Innovating for low-carbon prosperity and climate resilience

Brussels, 14 March 2012
Mary Ritter
CEO
Our Innovation Community and European ‘interconnectivity’

- We form a network of ~100 partners across Europe
- We come together at 5 Co-locations
- We reach out right across Europe via our Regional Innovation & Implementation Centres (RIC)
- We are run like a business – CEO, Executive, Governing Board, Assembly
- We identify and respond to the challenges of Climate Change
- Our activities cross boundaries: discipline, sector, geography

*Europe’s engine for innovation in climate change mitigation and adaptation*
Integration of *FOUR* sectors for innovation

Excellence is paramount

Our partners span top universities, research institutes, business, SMEs and regional and local government.

Climate-KIC therefore brings together all the actors of the innovation pyramid ......

...and integrates these with our three pillars:

- Innovation & Pathfinder
- Entrepreneurship
- Education
Climate-KIC: Europe’s engine for climate change innovation

The innovation pipeline

**Ecosystem:** The research and knowledge base

**Pathfinder:** Market identification

**Innovation:** Product and service development

**Delivery:** Marketable products and services

Education – entrepreneurs; Entrepreneurship – incubation and support
Some examples of our successes....
Our young entrepreneurs - training and support via theJourney

An intensive 5 week programme for all Masters and PhDs that creates a community of climate innovators and entrepreneurs.

“there is nothing comparable to Climate-KIC…it is unique”

“there is no other opportunity like this”

Some start-ups from TheJourney

• DeCo!
• ElectricFeel
• Arboreal
• Small World Carbon
Greenhouse and sponsored Start-Ups: DeCo!

- Decentralised composting for sustainable farming and development
- SEED Award 2010
- Registered as NGO in Ghana

- Decentralised composting service to local farmers (Franchise system in long term)
- Buy local biowaste, convert to organic fertiliser
- Reduces soil degradation and erosion
- Improves food security
- Creates new jobs
- Reduces GHG emissions
- Improves waste management
- Participatory approach
Alumni experience of *theJourney*

- The physical science of Climate Change
- The set-up process of a business
- Ambitious people from different scientific and cultural backgrounds

Entrepreneurial Mindset & Confidence

“The most important thing I gain from Climate-KIC, apart from friends of course, it was the entrepreneurial spirit that will always remain with me....”
Challenge-driven PhDs – multidisciplinary team projects

Singular Projects (today)

<table>
<thead>
<tr>
<th>Thesis Titles</th>
<th>Thesis Topics</th>
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<tbody>
<tr>
<td>J1 2011</td>
<td>Transformation of urban planning and construction in changing climate</td>
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<tr>
<td>J1 2011</td>
<td>Innovation management</td>
</tr>
<tr>
<td>J2 2011</td>
<td>Projecting, forecasting and managing climate extremes</td>
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<td>J2 2011</td>
<td>Designing a zero-CO2 data center which provides sustainable IT services at competitive prices</td>
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<tr>
<td>J2 2011</td>
<td>Climate change impacts and adaptation measures for Hyderabad (India) as a megacity of tomorrow</td>
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Example: Low-C heating and cooling in buildings

Thesis topics:
1. Sub soil heat storage study (geology)
2. Water piping for heat transfer (mechanical engineering)
3. Heat load sharing models (systems engineering)
4. Economic modelling of community systems (socio-economics)
Our young enterprises: Ennesys

- Joint winner of Climate-KIC Venture Competition Prize 2011
- Designs and supplies biomass and energy production systems based on highly efficient phytoplankton growth systems, fed with CO2 and nutriments contained in wastewater
- Creates energy from building’s waste water
- Eco-residences, eco-district
- EUR 15,000 prize
Our young enterprises: Naked Energy – EIT Award 2012

and joint winner of Climate-KIC Venture competition 2011

• Hybrid solar panel providing electricity and hot water
  • Combined Photo Voltaic and thermal energy system
  • PV inside the tube with water flowing through
  • PV provides electricity
  • Water keeps PV at optimal temperature and provides source of hot water
  • Unprecedented efficiency; cheaper renewable energy

• Climate-KIC SME partner
  • Support from Climate-KIC UK CLC for measuring and characterising performance
The market place and climate market acceleration

**Community tool**
- Member profiles
- Substantive issues
- Working groups

**Climate-KIC Radar**
- Overview existing activities/strengths
- Innovation opportunities

**Market accelerator**
- Demand identification
- Supply identification
- Interface / Brokerage

- Bringing partners together around “demand side” challenges
- Accelerating market delivery via the pipeline

- Demonstration cities project
- Leadership: NL, UK, ES
- With the RIC regions’ ‘Pioneer Cities’
Challenge-driven innovation - Creating new value chains in climate services

OASIS - open source catastrophe software for insurance companies

- Ecosystem: hazard and vulnerability to climate events
- KIC added value: open source core with plug & play modules
- Create company in partnership with reinsurance sector

Lloyds of London and a number of others
Business challenge-driven innovation

- **Sainsbury’s supermarket**
  - Reduced carbon footprint of stores
  - Carbon neutral products at low prices
  - Want innovators to work with Sainsbury’s and their suppliers, e.g. farmers
  - Will also offer stores as a test bed
    - E.g. Naked Energy!
    - Student masters and PhD projects
- **Large innovation cascade via suppliers**
  - sheltered innovation
- **Model for other businesses**
Schiphol: Airports as low carbon cities

• the ‘airport city’ concept
• Proposed and led by Schiphol Airports (Climate-KIC core partner)
• Round table: January 2012
• Conference June 2012
• Cross sectorial scoping

“Schiphol gave up being just an airport a long time ago”
Schipol: What output from Climate-KIC?

**Strengthening sustainability and innovation**

- Thought leadership
- New ideas/insights
- Challenging current activities
- Academic support in new services & new products
- Resources (€ & FTE) for sustainability / innovation efforts
- Promising start-ups
What does Schiphol bring to Climate-KIC?

**Network, challenges, business spirit & resource support**

- Network
- Business input on sustainability
- Seed capital Fund (Mainport Innovation Fund)
- Sustainability challenges (“Green Terminal”, “transport” etc)
- New services & new products
- Resources for sustainability / innovation
Thank you

Innovating for low-carbon prosperity and climate resilience
Greenhouse and sponsored Start-Ups: Arboreal

A social business for people and forests

• Business concept: to set up self-contained mechanical processing centres to allow cooperatives in tropical forests to process Non Timber Forest Products (NTFP) such as cosmetics, medicinal and edible products.
• Processing centre contains the machinery to create higher value product from raw NTFP, and storage and packages facilities
• Arboreal also provides training, coaching and networking services to enable cooperative to run effective business and to access distribution channels for their products
• Small scale industry helps communities move up the value chain and preserves the forest
• Forest regions of Madhya Pradesh in India selected as location for the first processing centre (64 million people of working age in Indian forest areas).