



# Education Report 2013-2014

“The most effective method of knowledge transfer, dissemination and amplification is via trained brains. Education is therefore a key activity for Climate-KIC, who’s overarching mission for Education is to create a generation of climate innovators and entrepreneurs who will become a network of change agents throughout Europe. Our programmes are designed to forge a supportive multidisciplinary network for the students, to create a vibrant and supporting alumni community and to rapidly grow a critical mass to ensure efficacy.”



Mary Ritter, Chief Executive Officer

## Our Strategic Vision: a Leading Centre of Excellence



In 2010, Climate-KIC started out with the mission to make an impact on the mitigation of and adaptation to climate change, in order to actively shape the world’s next economy. The past years have been very exciting for Climate-KIC and we would like to take this opportunity to update you on Climate-KIC Education, showcasing the programme whilst gearing up to leverage our future potential.

From floods in central Europe to drought in the mid-west of America, the impact of climate change simply cannot be ignored. Causing both economic and societal stress, occurrences like these are powerful indicators that action needs to be taken on climate change. UNESCO, in its ‘International Seminar on Climate Change Education’, recognises that Education has a central role to play in understanding, mitigating and adapting to the changing climate. While education is needed at all levels, both in formal and informal settings, instilling climate change awareness and motivating action on this challenge remains an imperative.

Our vision at Climate-KIC Education is to become the leading centre of excellence in educating, inspiring and empowering leaders with innovative solutions to the climate change challenge. The Education Vision 2016 sets out an ambitious plan for Climate-KIC Education to do just that.

We are focusing on three dimensions: science, policy and business. By doing this, we will catalyse the creation of innovative low carbon solutions to address climate change. Since 2010, our education programme has focused on imparting education that facilitates systemic and design thinking - something that remains paramount in our vision for 2016 and beyond.

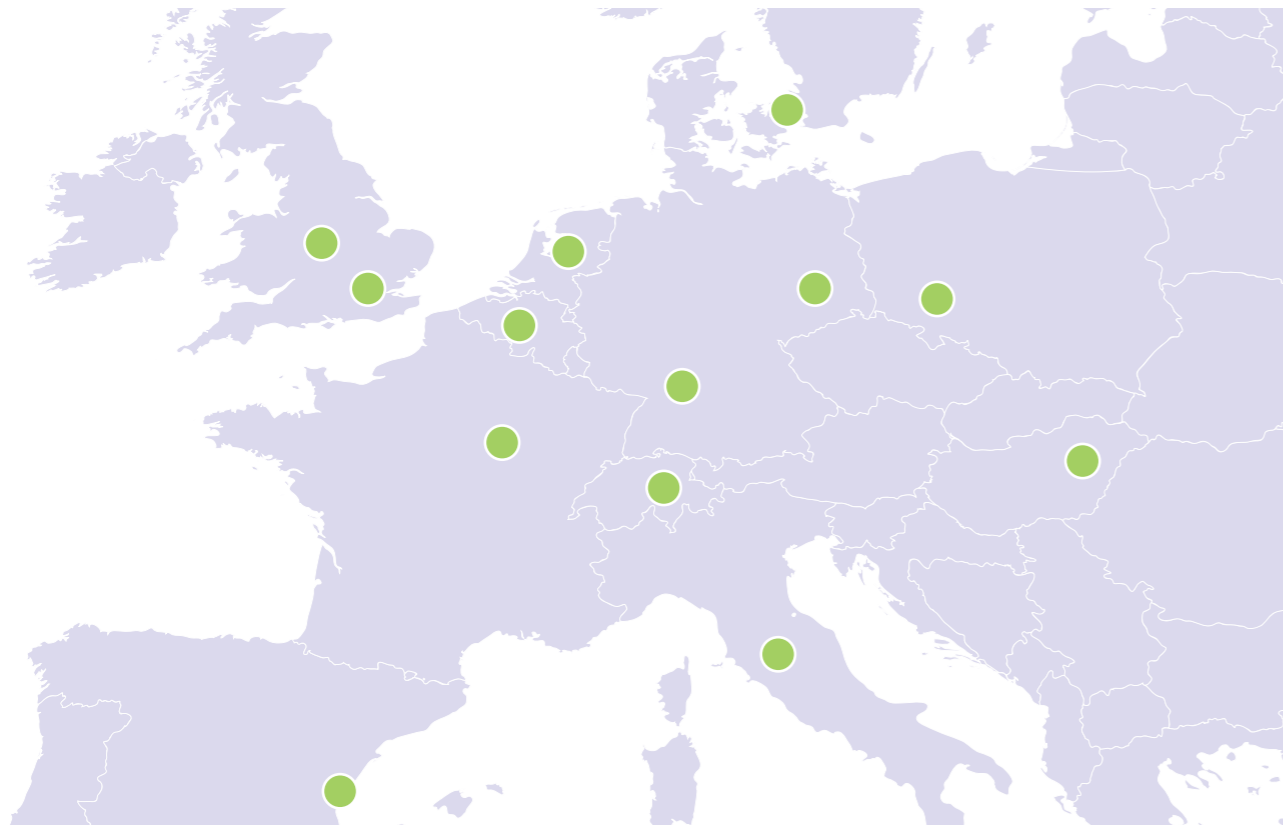
Ebrahim Mohamed, Director of Education

We apply an integrated approach to education. A blended-learning method that fosters innovation on all levels. By integrating education in entrepreneurship, innovation, and climate science, we can transform knowledge and ideas into economically viable products or services. Impacting climate change, and achieving our wider goal of an integrated, multi-sector, low-carbon ecosystem.

# Strategy for Climate-KIC Education

To create an effective and dynamic learning community, Climate-KIC Education must maximise the scope, benefit and usability of our tools and resources. Consequently, we have identified the following four focus areas to take us through our next phase of development:





We operate across 13 European centres, including the major cities of Brussels and London.

- London, United Kingdom
- Brussels, Belgium
- Paris, France
- Berlin, Germany
- Utrecht, Wageningen and Delft, The Netherlands
- Copenhagen, Nordics
- Zurich, Switzerland
- Hessen, Germany
- Central Hungary
- Emilia Romagna, Italy
- Lower Silesia, Poland
- Valencian region, Spain
- West Midlands, United Kingdom

## Bold Steps Forward: Expansion to the Nordics

We are growing! On 7 February 2014, Connie Hedegaard, EU Commissioner for Climate Action, officially opened the new Nordic Climate-KIC Centre. Located at the Technical University of Denmark (DTU), it is the powerful collaboration of three universities: DTU, the University of Copenhagen and Chalmers University of Technology (Sweden). The city of Copenhagen and six leading Danish companies are also on-board and an extension throughout the Nordics and possibly the Baltic region envisioned for the future. The new Centre is expected to contribute to boosting Danish and Nordic development in the field of climate innovation, in which Scandinavian knowledge institutions and businesses have a long tradition of excellence.

The opening also launched the first Climate-KIC activity: a competition for students to find the best mobility system for the citizens of Copenhagen, anno 2025. DTU took first prize with its engaging 'Go Green Go'idea - an app designed to encourage more people to ride their bikes and leave their cars at home.

Climate-KIC is now operating in 13 European locations.



"We need to start making the transition to a sustainable, low-carbon society as soon as possible. And we need innovative solutions to build this low-carbon economy. Climate-KIC... can help us find these innovative solutions."  
 Conny Hedegaard, EU Commissioner for Climate Action, 7 February 2014

## Climate KIC – our Educational Highlights

Thanks to our great education team and their excellent work in all of our European locations, we have again been able to broaden the scope of our educational activities across the entire Climate-KIC spectrum. Climate-KIC is continually developing, to provide the people, products and leadership essential for addressing the challenge of global climate change :

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# Meet our Advisory Board

The Climate-KIC Education Advisory Board will serve as a compass for the future direction of Climate-KIC Education, as an anchor for its vision and values and as a magnet for building potential strategic industrial partnerships. The board will review and advise on change and innovation and help to ensure the continued relevance of Climate-KIC to meet both current and future industrial and societal needs.

The Board is still growing and reflects the importance of having a diverse and multi-disciplinary group to support us in achieving our goals. Below, you will find short introductions, outlining just some of their achievements to date.



Lena Adamson  
**Associate Professor of Psychology, Stockholm University.**

Lena has an extensive background in higher education. Lena's original research interest dealt with adolescent identity development and future orientation. She has had a number of leadership positions within and outside of academia. She is engaged as HE consultant to a number of National Quality Assurance Agencies and also to the Council of Europe on an ongoing basis. She is the main author of the handbook for the EIT Quality Assurance and Learning Enhancement System – Quality for Learning.



Jesper Bøving  
**Senior Vice President at Novo Nordisk A/S.**

Jesper has been with Novo Nordisk A/S since 1987 and has held various positions during this period. Novo Nordisk A/S is a pharmaceutical company and world leading within diabetes care. Since 2005 Jesper has headed up CMC Supply, a unit with approximately 1300 employees. He is also responsible for the logistics of supplies for the clinical trials worldwide.



Professor Richard Brook, OBE FREng  
**Founding Director, E-Synergy Ltd. President of AIRTO. Deputy Chairman, Institute for Sustainability.**

Richard was appointed OBE in 2004 for services to Higher Education and to the UK Space Industry. He has extensive experience in developing new technology applications for use in space, defence, and other challenging environments. This experience extends to proving and commercialising new technology and products in the field. He has worked on climate related programmes within the space community and with the Carbon Trust. He also has experience of postgraduate training policy and delivery in the higher education sector.



David Keene  
**Head of Marketing, Northern, Eastern & Central Europe at Google.**

David is known for leading from the front with an energetic and creative style. He has a track record of broad and deep global technology experience, including leadership roles with Google, salesforce.com, SAP and Oracle across global, EMEA and UK markets. David holds an MBA from Imperial College Business School.



Akira Kirton  
**Venture Principal Europe, Middle East, and India, BP Ventures.**

Akira has held a range of positions at BP, across refining, chemicals, marketing, and alternative energy. His experiences include the spin-out of a company serving over 2 million people with energy solutions in rural India and a three year secondment to the UK Energy Technologies Institute. Akira is a recipient of the 2008 IChemE Award for Innovation and a 2012 Fellow of the Marshall Memorial Foundation.



Mark McCaffery  
**Programmes and Policy Director, National Centre for Science Education.**

Mark has played a leadership role in developing the Climate and Energy Literacy Frameworks used by the US Global Change Research Programme. He founded the National Climate Assessment Network Education Affiliate Group and authored 'Climate Smart & Energy Wise: Advancing Science Literacy, Knowledge and Know-how', to be published in autumn 2014.

"I see Climate-KIC as a true learning organisation for the 21st century. Young people have the need and right to know the causes, effects, but also the responses and solutions to climate and other global change." Mark McCaffery



Adam Morton  
**Chief of Low Carbon Technology, Rolls-Royce's Low Carbon Technology Group.**

Adam Morton joined Rolls-Royce in 2007 as Chief of Low Carbon Technology to drive the company's research interests in carbon capture and storage (CCS), offshore wind turbines and tidal

energy. His current role is closely concerned with building strategic relationships across industry and academia and includes a place on the Energy Technology Institute's (ETI) Programme Management Board and Technical Committee.

"Entrepreneurship is a term loaded with very distinct pre-conceptions. A successful Climate-KIC will further challenge these both in terms of what an entrepreneurial organisation looks like and how entrepreneurs operate." Adam Morton



Dr Ronan Stephan  
**Chief Innovation Officer, Alstom Group.**

An engineering graduate with a PhD in physics, Ronan's roles have included Director for Industrial Affairs and Technology Transfer with the French National Centre for Scientific Research (CNRS), President and CEO of Compiègne University of Technology and General Director for Research and Innovation for the French Ministry for higher education and research.



Professor Jan-Eric Sundgren  
**Vice President and Senior Advisor to the CEO, Volvo**

Jan-Eric joined the Volvo Group in 2006 as executive vice president for public and environmental affairs and has been Senior Advisor to the CEO since spring 2013. He holds a Professorship in Thin Film Physics from Linköping University. Prior to joining the Volvo Group he was President of Chalmers University of Technology between 1998 and 2006. He is also a board member Hogia AB and chairman of the board for the Swedish Technical Research Institute SP and a Hogia AB board member, Innovation, and Science Policy Expert (RISE) High-Level Group within the European Commission.

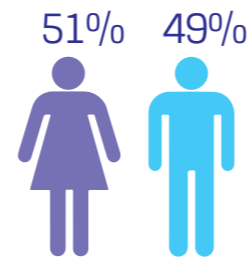
# Climate-KIC Summer School, The Journey

Our Summer School takes its participants on a journey across three Climate-KIC locations and to some of Europe's best universities and businesses. Within five weeks, the participants undergo vast development. They acquire the tools to tackle real-life challenges and to develop their entrepreneurial spirit, to make a difference in adapting to and mitigating further climate change.



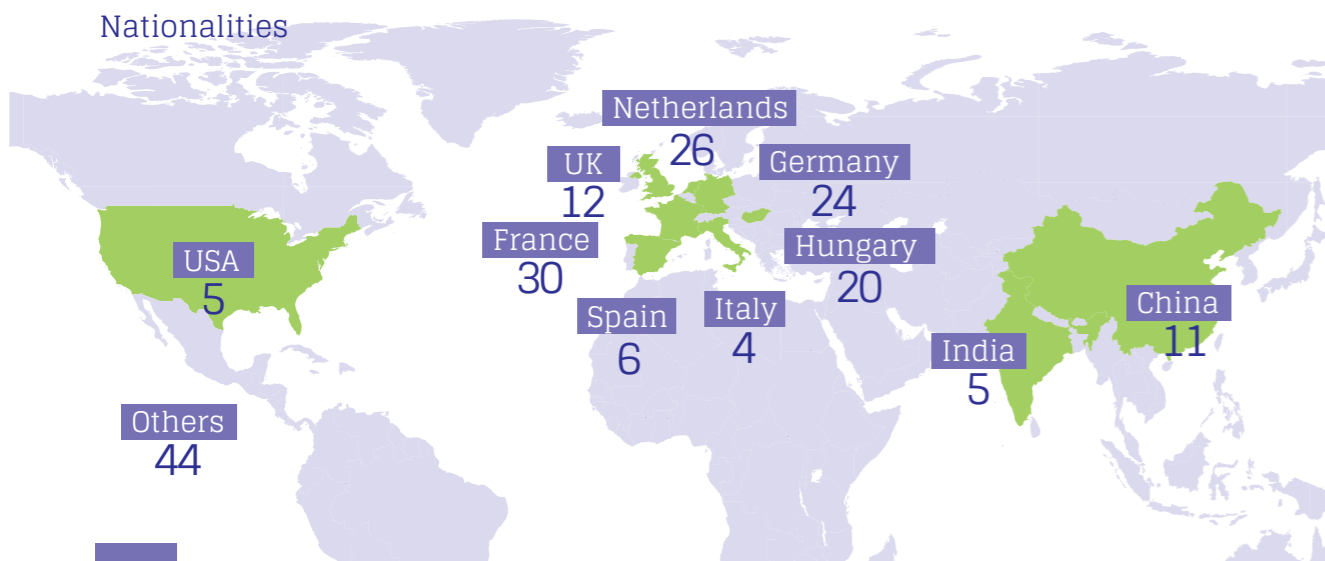
"The Journey serves as a role model, demonstrating that climate change is a challenge demanding universal engagement. The scope of The Journey is apparent from the increasing number of applicants, their multi-disciplinary, international backgrounds and the positive gender balance in a field that is so often disproportionate. We are looking forward to a new generation of change enablers, with young people at its core." Mary Ritter, Chief Executive Officer

2013	5X	summer school, The Journey	
	9	Locations across Europe	4 New locations in 2013
	187	Participants	56 From our regions
	40	New business ideas	10 Climate-KIC Coaches



## Statistics 2013

### Nationalities

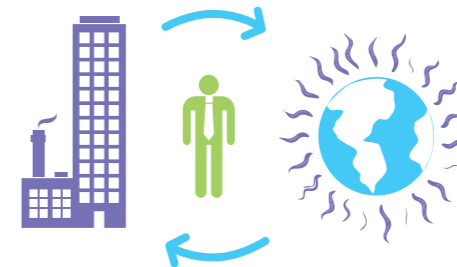


## Disciplines

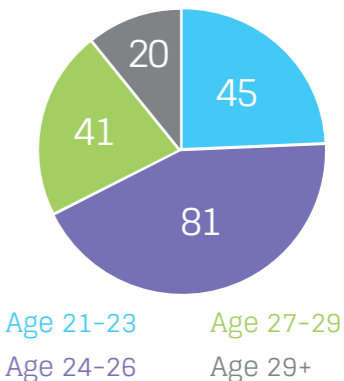


- Social science
- Business
- Engineering
- Science

## What our participants say



I now understand entrepreneurship and how business reacts to climate change in their respective political and economic environment



'Thank you for all the experiences, help and kindness! I really felt good at your programme and I think the provided knowledge and experience will be very prosperous for me. It was amazing to meet and work together with you and all participants.'

'It was fantastic and exciting. It will be the most memorable experience during my study. I appreciate it a lot.'

'Awesome organisation, thanks!'





"In the years to come, people will see that we are the European experts on climate change innovation. I am honoured to be one of the first graduates. I am convinced many will follow."  
Marvin Kant, Climate-KIC Master Graduate

## Climate-KIC's Master Programme: a Role Model for Climate Change Innovation

The first students of Climate-KIC's unique pan-European Master programme graduated in October 2013. Over a two year period, the students participated in a number of value-adding activities that complement their master degree: they took part in our five week summer school, attended seminars, spent 30 study credits abroad, wrote a relevant thesis and took courses in climate science, business and entrepreneurship. Connecting with like-minded people, they were able to immerse themselves in the themes, with the purpose of accelerating climate change innovation in the coming years.

"I learnt a lot about entrepreneurship. It has broadened what I can do and has opened opportunities that I wouldn't have expected to have", said Olivier Membrive, a recent graduate.

Climate-KIC works with a growing set of Master programmes across Europe with a mobility fund allowing students to undertake research further afield. Graduates are certified, recognising their awareness of climate change issues, the European business environment and their ability to successfully integrate in climate innovation companies and start-ups.





"The PhD students were really able to experience working on the challenges of low carbon innovation. Team work and interaction with stakeholders helped increase their transdisciplinary understanding of transition processes. Climate-KIC PhD students will be ambassadors, bridging the gap between science and innovation implementation in the future."

Christoph Auch, Education Lead, Climate-KIC Regions

## Inaugural Climate-KIC PhD Summer School, Frankfurt, 2013

One essential Climate-KIC activity is the PhD programme, with, as a central element, the thematic summer school. Similar to the general summer school, The Journey, the PhD summer school also aims to equip participants with climate change knowledge and practical tools. In this case, we go one step further by enabling them to link their individual research projects to low-carbon innovation activities and stimulating the exchange of ideas between students and experts. With 38 PhD students from 20 European universities, the Frankfurt PhD summer school was a successful premiere.

Combining the powerful Climate-KIC network with the city's ambition to make the transition to a "green city", aiming to deliver 100% renewable energy to its citizens and industry by 2050, Frankfurt was a great location for this year's inaugural PhD summer school: theory meeting practical relevance. Together with partners from our thematic challenge

"Making Transitions Happen", this summer school brought in representatives of academia, business and administration to share their expertise and visions. Thanks to the participants' motivation and commitment, they were able to develop recommendations that will really make a difference. It also changed mind sets on how to approach challenges and triggered participants to find solutions that are applicable to real-life problems.

"Within less than two weeks, all groups had been able to come up with innovative ideas that could contribute to the transformation of Frankfurt to a carbon-neutral city...a set of ideas and recommendations that had the potential to overcome the challenges that it faces. Accordingly, when I left the city – rather than seeing challenges – I saw many opportunities."

Didi van Doren, participant, PhD student in the Netherlands





## The Greenhouse: Nurturing Ideas into Life

To bridge the science-business gap we need to support those who dare to innovate in today's business. Climate-KIC offers a breeding ground to test and translate ideas into valuable businesses: The Greenhouse, our pre-incubation programme. To showcase Climate-KIC's activity and support, we interviewed E-Birdy: a group already on their way to becoming a fully-fledged start-up, with members from different nationalities and academic backgrounds, ranging from electrical engineering to environmental policies.

“The Greenhouse gives you the opportunity to really test your own ideas and provides you with the tools to do this in a professional way.”

What is E-Birdy about?

“We are working on enabling electric cars to fast-charge using existing tramlines. We envision a future where people will live in clean cities, able to travel, worry free, any distance using electric cars.”

What made you enter the Greenhouse programme?

“After winning the final pitch of the Climate-KIC Journey, people suggested we take our idea to the next level. The Greenhouse was the obvious path, providing the tools and means to really test our idea on a professional level.”

What does a day in the life of a Greenhouse participant look like?

“Our schedule is similar to any Master student, plus the additional E-Birdy focus. We're new to this kind of challenge, so there's a lot of trial and error. It's a case of taking the knocks, learning from them and standing right back up. Being flexible in our expectations. The coming months will be used to make a working prototype and to test it with potential customers - bringing our idea to life.”

What have you been able to achieve so far?

“E-Birdy won the Ready to Start-up competition in February. We also made it to the final of the Philips Innovation Award. These competitions and the Greenhouse support, enabled us to test our assumptions, develop our business plan and our business model!”

Alwin Veldboom, Margot Kromhout, Laure Briaut and Anil Kumar Ananda

# Education Across the Climate-KIC Spectrum

At Climate-KIC, we transform knowledge into valuable business opportunities, creating new products, services and jobs. This is only possible because of the unique cooperation of European partners in education, research, business and policy. But such collaboration demands an innovative approach.

Academics need to know how to translate their knowledge into solutions for market-driven problems and businesses need to come up with innovative solutions for climate change related problems.

This is why Climate-KIC Education is developing a new, revolutionary way of educating: A unique business school, which integrates Education, Innovation and Entrepreneurship - joining forces to ensure global impact on climate change. The impact of this cross-spectrum collaboration can be seen in the following projects, intrinsically linking education to every facet of Climate-KIC.



“We believe that innovation and entrepreneurship are skills that any person can benefit from, no matter what age and in any level of their career. Climate-KIC Education therefore supports our whole community on this topic, ranging from high school students to high executive professionals with more than 15 years of work experience!”

Dr. Martine van Veelen,  
Education Lead the Netherlands

## From Climate Change Challenges to Business Opportunities

The “Climate Change Challenges & Business Opportunities” Conference stimulated professional exchange and mutual learning, centred around opportunities arising from the transition to a low carbon economy. It showcased how to create business opportunities out of climate change, giving advice on how to use the innovation process to achieve success and applicable results. Over 80 participants from nine countries attended the conference held in Valencia, which was addressed to leaders from the climate change business sector, corporates, small and medium sized enterprises, entrepreneurs and policy makers.

## Bridging the Gap Between Science and Business

An increasing number of researchers recognise the vast potential of collaboration between scientists and entrepreneurs. Climate-KIC has taken a step as an early mover in this transition, introducing a series of workshops to help scientists bridge the gap between science and business. Its main aim is to boost the entrepreneurial spirit of scientists and to inspire them to commercialise their knowledge. After all, researchers are a major force in the



creation of new products and solutions to climate change mitigation and adaptation. We take scientists out of their labs, encouraging them to make a difference by responding to demands in the market and in society. The workshops are set up to transform researchers into ‘lean scientists’ – a reference to the lean start-up method developed in Silicon Valley.

## 1 Challenge. 9 International Teams. 36 Hours. 40 Experts.

This is Climate-KIC’s Climate Market Accelerator (CMA) challenge. 76 teams from 8 countries faced the challenge of shifting electricity demand to off peak, making better use of renewable energy generation and helping to reduce carbon emissions. Selected semi-finalists pitched for support and in a 36 hour ‘Hackathon’ they hacked their ideas into more developed prototypes or plans. The finalists developed a robust prototype for UK households and small businesses, a prototype with the potential to be adapted to many other markets. Climate-KIC Education is supporting the challenge by providing coaches to help the contestants develop their idea and subsequently come up with a final business

plan; a setup which is similar to Climate-KIC’s summer school, The Journey, but, in this case, in a professional environment.

## Making Future Cities More Sustainable

By 2050, 80 per cent of the world population is expected to be living in cities. This calls for large scale and integrated changes to make our future cities more sustainable. This is why, in 2013, Climate-KIC delivered its first N-DEMO (neighbourhood demonstrations) project, in partnership with the Institute for Sustainability, TU Berlin and TU Munich to create sustainable cities, incorporating education and large scale, systemic innovation to offer new approaches to foster sustainability in the neighbourhood. The beauty of this project is that it can easily be replicated at city scale, offering a real-world urban test-bed for new innovations.

By starting the work at a neighbourhood level, N-DEMO aims to optimise community involvement. Pioneering ideas range from new approaches to governance, to technological advances such as tools to estimate energy and heating demand.





## E-Learning: Reflecting Reality, Exploiting Potential

At Climate-KIC Education, we understand how fundamental E-Learning is to achieving our aims. Teaching innovators and entrepreneurs worldwide how they can realistically transform climate change knowledge into successful business initiatives empowers them to convert theory into practice.

This is why we have started our own E-Learning programme. The first element, the Climate Change Innovation Primer, has two distinct purposes: to function as summer school preparation and as a stand-alone course.

Learners today are sophisticated, with accordingly sophisticated needs. They are able to negotiate the mass of information available online. Learning is becoming increasingly informal and social media is playing an ever growing role. Our online resources reflect the reality and exploit its

potential, giving people what they need, how they need it. A mix of online resources, materials and live webinars will encourage both independent discovery and group collaboration. Learners will contribute and share, creating a dynamic and constantly evolving set of online resources - because we know that learning never stops.

We are also looking to create a MOOP (Massive Open Online Programme) and we will be collaborating closely with our colleagues from the two other Knowledge and Innovation Communities (KICs) to develop relevant tools and resources for international learners.

Our educational resources will look at the big picture: encouraging every individual to play a part in the climate change challenge, using their talents, knowledge and skills to make a real impact with innovative solutions.



# The Climate-KIC Alumni Association

“The Climate-KIC Alumni Association (CKAA) is a European community of highly skilled individuals, from diverse academic backgrounds, supporting each other in driving climate related projects.

From a climate-change perspective, the CKAA keeps our alumni inspired and intrinsically motivated, offering access to a variety of events, to the internal knowledge bank and supporting their personal projects. What makes McKinsey & Company, for example, such a global leader in Strategy Consulting hangs on the strength of its international Alumni. And this is something that the CKAA also aims to achieve. In this day and age, having the right contacts is what takes you places and contacts are exactly what the CKAA provides - a network of like-minded individuals.

Many of our members have successfully established start-up companies, or participated in Climate-KIC projects. We are also proud of the CKAA Mentoring programme, led by Kevin Ramirez, established to ease the connectivity of skills within our network. We already have 22 active members, even though the programme and our new website will only go online in the next few months.

We are still very young, so we have a lot of potential for growth and development in the future. Besides the aforementioned activities, we are planning a lobbying workgroup and a stronger collaboration with Climate-KIC Entrepreneurship and Innovation. In five years, we plan to be financially independent, with a long-term goal of maybe even funding Climate-KIC itself.

What makes me proud? When a fellow Alumni asks me a technical question that I am able to answer, I feel great. When I watch this same person win an innovation award I feel more than proud, I feel fantastic.”

Prageeth Jayathissa,  
Chair of the Climate-KIC Alumni Association





"The Masterclasses are taught by a truly world-class faculty and provide a unique opportunity for start-ups to work full time on their venture, whilst profiting from tailored education from some of the world's best teachers." Frans Nauta, Deputy Director of Entrepreneurship

## Masterclasses: Entrepreneurship meets Education

To empower individuals to be more innovative and entrepreneurial, we are also increasingly collaborating with our entrepreneurship division. Their Accelerator Programme, offering a systematic, three-stage approach to help entrepreneurs develop, fund and implement business plans, helps fragile young companies negotiate the rocky road to success. This unique 18 months programme, the first of its kind in the world, allows cleantech innovators to nurture their ideas, growing them into great businesses. We are proud to say that, in joint development, we were able to increase the

number of groups joining the programme from our educational division, with most participants coming out of our summer school, The Journey and the Greenhouse pre-incubation programme.

Within the Accelerator Programme, Climate-KIC Education is supporting Masterclasses, developed in response to the needs and wishes of start-ups. The curriculum is designed to cover all the relevant topics for an early stage venture, including sales, finance, dealing with investors, teams and leadership, lean start-up and negotiations. In 2013, this created 133 business ideas that led to 32 start-ups.

# Meet the Climate-KIC Education Team



## Rachael Holmes, Executive Assistant- Director of Education

*Inquisitive. Altruistic. Active.*

"Climate-KIC ties together perfectly my academic focus: climate change and enabling business start-ups. I have experience in project management, and am currently looking for ways to improve the operations within Education, specifically with regards to how to manage communications in and out of the Directors office."



## Meeae Lee, Central Coordinator/Greenhouse Manager

*Outgoing. Creative. High energy.*

"I am attracted to the international nature of Climate-KIC, its goal to challenge climate change, and the programmes we offer, stimulating acceleration coupled with entrepreneurial aspects. In my role, I would like to achieve accurate data management reporting, and introduce lean business processes to review waste and improve efficiency."



## Marie Melvin, Education Operations Manager

*Energetic. Adventurous. Open.*

"I work on refining and implementing the operational strategy for our programmes, whilst raising quality both internally and externally. I believe that addressing climate change through innovation is essential. To tackle this challenge at a European level, within a team of highly motivated, sometimes visionary people, reinforced my motivations."



## Maria Peeva, Community Coordinator

*Passionate. Enthusiastic. Outgoing.*

"My goal is to transform the Alumni Association into the best network of young innovators, entrepreneurs and change makers in climate change. I would like to support professionals from different countries to work more closely on projects and issues towards combating climate change."



## Flora Rosenow, Central Education Communications Officer

*Enthusiastic. Empathic. Out-of-the-box-thinker.*

"As marketing communications professional who always seeks new challenges, Climate-KIC offers a great work environment – a multi-faceted network with an ambitious climate change agenda. I have the amazing opportunity to really make a difference. Getting the word out, making people enthusiastic about what we do and offering them unique experiences."



## Phillip Wood, Media Assistant

*Creative. Flexible. Loyal.*

"I want to be part of a team that creates a programme that provides the catalyst for tangible change in how people do business. I like to think we will inspire those who see non-destructive environmental methods of producing goods as the norm rather than an aspiration."



[www.climate-kic.org](http://www.climate-kic.org)