to cradle. Turbine's placed in sea produce even more energy but are more complex to build and maintain. The steel used to build this windturbine can easily be re-used or recycled. Today it is better to invest in wind energy than in solar energy because its yield is better. But the initial investment is very expensive.

## Overconsumptie: de mens bedreigd

### "John Isaacs – The matrix of Amnesia [Fat Man]"



Afbeelding 5: John Isaacs, The Matrix of Amnesia [Fat Man], 1997

Dit werk toont een zwaarlijvige man die ingestort is onder zijn eigen gewicht en languit op de grond ligt. Zijn gezicht is niet zichtbaar en zorgt ervoor dat alle aandacht naar zijn uitgelopen buik gaat. Met dit werk wil de kunstenaar de broosheid van het menselijke lichaam weergeven en het jammerlijke falen van de mens tegenover een maatschappij van overconsumptie. Het creëert een bewustwording en confronteert mij van hoe wij worden meegesleept in een wereld waar productie en marketing de overhand hebben. Mijn ideaal beeld van hoe we op dit moment leven, stel ik in vraag bij het zien van dit werk.

Moeten wij steeds bereikbaar zijn voor ons werk, voortdurend inzetbaar door onze fitheid en kennis steeds up-to-date te houden. Kunnen wij deze levensvorm nog meer uitbuiten of gaan we ten onder aan wat we zelf gecreëerd hebben?

### "Arman – Drogues"



Afbeelding 6: Drogues, ca. 1960-1962

Bij sommigen zal deze levenswijze omslaan in een tirannieke 'zelfbewaking' naar lichaam en geest en zullen andere verschansen in zwaarlijvigheid. Jezelf beschermen en vermaken zullen voor deze middenklasse de enigste opties zijn. En alle ondernemingen en naties zullen zich hierrond dan ook organiseren. Drugs en medicijnen worden de massaconsumptieproducten van het 'hyperrijk'. 'Drogues' wekt vragen op bij de overconsumptie van dit soort producten en bij de proportionele productie van het afval die hun commercialisering meebrengt. We leven in een maatschappij waar de verwachtingen zeer hoog liggen. Productie heeft de overhand, resulteert dit dan ook in de overproductie van ons lichaam. Kunnen we niet meer luisteren naar ons lichaam en moeten we dit vol met vitamines en medicatie stoppen om te kunnen functioneren in een steeds meer verwachtende maatschappij. Wat is tevens de economische rol van de farmaceutische wereld hierin en hoe ver kan dit gaan. Streven we naar een onsterfelijke steeds

meer producerende mensheid die aan alle economische en maatschappelijke verwachtingen kan voldoen?

# Examples of student participation: Blogging the thesis



## Tinkering with food

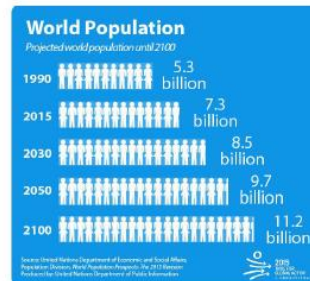
Genetic engineering is an emerging branch in the industry. Companies rise up all over the world, research is in full bloom. Daily new inventions and discoveries are no exception anymore. One of the changing developments of the past decennia are the GMOs. GM-What? 🤖

Giete Moons

GMOs or genetically modified organisms are living creatures, like plants or animals, whose genetic material called genome has been changed artificially in the lab in a way that does not occur naturally. The aim of modifying the genome of organisms is to breed plants and animals with the most desirable characteristics and to leave out the unwanted ones.

Different techniques are available to make a GMO, but most of them apply the same steps. First the gene that will be modified is isolated. This gene is subsequently

*same possibilities and sources as we have today. We cannot take things away from them. That's just not fair, because they will at least have the same needs as we do. All things we have and can use today, should be passed on to future generations and in this way we provide the same opportunities for them.*



Pathways to sustainability

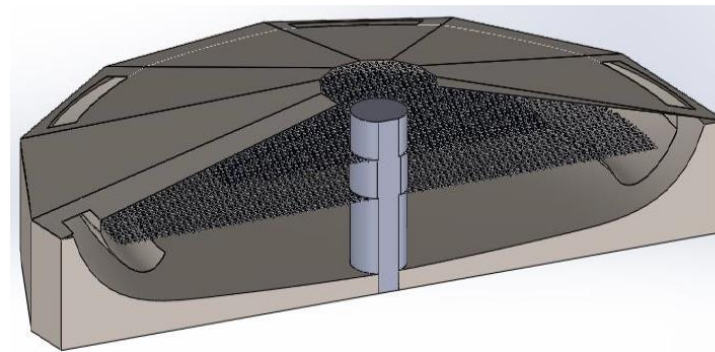


Figure 2 Sectioned View of Solar Dryer

Following the technological advantage solar food production, different philosophical, social, economic claim is expected from community of deviated interest and field of knowledge which may or may not be defended.

# Examples: Planned events as community outreach in schools

## Event – workshop 2 @ CLT

Intro



Survey



Date: April 29<sup>th</sup>  
Address: CLT  
Duration: 3 hours



# Examples: Planned events as dialogue and debates

## DEBAT: TOEKOMST EN DUURZAAMHEID

Een debat georganiseerd door CORE omtrent duurzame energievoorziening.

CORE organiseerde een debat rond duurzame energievoorziening waarbij enkele sprekers vanuit verschillende invalshoeken ingingen op enkele stellingen omtrent dit thema. Aan allen die aanwezig waren, een welgemeende merci!

"Voor mij ligt de oplossing in een CO<sub>2</sub>-arme energiemix met zowel hernieuwbare energie als kernenergie" – Matthias Meersschaert, Nucleair Forum

"Opslag van elektriciteit blijft een hekelpunt en blijft zeer moeilijk en kostelijk" – Jan Duerinck, EnergyVille

"Ik weet dat er hier niet veel mensen graag een windmolen in hun achtertuin hebben staan, maar zijn die dan blijer met een kerncentrale in hun achtertuin?" – Johan Danen, Groen

### Foto's



### GEPUBLICEERD DOOR

16 maart 2016

Jean-Baptiste Verroken

### LEES OOK

ecoTops: Trends in Sustainability  
2 mei 2016 - 13:40

MobiOne: Missie & Visie  
30 apr 2016 - 21:17

Jaarverslag 2015  
16 apr 2016 - 20:32

facebook Sign Up Email or Phone Password Log In Forged account?

## ENGINEERING PRESENTS: DNA, JE PERSOONLIJK VISITEKAARTJE

**16 februari 2016 vanaf 19h**  
DNA, je persoonlijk visitekaartje

Public · Hosted by Femke Smets and 6 others

Interested Going Invite

Tuesday, February 16 at 7:00 PM in UTC+01  
about 3 months ago

Groep T  
Andreas Vesaliusstraat 13, 3000 Leuven, Belgium Show Map

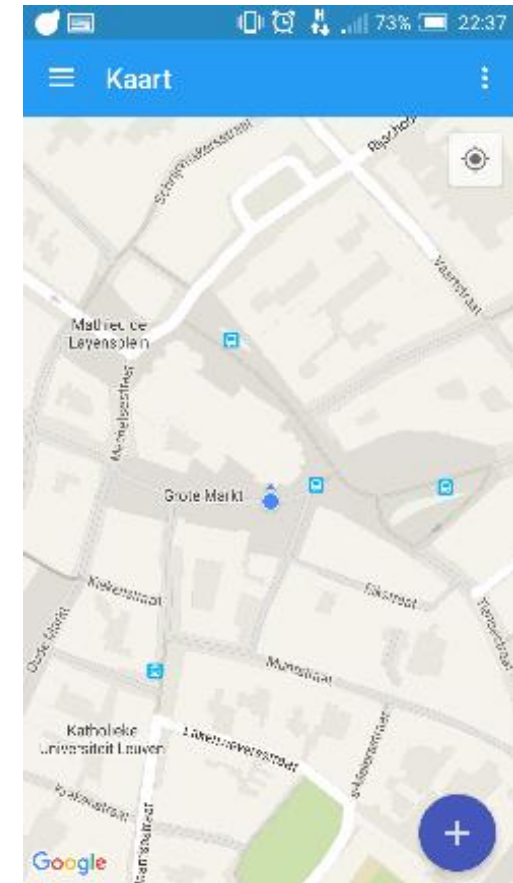
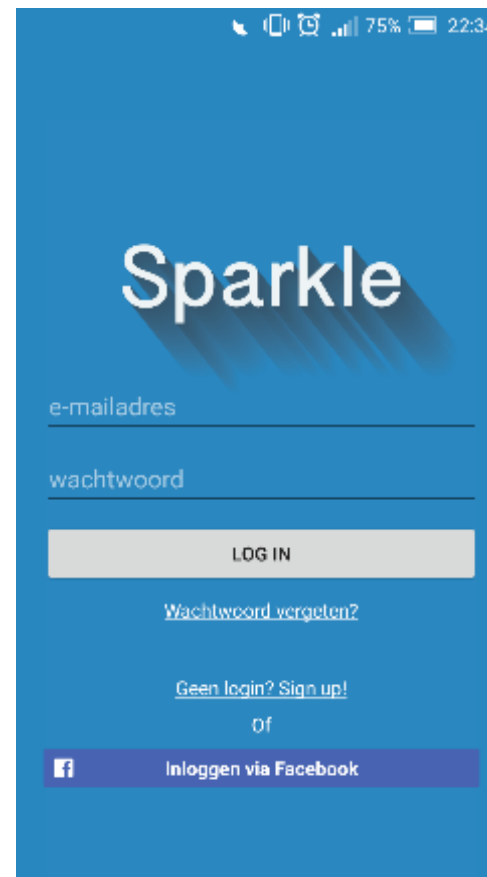
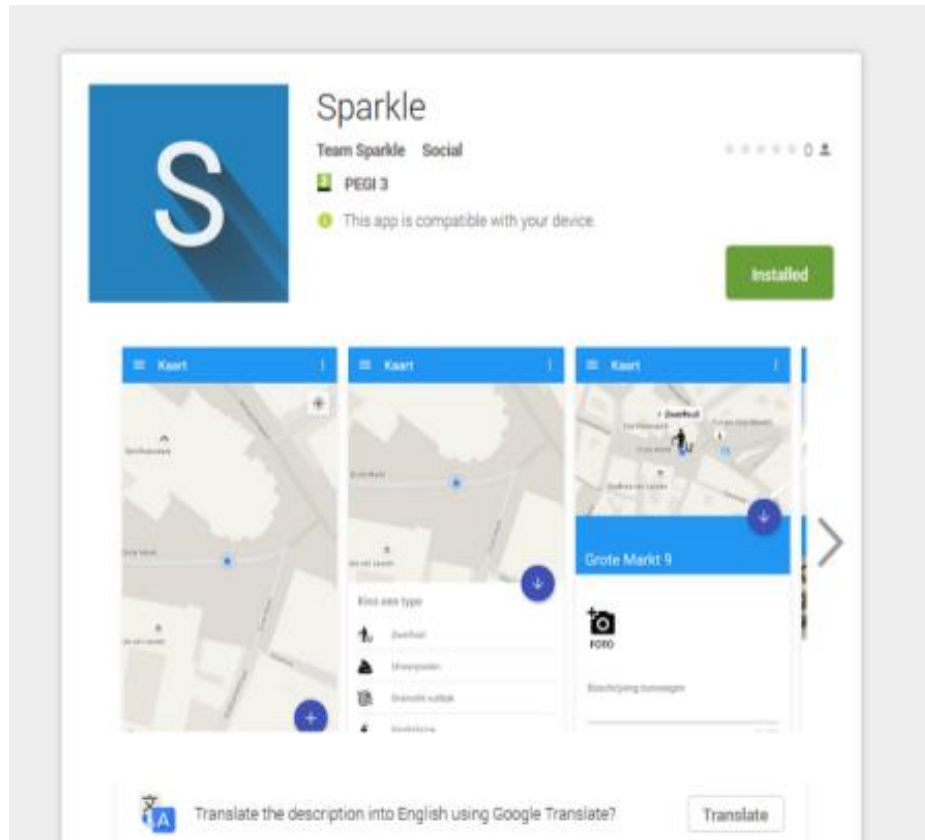
About Discussion

### Details

-----INSCHRUVING VERPLICHT!-----  
Stuur een mail naar: DNAjepersoonlijkevisitekaartje@outlook.com  
Vermeld faculteit indien je student bent.  
-----Wie, wat, waar?-----  
Wie? Hilde Van Esch, Jan Aerts, Guido van Steendam & Gert Matthijs  
Wat? Debat rond genomesequentie  
Waar? Aula Campus Groep T (VES 00.2.02 ) Andreas Vesaliusstraat 13, 3000 Leuven  
-----Inhoud-----  
Het bepalen van DNA is de laatste jaren sterk in opmars. Zou jij graag je genoom willen sequencen, m.a.w. zou jij willen weten welke ziektes je allemaal zal krijgen? Tijdens het debat zullen vanuit verschillende invalshoeken enkele stellingen overlopen worden. Wilt u graag inbreng hebben bij dit debat of hier graag wat meer over te weten komen schrijf je dan zeker in!

GUESTS  
54 interested 85 went 186 invited

# Examples of student participation: online events



<https://play.google.com/store/apps/details?id=com.sparkle.app>

# Examples: Two study trips about sustainability

## Road book

### Itinerary of trip

#### Day 5: Freiburg

#### Activity 1: Visit: "Future Labs"

Resilient and sustainable cities.



### ROTTERDAM - COPENHAGEN

Pathways to sustainability: study trip

# Findings (preliminary)

Student feedback resoundingly positive so far, in having ‘control’ or ‘freedom’ over the stakes and content of their ‘participation’ projects.

The ‘Plan an event’ project track has received the most positive response.



Door studentparticipatie te benadrukken, studenten kunnen een reele ervaring van de 'duurzaamheid van duurzaamheid' opdoen.

D.w.z. ze leren dat duurzaamheidsinitiatieven, om zinvol en effectief te zijn, zelf een eigen soort duurzaamheid moeten kunnen bereiken.

Het aanbieden van verschillende niveaus van participatie kan ten koste komen van een billijke verdeling van de werklast over de studenten.

Practical concession:  
'interoperability issues'

Looking ahead

# Questions

Thanks

[stijn.dejonge@kuleuven.be](mailto:stijn.dejonge@kuleuven.be), [basil.vassilicos@kuleuven.be](mailto:basil.vassilicos@kuleuven.be)