

OF INTEREST TO:
**Universities, Educational
Organizations**

- for students and researchers
- to create new tools of carbon measurement and analysis

zerofootprint™

ZEROlab™

Located in key universities in order to create a network for carbon reduction information exchange and open source software development.

MARKET DRIVERS → The ZEROlab™ creates for environmental research what the celebrated Algorithmics RISKlab initiative created for scientific investigation into the financial market risk—a structured platform for measurement and analysis.

The ZEROlab mission is to provide facilities where researchers in science, engineering, architecture, business and politics have the collaboration tools needed to understand and create sustainable buildings and cities. ZEROlabs will be located in key universities to create a network for carbon reduction information exchange and to support open source software development. Armed with collaborative insights, students can also use their campuses as testing grounds for measuring and optimizing their university's footprint. All activities will be open-sourced to the lab community, a strategy intended to accelerate the network benefits of their collective research.

THE CHALLENGE → The labs respond to a great challenge facing our nations—the threat of global climate change. Building and maintaining our cities produces the majority of the carbon dioxide driving climate change. Surprisingly, unlike cars that require fuel-efficiency ratings, the energy efficiency of our buildings and cities is unknown. For example, SUV's create approximately 3% of North America's CO₂. Cities produce more than 50%, but we know more about automobile efficiency than we do about the major cause of our environmental footprint—the built environment.

1 Zerofootprint's ZEROlab

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COLLABORATION TOOLS

→ Zerofootprint will help drive the research by providing the tools and software infrastructure needed to begin their investigation into carbon footprint analysis. To this end, Zerofootprint will share two of its leading technologies: TALKINGplug™ and VELO™, which will allow researchers to leverage working infrastructure as a conduit to their exploration and discoveries. To make these technologies available, universities are encouraged to obtain funding from sources such as the NSERC, OPA Conservation Fund, Ministry of Research and Innovation, etc.

RESEARCH AREAS

→ POTENTIAL RESEARCH AREAS - TALKINGplug ENERGY MONITORING

- Optimal mobile user experience/communication strategies for bringing about long-term change in energy saving behaviour at the device level
- The impact of plug-level load monitoring on enterprise resource management and business intelligence
- Optimal multivariate control schemes for demand/response and personal energy management at the device level

POTENTIAL RESEARCH AREAS - VELO ENTERPRISE CARBON MANAGEMENT

- Improving the operational effectiveness of automated data capture and utilization for smart/mobile devices
- Energy end-user behavioral changes as a result of comparative data awareness strategies and technologies in institutional environments
- The influence of location on technology-driven carbon mitigation strategies

FINDING SOLUTIONS

→ ZEROlab is a unique opportunity to address the need for practical and scalable solutions to global warming. It is also an opportunity to attract the highly qualified personnel that can innovate to achieve a zero carbon footprint. Through industry sponsored projects, faculty and students will be able to develop interactions with practitioners in a way not possible through more traditional academic programs. Furthermore, the labs will be a repository for the ongoing carbon measurement and benchmarking of building types, institutions, businesses, and cities. When made available on an open source basis, this information will allow developers and policy-makers to better understand the benefits of efficient design and development.

ABOUT ZEROFOOTPRINT

→ Zerofootprint is a socially responsible enterprise whose mission is to apply technology, design and risk management to the massive reduction of our environmental footprint. We operate both in the for-profit and charitable domains through two entities, Zerofootprint Software and Zerofootprint Foundation using shared technology.

2 Zerofootprint's ZEROlab