

# Sustainable Development: It's an Imperative, Not an Option

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“Gaining Ground Sustainable Urban Development Leadership Summit” by

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Columbia University economist Jeffery Sachs reminds us that:

*“Before we can save the world, we have to overcome cynicism and defeatism, which are holding us back – paralyzing us really – more than a lack of solutions to our issues around environment and sustainability.”*

There are three things that will help us move past our cynicism and defeatism as we work to make our organizations more sustainable: Innovation, Engagement and Leadership.

These three strategies apply to all institutions and individuals. But because I am most familiar with the University of Calgary, I will talk today about how we are using innovation, engagement and leadership to build a culture of sustainability on campus and also to support the City of Calgary in its efforts to be a more sustainable city.

Calgarians do business differently than in other parts of Canada. Calgarians are dealmakers. The oil patch, with its history of exploration, risk and innovation, has spawned a real culture of action. Deals are still made with a handshake and you are expected to live up to your words by your actions.

The University of Calgary is very much a product of its city. We are setting ourselves apart by the scale and speed by which we act. We're in the midst of a 1.5 billion dollar capital expansion to accommodate more students, and to provide them with useful and contemporary facilities for learning and research.

We broke ground on the Taylor Family Digital Library, a facility that will revolutionize the role of libraries, less than a year and a half after receiving a foundational donation from the Taylor family.

We open Canada's first new veterinary school in two decades this September just four years after the idea was first announced. The Vet School curriculum is already being hailed as innovative and progressive.

The School has committed itself to the delivery of a paperless curriculum and a so-called “greening of science” through the use of less harmful chemicals and acetone recycling.

Calgary’s university believes that a university education must be relevant, useful and contemporary. Students want to know why they are learning what they are learning and they want to see how it can be applied in the real world. We are responding in turn with programs that are multi-disciplinary, experiential, relevant and useful.

### **Innovation**

Let me talk a little bit about innovation because I believe it to be a powerful antidote to the defeatism that Sachs talks about, the defeatism that stops us as a society from taking meaningful action on the environment.

Research universities, like the U of C, are all about innovation. We recruit the world’s leading professors and attract millions of dollars a year from government and business to find cures for disease, develop new technologies and build better mousetraps.

There’s a reason that the phrase “Ivory Tower” is used to describe some universities. The old model supported the concept of researchers locked away in their labs, isolated from their communities and societal concerns, heading down paths of discovery, no matter how obscure, driven by their own curiosity.

At the University of Calgary, our approach to research allows us to have a far greater impact in the community than universities have traditionally had in the past. Our model is one of engaged scholarship. We believe that our researchers should be spending their time and talents on real problems, on issues that our local and global communities have told us are priorities.

Among our many community-focused research projects, we have a partnership with the City of Calgary called the Urban Alliance that connects city employees with university researchers to come up with practical solutions to real urban issues.

One example is our researchers working with city departments to build a BioCell at Calgary’s Sheppard landfill that helps put what would otherwise be waste to good use.

Research at the U of C is also focused on global issues. One of the best examples is the work being done by Dr. David Keith on carbon capture and storage. David is one of the world’s preeminent scientists in this area and he

recently received an additional \$5 million grant from the federal government to continue his work.

Our models of research are also far more multi-disciplinary than in the past. In the Ivory Tower, researchers tended to stick with their own kind -- Chemists with chemists; biologists with biologists.

As many speakers at this conference have already pointed out, the best solutions, particularly for sustainability, won't come from this model. Problems are much more likely to be solved — effectively and quickly — when talented people from different disciplines and perspectives work together.

So we created the Institute for Sustainable Energy, Environment and Economy that brings together researchers from science, engineering, law, medicine, business, economics, environmental design and more, to tackle problems in a collaborative, integrated manner.

Our new School of Policy Studies, headed by Jack Mintz, a world-renowned expert in fiscal and tax policy uses that same multi-disciplinary approach to develop expertise in public policy.

### **Engagement**

Let me talk now about engagement. At the University of Calgary, we put a significant amount of thinking, effort and resources into something we call experiential learning. At its most basic, experiential learning is learning by doing. It is the ultimate form of student engagement.

The students in our classrooms today are probably the most environmentally aware and environmentally supportive generation yet. Any message I send out to the campus that has anything to do with the environment is guaranteed to elicit response from students. And given that most of my messages are generally ignored by students, this says a lot.

A group of our students, for example, has created a Campus Bike Initiative, a gathering place on campus for bike commuters that includes a repair workshop and a bicycle lending project.

Students have also raised funds to power computers with wind energy, organized Fair Trade sales and are using old fat that we use to make French fries in one of the campus bars to fuel their chemistry experiments.

Yet this generation, for which sustainability and environmental concerns are top of mind, is probably also the most consumer-driven ever. They buy a lot of stuff, including, for many, a new cell phone every year. And they litter, they waste

water, they don't always recycle and they consume a lot of things that produce a lot of waste.

They, like the rest of us, struggle with the gap between ideas and action — between theory and practice – between what we know we should do and what we actually do.

In the past, universities didn't necessarily care so much about that gap. They were focused on theory, on ideas.

Our model of experiential learning is far more useful to this generation. Our students learn by doing, not just by listening to lectures, reading books and surfing the web. They help define the questions, they create the experiments to find the answers, and they apply these solutions in the community, not just in the lab. They see first hand how their work can change society.

We use this model in all disciplines in all faculties at the U of C. And here's how it applies to our challenge of overcoming cynicism and defeatism.

It is simply a fact that after having had the experience of making a difference as a student — of solving a real problem in the community — then as graduates, these individuals are far more inclined to try again. They've seen first hand how they *can* make a difference. And they are therefore less likely to believe that they have no power to effect change.

These experiential learning opportunities also promote collaborative, multidisciplinary teamwork.

Let me give you some examples of how experiential, multi-disciplinary learning is giving our students the experience and perspective that, I believe, will prepare them to solve the challenges we're talking about today.

We just opened the Child Development Centre, one of only five buildings and the largest in Canada to achieve LEED Platinum, the highest level of certification for environmental sustainability by the Canada Green Building Council. Its photo voltaic array is one of the largest in Canada and the building was named Project of the Year by the Canadian Solar Industries Association.

Faculty and students from our Faculty of Environmental Design provided the energy engineering expertise for this project. What is even more exciting is that students are now monitoring how the building is functioning and they are finding ways to improve it. The building is a living laboratory in which students are discovering new answers to how to make buildings more energy efficient.

This year, students from U of C, SAIT Polytechnic and Mount Royal College are working together to design and build a solar-powered house to compete in the

Solar Decathlon in Washington, D.C. next year. This competition draws teams from universities across North America — we are only the second Canadian team to make the cut and the first from Western Canada. A key goal of this project is to inform and educate the public on how solar technologies can be readily and affordably integrated into housing development.

Students from several U of C faculties have also worked for a number of years on a solar-powered car. The first car they designed and built — in about half the usual time for such projects — finished first in its class at an international race. The second generation car is even better — it's lighter, and is powered by the same photovoltaic cells that are used aboard NASA spacecraft. The kids are hoping to improve their standings this summer when they race in the North American Solar Challenge. And, I invite you all to the finish line of the North American Solar Car Challenge which is on the U of C campus on July 22 2008.

These projects give students skills and experience. They get them involved in the community. These projects close that gap between “saying” and “doing”. They foster in our students a belief in the possibilities for real change, and perhaps more importantly, a belief in themselves.

### **Leadership**

Finally, let me talk about leadership. The U of C takes this responsibility seriously.

We have established an Office of Sustainability to provide strategic direction and campus-wide engagement in our sustainability initiatives. It has undertaken 13 portfolios of action, ranging from curriculum and research, to procurement, to new and existing buildings.

We have made a commitment to meet LEED certification for all new buildings.

We are upgrading existing buildings with low water-flow fixtures and waterless urinals in our bathrooms, and retrofitting with low energy-use lighting.

Our janitors are using biodegradable cleaning products.

We're running our lawn mowers and maintenance equipment on fuel made from used cooking oil.

We are also taking some much bigger steps because bold action is an important part of leadership.

The university needs to upgrade its Central Heating and Cooling Plant. Instead of just making it bigger, we are spending an additional \$15 million to also convert it into a co-generation plant.

When this new plant opens, the U of C will reduce its carbon emissions by over 40% from 212,000 tons to 113,000 tons. And because we'll save about \$3.5 million a year in operating costs, we'll pay for this incremental investment in co-gen technology in five years. That's a big win.

All of this is not to say that we don't still have our big challenges.

In 2006, the U of C consumed 72 million sheets of paper. In 2007, largely as a result of a comprehensive business agreement with Xerox, we used just 56 million sheets of paper. That's a 22% reduction in paper use but still a lot of paper. We are working to improve those numbers.

### **Urban and West Campus**

Before I close, I'll mention two other projects that I think illustrate well Calgary's potential to do great things in sustainable urban development.

Cities in North America are struggling to keep their cores dynamic and healthy, to find new ways to build strong, safe neighbourhoods and to develop imaginative approaches to housing, cultural life and recreation.

The Urban Campus Partnership represents one of the most innovative such initiatives in Calgary and Canada. Through collaboration between the University of Calgary, the City of Calgary, several post-secondary and community partners, we are revitalizing a large parcel of the East Village to create a "learning village" that will make a statement about the importance of education, arts and culture to the quality of life in this city.

The other great opportunity we have is with our West Campus. At 184 acres, it is one of the last large developable tracks of land within the City of Calgary. Our commitment is to develop these lands in ways that are environmentally responsible, ecologically sensitive and sustainable. We will use this opportunity to advocate, embrace and showcase high-level design, green principles, a mix of land use, a pedestrian orientation, culturally responsive planning, climate-appropriate construction and a celebration of community.

**[pause]**

Let me leave you with this thought.

In his book about the looming global energy crisis, *The Long Emergency*, James Kunstler bemoans our society's expectation that something — some new fuel,

some new technology, some magic bullet — will come along to save us. He describes talking to a group at Google about the emerging energy and environmental crisis and he described their response to his talk in this way:

*“They seemed to assume that the energy rescue remedy was just a few mouse clicks away. I couldn’t persuade them that life is tragic – in the sense that happy endings really are not guaranteed, not even for Americans.”*

I agree that we can’t — and shouldn’t — count on a happy ending. And that the challenges we face as a society — as a planet — are significant, real and daunting. And I also worry about our generation’s expectation of quick and easy solutions.

But I also believe that happy endings *are* possible. If you look back in history there are many examples where innovation and persistence have led to positive, if not inspiring, outcomes. The difference is that these happy endings don’t just happen, they are made. And they are made, I believe, largely through Innovation, Engagement and Leadership.

As a society, we have never been better equipped to find solutions, to effect change and to make a difference. And speaking to you as a university president, I believe that our students, the next generation of leaders, has never been as well prepared to improve the world.

Thank you for listening.