



**RESEARCH PROBLEM**

**What can alumni do to help implement the MIT Plan for Climate Change?**

**SOLUTION**

The ClimateX is an online peer-to-peer learning experiment seeking to connect learners worldwide with MIT experts in climate change.

The platform consists of a series of seminars led by distinguished MIT alumni and students, a robust digital community for synchronous discussions, and a problem solving platform designed to propose and define real solutions to specific climate challenges.



**RESEARCH PROBLEM**

**How can energy usage be reduced in labs?  
How does human behavior impact the implementation of awareness programs?**

**SOLUTION**

Study fume hood positions in labs and estimate potential savings associated with monitoring sash positions and implementing the "Shut the Sash" awareness program.



**RESEARCH PROBLEM**

**Campus energy consumption is not fully known because some building are missing meters. MIT cannot efficiently distribute utilities or plan were to invest in energy reduction strategies.**

**SOLUTION**

Conduct a feasibility study on metering of all campus buildings to help prioritize which meters are needed and to develop a strategy for phased installation.



**RESEARCH PROBLEM**

**How can the joy of biking be expanded to address issues by those inhibited by injury or other mobility challenges?**

**SOLUTION**

Invent a device that transforms an ordinary bike into a hybrid E-Bike that provides feedback on pollution, traffic congestion and real-time road conditions.

**Leading Players**

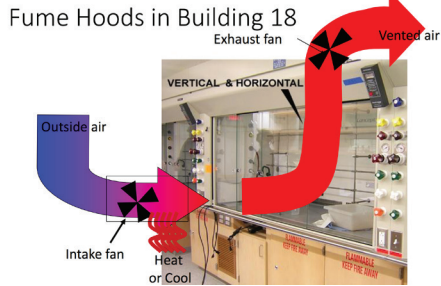
The Chemistry Department and EHS Coordinator

**Supporting Cast**

Facilities Department, Faculty, Operations, Principle Investigators, External Partners

**The Story**

Building on student research (Amanti, 2006), the Chemistry Department worked with a team of partners to repair and calibrate fume hoods in the Summer of 2006. Sash sensor position data was grouped by the principle investigator responsible for each fume hood and sent to the EHS Coordinator. This led to the first chemical fume hood intervention in November 2006 and the creation of the "Shut the Sash" Program. The second intervention was the release of fume hood data to the faculty and PI's in charge of each lab. The first data sets were distributed by the EHS Coordinator to the Chemistry faculty in August 2007.



These data were then distributed to other members of the lab at the faculty PI's discretion.

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**The Players:**

Rajesh Kasturirangan (MIT PhD '04),  
Dave Damm-Luhr (MIT PhD '79)

**Supporting Cast:**

Office of Digital Learning, Office of Communications, Climate CoLab, Office of Sustainability and Cantina (Digital Agency)



**The Story**

The ClimateX idea was developed by Team MITACAL (MIT Alumni for Climate Action Leadership) in response to a contest (Climate Colab) asking how to engage alumni in climate action planning at MIT.

The solution, a digital platform that fosters meaningful engagement between MIT experts and learners from around the world, addresses challenges related to Massive Open Online Courses (MOOCs), a powerful tool for reaching learners at scale, but that often suffers high attrition rates. The ClimateX experiment is designed to foster mentoring at a large scale and a sense of community among participants.

Learning activities are conducted using off-the-shelf technologies (Drupal Commons, Google Hangout) and conversations with experts are recorded and shared.

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**The Players**

Carlo Ratti, Director  
Assaf Biderman, Associate Director  
Eric Baczuk, Project Leader - Second Phase  
Christine Outram, Project Leader - First Phase

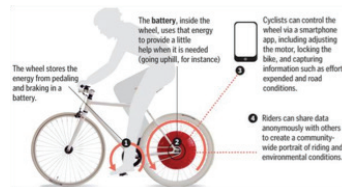
*Carlo Ratti is an Italian architect, engineer, inventor, educator and activist founder of Carlo Ratti Associati and professor at MIT.*

**The Story**

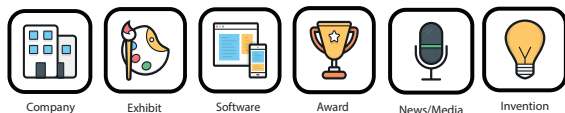
The Copenhagen Wheel was a response to a design competition that sought solutions for broadening access to biking in Copenhagen. The entry for the competition, developed by a team of MIT researchers affiliated with the SENSEable Cities Initiative, was prototyped and tested extensively on the MIT campus and in Cambridge.

This work eventually spawned a new company that received \$2.1m start-up funding from Spark Capital of the US, one of the lead investors in Tumblr, Twitter and Oculus.

The game-changing concept has the potential to become a widely used product and is sold by Superpedestrian, a company backed by venture capitalists who are convinced that the sleek design and simplicity will win over consumers.

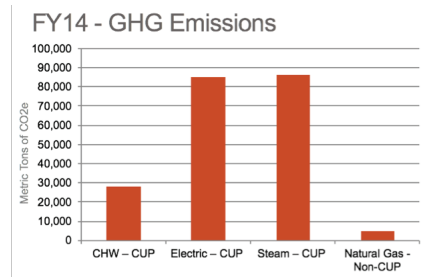


Contact Lead researcher Carlo Ratti @ [ratti@mit.edu](mailto:ratti@mit.edu)



**The Players**

MIT Department of Facilities' System Engineering Group, Capital Renewal, Utilities, Operations and Maintenance, and System Performance and Turnover.



**The Story**

Several operations units within the Facilities Unit at MIT collaborated to meet the challenge of measuring the amount of energy used per building. In a perfect world, each building would include meters for all fuel types, but in reality, it is not uncommon for at least some buildings on the typical college campus to not have meters.

Several operational stakeholders collaborated to determine the parameters of a study that identifies the gaps in metering and strategies for prioritizing the implementation of new meters on the campus.

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