Our Vision and Mission

**The vision**
To become the leading engine for innovation and entrepreneurship in sustainable energy.

**The mission**
KIC InnoEnergy’s mission is to build a sustainable long-lasting operational framework amongst the three actors of the knowledge triangle in the sustainable energy sector:
- Industry, research and higher education.
And ensure that the integration of the three is more efficient and has higher impact in innovation (talent, technology, companies) than the three standing alone.
Our goal: sustainable energy

- Ensure security and safety of supply
- Reduce costs in the energy value chain
- Reduce CO₂ emissions
- Improve European competitiveness
- Remove barriers to innovation
- Encourage sustainable growth
- Create jobs
Thematic fields and technology focus

- Clean Coal and Gas Technologies
- Energy Storage
- Energy Efficiency
- Energy from Chemical Fuels
- Renewable Energies
- Smart and Efficient Buildings and Cities
- Smart Electric Grid
- Sustainable Nuclear and Renewable Convergence
An *trusted* innovation ecosystem with *unique* assets delivering impact.
In 2013 SolahCool, a Dutch SME, created a new manufacturing site, created the initial 8 new jobs and disrupt the market with a product (cold out of water) being developed in an InnoEnergy project. You will see the 8 first employees and further as the right the inauguration of the factory by the Regional Minister of the Dutch Government.

In 2012, 5 students from KIC InnoEnergy Master programs came second in the Bill Clinton Hult Global Challenge, winning over the major Universities and Business Schools. Today 4 of the 5 students are successful entrepreneurs, 2 of the Clean tech companies.

SMEs related to KIC InnoEnergy raising round 3 investments for further development: KIC InnoEnergy is today a “quality” trusted brand. When investor (public and private) need to decide where to put their money, the fact that a project or an SME is supported by KIC InnoEnergy automatically is judged as of quality. The best example is Minesto, a young company nurtured by KIC InnoEnergy, first Hust in 2013 and last August (2015) raised 18M$ in a recent IPO in the Stockholm Nasdaq, largely oversubscribed. Please see press release http://www.hydroworld.com/articles/2015/10/minesto-fully-funds-deep-green-mhk-technology-after-raising-us-17-2-million.html
In Innovation in Energy

• **Delphos®**: Tool adopted by off-shore wind community linking innovation and LCOE

![Delphos® Tool](image)

• **Insight-E contract (DG Ener) + REEM**: Adviser to the policy maker


• **Top 10 innovators in sustainable energy report**: Referenced by the Energy Union

![Top 10 Innovators Report](image)
In Innovation and entrepreneurship at large

- **Innovation Readiness level (IRL®):** From TRL to comprehensive approach (to be adopted eventually by DG Ener and DG R&D&I)

- **KIC InnoEnergy & Veolia Germany joint programme for entrepreneurs:**
  http://www.energynet.de/2016/02/08/u-start-foerderung-energie-startups-kicinnoenergy-veolia/

- **2 entrepreneurs in the Forbes Top 30 worldwide:**
  http://www.forbes.com/30-under-30-europe-2016/social-entrepreneurs/2715e4857a0b58ef71c461ec
In Creating Markets that did not exist, under a BOT model

- **North Sea Grid:** Reducing high single digits European wholesale prices by linking (HVDC links) seven countries around the North Sea.

  - North Sea Grid: Reducing high single digits European wholesale prices by linking (HVDC links) seven countries around the North Sea.

- **Energy4you:** Creating a new market player in the value chain, the consumer ripping 40%+ savings, **transparently**
A fully integrated Energy Union player actively contributing

State support to the key actions. The future SET Plan will strengthen its collaboration with the Knowledge and Innovation Community (KIC) InnoEnergy of the European Institute of Innovation & Technology (EIT) to identify innovative projects and bring them to the attention of investors or companies that can turn these innovations into successful businesses.
Based on excellence, cooperative, synergetic

Progress in outreach in 2013-2015:
- 17 countries
- 2 innovation projects
- 3 ventures
- 286 student applicants
- 37 intake
A very **liquid** Knowledge Triangle

- **EDUCATION**: 10 start-ups as result of Innovation Pro.
- **Business Creation**: 91 students as manpower in ventures
- **Research & Innovation**: 152 students as manpower in ventures
- **7 cases**
- **91 students as manpower in Inno. projects**
- **10 start-ups as result of Innovation Pro.**
- **6 start-ups have been awarded an I.Pro.**

- Graduate
- Gets Inno Project
- Manpower Inno Project
- Recruit students
- Creates start-up
The leading engine for innovation and entrepreneurship in Sustainable Energy

Shareholding structure

Partnership as of end 2015

Towards sustainability

A long term energy micro system

- Partners across all the value chain
- Partners from all energy carriers
- Partners across all the supply chain
- Challengers and incumbents
- 11 country regulations
- 120 Million end customers
Thank you.
Additional slides for Q&A
Making connections: the power of the network

6 co-location centres
27 shareholders
160 additional partners
Activities in 17 countries

Our Shareholders

- Research Institutes
- Universities
- Industry Partners
- Co-location Centres
For every stage of the innovation journey

Innovation Projects

Business Creation Services

Education
Connecting ideas and industry, innovators and business partners

Transforming knowledge into money

**A PREMIUM PRODUCT**
- Competence Mapping
- Roadmaps
- Build and run Innovation Projects

**CUSTOMERS**
- Industry
- Research institutions
- Universities

**USP**
1. Clear IP rules
2. WP0
3. Market/Impact oriented
4. Darwinistic portfolio management
5. One stop shop (SMEs)

**OUTPUT**
- IP (patents/know-how/copyright)
- New products/services
- Start ups

**€ SUSTAINABILITY**
- At least 10% of licensing revenues from IP foreground

**MEANS**
- Industry in all the value chain
- Top Universities, Top Research Centers, Top Business Schools

Reinvesting all revenues
Connecting entrepreneurs and start-ups to markets and customers

Four dimensions:
1. Human
2. Technology
3. Market
4. Finance

A PREMIUM PRODUCT
The Highway™

CUSTOMER
Intra/extra KIC entrepreneur
Early stage & very initial growth phase

USP
1. Specialized (SE)
2. The Highway™
3. European Network
4. Quality on services
5. First customer

OUTPUT
Start-ups or spin-offs

EU SUSTAINABILITY
X% equity in start-ups in exchange of added value services rendered

MEANS
Our PROs and Academia, Our industries, external players
Brokerage to funds (BA, VC)
Connecting graduates and employers, researchers and industry

Creating the game changers of the future

**A PREMIUM PRODUCT**
- Msc School
- PhD School
- Executive Programs
- LLL/LM
- MOOC

**CUSTOMERS**
- Bachelors
- Engineers
- Mid Career professionals
- MOOC Customers

**USP**
1. Quality of HE institutions
2. Program contents
3. Mobility
4. Double degree
5. No commitment

**OUTPUT**
- “CxO” of energy companies
- Top researchers
- “different mindset”

**€ SUSTAINABILITY**
- Off-setting tuition costs
- MOOC/LM
- Reinvesting all revenues

**MEANS**
- Top Universities
- Industry in all the value chain
- Top Business Schools
Innovative solutions

Neptune
*Wind power from sea to sea*

DeBugger
*Making the most of biomass*

EFFIC
*Improving efficiency and cost of Solar PV*

Renewable Energy

Energy from Chemical Fuels

Renewable Energy
Internal assets: Strategy and Roadmaps

https://cip.kic-innoenergy.com/
Internal assets: Innovation Impact Reports

http://www.kic-innoenergy.com/reports/
Internal assets: Top 10 Reports


Monitoring systems for wind farms and operation & maintenance

- Invention activity has increased very rapidly since 2006, much more rapidly than the average annual growth rate observed for the whole renewable energy sector. Patent filings in wind and energy are by specialized players such as Vestas, Mitsubishi and General Electric.
- The presence of Siemens and Siemens in the top ten is driven by their efforts to strengthen collaboration with major players. Siemens is involved in several research projects with academic, industrial and utility players. In 2015, Siemens expanded its business portfolio by acquiring Middler. In 2016, Siemens aimed for a 20% growth in the market by acquiring ABS in India. TECO and Toshiba also made acquisitions. Japan's largest conglomerate, IHI, acquired MIE Energies and Toshiba, Siemens Power and Oil.

### Top 10 Reference Companies

- **1. Siemens**
- **2. Mitsubishi**
- **3. General Electric**
- **4. Vestas**
- **5. Gamesa**
- **6. Goldwind**
- **7. GE Energy**
- **8. Samsung**
- **9. Mitsubishi Heavy Industries**
- **10. Vestas Wind Systems**

### Top 10 Reference Research Institutions

- **1. Technical University of Denmark**
- **2. University of Tokyo**
- **3. Tsinghua University**
- **4. Indian Institute of Technology**
- **5. Shanghai Jiao Tong University**
- **6. University of California**
- **7. University of Oxford**
- **8. Tsinghua University**
- **9. Imperial College London**
- **10. University of Cambridge**

### Geographical distribution of priority countries

- China: 20
- Japan: 10
- Germany: 7
- South Korea: 5
- United States: 4
- France: 3
- Italy: 2
- Canada: 1

### Evolution of patent filings and scientific publications

- China: 71
- South Korea: 51
- Japan: 48
- Germany: 40
- Others: 25

### Top 10 Energy Innovators in 100 Energy Priorities

- These top 10 are led by large research centers such as DLR (Deutsches Zentrum für Luft- und Raumfahrt) in Germany. CTPH, a member of the International Conference of Chinese, the world's largest discicel, with the University of Oxford is one of the top 20 in terms of their high number of publications.
New Entrepreneurs

Dracula Technologies
*See the light with printed PV cells*

OpenDomo
*Measuring energy consumption with Artificial Intelligence*

GRADIS
*A new era of smart lighting*

France
Renewable Energy

Iberia
Smart and Efficient Buildings and Cities

Poland
Smart Electric Grid

111
Early start-ups supported

55
New companies created

20
More than 20 million euros of external investment raised

1292
Business ideas captured
Game changers

“We need to invest more in green power”

“Long-term vision is the key to the future”

“Versatility, entrepreneurship and international experience”

Gregory Kotsis, MSc SENSE Project engineer at IREC Barcelona

Roberta Cirillo, MSc EMINE Research engineer, CEA Grenoble

Joeri Siborgs, MSc Energy for Smart Cities R&D project engineer, Elia Brussels

We need to invest more in green power

Long-term vision is the key to the future

Versatility, entrepreneurship and international experience

Graduates from the KIC InnoEnergy Master’s School

Applicants to KIC InnoEnergy Master’s School

Graduates who find a job within six months of graduating

Average annual salary earnings over graduates of similar programmes
The 2 drivers of our journey for 2016-2020

External and internal

Internal evolution upon:
- Lessons learnt
- Shareholders input
- Benchmarking
- Sustainability
- Size ..
A clearly defined framework

21 pages

10 pages
Our strategic view, pitched everywhere

External driver: The Energy Union
The Extension of our Business Models

- Operational sustainability
- Financial sustainability
- Strategic sustainability

EIT/Other inv.

Portfolio management

KIC channel and Others channels

Revenue generation

Operational excellence

Account management