



WADE CANADA

BUSINESS PLAN

2009 - 2012

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EXECUTIVE SUMMARY

WADE Canada is the successor of the New Energy Resources Alliance (NewERA) and is a registered, national, non-profit industry association supporting the growth and development of Canada's Decentralized Energy (DE) industry. It is the national focal point for a traditionally fragmented industry and serves as a coordinator for stakeholders from all municipalities, provinces and territories and from all aspects of the value chain.

Canada needs a revolution in thinking, building, sourcing, using and paying for energy if we want our society to be sustainable.

WADE Canada's mission is to sustain the accelerating growth of DE through innovation and collaboration. We are fostering a united force that enables policy reform with an emphasis on Small to Medium sized Enterprises (SMEs) and representation from the full spectrum of industry stakeholders. As such, the five components of our mission are Communication, Innovation, Policy Reform, Implementation and Corporate Sustainability.

The WADE Canada management team and board of directors are tasked with implementing the strategies set out in this business plan. WADE Canada's president and vice president have more than 25 years of combined experience in energy, environment, agriculture and education sectors. Their experiences are a rare asset in a relatively young DE industry and provide the solid platform for informing and advising the board of directors.

The board of directors brings a vast skill set to the association representing numerous fields of expertise including politics, law, environment and engineering. Each of the board members has the experience and knowledge required to ensure that WADE Canada fulfills its mission effectively and efficiently.



As of October 2009, WADE Canada's list of board of directors and management team are as follows:

Board of Directors

Ben Kennedy, Business Development Leader,
GE Jenbacher
Bert Dreyer, EMF Technical Services
Bob Hawkesworth, Alderman, City of Calgary
Brent Harris, (Vice Chair and Secretary) Vice President,
Sustainable Energy Technologies
David Sweet, Executive Director, WADE International
James Sidlofsky, (Chair) Partner,
Borden Ladner Gervais LLP
Jan Buijk, Vice President DDACE Power Systems
Owen Schneider, Manager New Ventures,
Enbridge Solutions Inc.

Management Team

Anouk Kendall, President
Geraldine Byrne, Vice President
Patricia Faucher, Communications Officer

Project teams made up of varying professional consultants are developed to sustain the programs and initiatives employed by WADE Canada to support each of WADE Canada's business goals.

DE is produced, managed and stored forms of heating, cooling and/or electrical power at the point of consumption. The industry includes components of energy generation, storage, infrastructure and efficiency. More than ever it has become critical to invest in efficient and reliable sources of energy and advanced energy delivery infrastructure. In some parts of Canada, low system efficiencies in terms of generation and delivery mean that only 15-25% of our fossil fuels are available as useable electricity at the point of consumption. The health, environmental and economic costs associated with these inefficiencies are considerable. As Canada moves toward securing sustainable sources of affordable, reliable clean energy, DE provides immediate and long-term opportunities to offset capital investments in regional electricity delivery infrastructure.

As WADE Canada is the only industry association supporting the cross cutting sectors of the DE industry, it relies on collaborative partnerships with other associations and organizations that are synergistic with WADE Canada's mission. Hence, we nurture strong and trusting relationships with organizations in each of the provinces and territories in Canada. WADE Canada provides the network base for non-profit organizations, SMEs and corporations to gather intelligence and unite the needs of the industry to support the modernization of our energy management systems.

WADE Canada's list of National Affiliates and Members includes:

National Affiliates

- Association of Power Producers of Ontario
- Calgary Technologies Inc. (CTI) Canadian American Business Council, USA/Canada
- Canadian GeoExchange Coalition
- Institute for Sustainable Energy, Environment and Economy
- Petroleum Technology Association of Canada
- Quality Urban Energy Systems of Tomorrow (QUEST)

National Members

- Alberta Research Council
- Alterna Energy
- Bob Hawkesworth
- Borden Ladner Gervais LLP
- Canadian Gas Association
- DDACE Power Systems
- Ecotility
- EMF Technical Services
- GE Jenbacher
- GeomatKa Information Systems
- Lakeland College
- Municipality of Chatham-Kent
- New Energy Corporation
- Northwest Territories Power Corporation
- Portfire Associates
- Sunmotors International Ltd
- Sustainable Energy Technologies

Canada is capable of becoming a world leader in Decentralized Energy (DE). WADE Canada has launched a number of national and regional commitments that will secure our role in advancing Canada's global competitive advantage.

WADE Canada's 2009 budget is \$550,000. In addition to memberships and private sector funding, WADE Canada is financially supported by public funds.

DEFINING THE DE INDUSTRY

The (DE) industry is a subset of the *cleantech* industry¹ and covers several segments including energy generation, storage, infrastructure and efficiency.

Decentralized energy is generation at the point of consumption. It is locally produced, managed and stored forms of heating, cooling and/or electrical power. DE encompasses a broad spectrum of technologies and complements the traditional centralized energy generation model where large-scale generation systems transmit electricity to consumers over great distances.

INTRODUCTION

WADE Canada is a registered, national, non-profit industry association which supports growth and development of the DE industry.

It is the successor of the New Energy Resources Alliance (NewERA) which was established in April 2002 when two organizations, Climate Change Central and the Alberta Research Council, sponsored a collaborative effort to create an industry-led association dedicated to decentralized energy.

In 2007, after four years of service to the industry, NewERA transformed into WADE Canada, the country chapter of the World Alliance for Decentralized Energy (WADE). The World Alliance for Decentralized Energy works to accelerate the worldwide development of high efficiency cogeneration, onsite power and decentralized renewable energy systems that deliver substantial economic and environmental benefits. WADE Canada has retained the grass roots emphasis of NewERA and its members are benefiting from a direct link to global DE markets through other country chapters of WADE such as India, China, Peru, USA and Europe.

WADE Canada continuously updates its value proposition and customizes its services according to members' needs. This year, the business plan has been developed using industry feedback from two initiatives:

- the 2009 WADE Canada Industry Survey and
- the 2009 Clean Energy Strategy Session held in Montreal on May 5, 2009.

Please refer to the Appendix for a summary of results from the survey and the strategy session.

INDUSTRY BACKGROUND

Our energy system is changing in response to:

- depleting natural resources,
- increasing environmental concerns,

¹ *Cleantech describes a group of emerging technologies and industries, based on principles of biology, resource efficiency, and second-generation production concepts in basic industries. Examples include: energy efficiency, selective catalytic reduction, non-toxic materials, water purification, solar energy, wind energy, and new paradigms in energy conservation. Source: <http://en.wikipedia.org/wiki/Cleantech>*

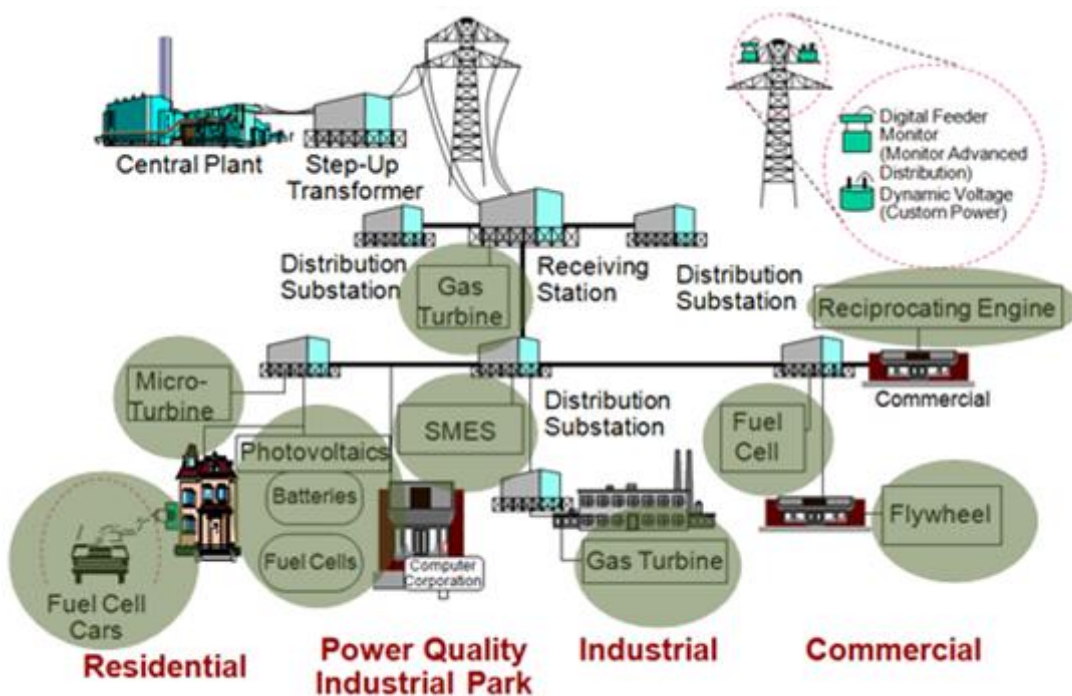
- the health risks associated with fossil fuels use,
- volatile pricing for fossil fuels, and
- the immense capital requirements for infrastructure upgrades.

All levels of Canadian society are working to secure a sustainable source of affordable, reliable and clean energy. In the short to medium term, this will depend on our ability to achieve a balanced-growth energy supply mix that utilizes a combination of centralized and decentralized generation.

The benefits of decentralized energy include:

- improved efficiency through reduced line losses and thermal efficiency gains,
- deferred capital investments in transmission and transformation upgrades,
- increased reliability of the transmission and distribution grids,
- reduced emissions and health impacts from traditional energy systems, and
- reduced energy delivery costs through integration of energy generation into building design and community planning.

The energy supply diagram below illustrates how DE is integrated into our existing infrastructure. The diagram begins with the traditional central power plant and step-up transformer model. The DE technologies enter the system at the distribution substations and are highlighted in shaded green circles. At the point of residential, industrial and commercial end-use a selection of DE examples are illustrated including gas micro-turbines, photovoltaics, energy storage systems (batteries, fly wheels and Superconducting Magnetic Energy Storage Systems [SMES]) and fuel cells.



Source: EPRI 2002

ENERGY EFFICIENCY AND CAPITAL INVESTMENTS

Canada is a sparsely populated country with distinct population clusters. We have developed a centralized generation model to manage our energy needs and have consequently made substantial investments in the transmission and distribution of electricity. The need for electrical grid upgrades as age and new demands increase are real, with virtually all regions of Canada affected. The need to explore alternative methods for mitigating the associated costs is considerable.

Supply side energy efficiency is one mechanism for offsetting capital investments in electrical grid upgrades. Our current transmission connected generation technologies are largely inefficient; traditional coal and oil power plants have low system efficiencies ranging from 20 percent to 50 percent due to excessive thermal losses. Higher efficiency distribution connected generation includes a broad spectrum of DE technologies.

Demand side energy efficiency is another mechanism for offsetting capital investments in electrical grid upgrades. Energy conservation strategies and demand side management include ensuring that new and existing homes and other buildings incorporate high efficiency energy systems to meet electrical and thermal demands.

Decentralized energy is generation at the point of consumption and therefore supports both demand side and supply side energy efficiency strategies. Two examples of available DE technologies that can be integrated into our current infrastructure are residential combined heat and power (CHP) and distribution-connected tri-generation. These systems are designed to capture and use waste heat thereby increasing overall system efficiencies up to 80 percent to 90 percent. CHP and tri-generation systems have added benefits in terms of fuel flexibility; both can be set-up to run on biofuels, natural gas, oil, solar and waste fuel sources. Fuel cells are also used in CHP and tri-generation systems. Hybrid systems that use more than one source of primary energy are also available. CHP and tri-generation are currently undervalued in Canada yet they present a substantial opportunity for grid investment offsets and improved energy efficiencies.

EMISSIONS AND HEALTH IMPACTS

We are beginning to acknowledge and quantify the health and economic costs of inefficient and unclean energy sources. By doing so we are also beginning to calculate the cumulative benefits of clean and efficient energy technologies.

Canada's electricity generation sector is a primary source of air pollution. Carbon dioxide and a multitude of additional emissions from all fossil fuel electric power plants is an ongoing concern. Oxides of nitrogen, sulphur and fine particulate matter contribute to smog and acid rain formation. Mercury emissions from the coal power sector present considerable health risks. This sector has significant impacts on our biosphere including air, water, habitat and direct impacts on humans and animals. All of these translate into health and economic costs which we have only recently started to examine in detail.

The Ontario Medical Association (OMA) has embraced the challenge to model and report on the Illness Costs of Air Pollution² and several international bodies are supporting efforts to calculate the direct impacts of energy generation on our health and economy.

The transition to a healthy energy future relies on our ability to integrate clean and highly efficient decentralized energy capacity into the existing centralized energy model while sustainably meeting both base load and peak demands.

OUR ROAD AHEAD

Canada has a highly skilled work force and inspirational hot spots of progressive municipal leadership and technical innovation. Canada is capable of becoming a world leader in decentralized energy and has launched a number of commitments at a national level.

Developments in national legislation and implementation programs are critical to attracting sufficient investment dollars into the DE subset of the *cleantech* industry. Building an integrated infrastructure, access to the grid and advancements in national energy management solutions all look to regional collaboration mechanisms and national investment opportunities.

As of May 2009, the Ernst and Young Renewable Energy Country Attractiveness Indices ranked Canada 8th out of the 25 top countries for renewable energy investments³. The indices provide scores for national renewable energy markets, renewable energy infrastructures and their suitability for individual technologies. Ernst and Young regularly surveys lenders and analyzes the market, tracking the effects on the sector and the resulting changes in country attractiveness for investment in renewable energy.

Commitment to DE energy must be shouldered by public and private sector and, to some extent, consumers. The U.S. economic recovery bill includes an investment of over US \$76 billion in renewable energy and energy efficiency technology. Canada's Economic Action Plan (Budget 2009) contains programs with direct or indirect support mechanisms for the DE industry. These include:

- Industrial research fund for small and medium-sized businesses,
- Green Municipal Fund,
- Green Infrastructure Fund, and
- Clean Energy Fund.

SUPPORTING SMALL TO MEDIUM SIZED BUSINESSES

There is an emerging business mindset in Canada that recognizes the value of our small to medium-sized enterprises (SMEs).

² http://www.oma.org/Health/smog/report/ICAP2005_Report.pdf

³ http://www.ey.com/Global/assets.nsf/International/Industry_Uilities_Renewable_energy_country_attractiveness_indices/

Our SMEs play an important role in championing our next generation of technology innovations and global competitive advantages. However, SMEs have faced fundamental challenges in winning recognition and acceptance from the financial community, and receptiveness from the larger organizations responsible for deploying the technologies.

Budget 2009 committed to providing \$200 million over two years to support industrial research for small and medium-sized businesses to encourage innovation.

GREEN MUNICIPAL FUND

Canadians are also beginning to understand the progress we can make by empowering our municipalities. Most of the greatest initiatives in district and decentralized energy implementation have been led by municipalities. This success is directly related to their intrinsic ability to support collaborative multi-partner projects from the ground up and to guide the process through to implementation, as was the case with the Markham District Energy Facility in Ontario. Support from municipalities reduces the perceived investment risks of DE projects and attracts innovative businesses and investment to their communities.

Budget 2009 endowed the Federation of Canadian Municipalities (FCM) with \$550 million to establish the Green Municipal Fund, which offers municipal governments and their partners, loans and grants for feasibility studies and projects to stimulate investment in innovative environmental infrastructure project.

GREEN INFRASTRUCTURE FUND

National recognition of our aging and inefficient electricity infrastructure is critical to the success of DE businesses. Reducing our reliance on the transmission of electricity over long distances will alleviate the costly pressures associated with upgrades.

Our infrastructure needs are also changing in terms of waste management. Waste in its various forms is a costly nuisance. However, our waste streams are beginning to appeal to a number of innovative businesses that are converting municipal solid waste, sewage and agricultural residues into energy. This growing interest in waste-to-energy will work to reduce the life cycle costs of consumerism.

Budget 2009 has demonstrated a shift towards 'greening' our infrastructure and includes a commitment to provide \$1 billion over five years for a Green Infrastructure Fund (GIF). This Fund supports sustainable energy generation and transmission, along with municipal wastewater and solid waste management infrastructure. The commitment includes:

- Establishing a two-year, \$4-billion Infrastructure Stimulus Fund that will provide funding to renew infrastructure.
- Providing \$1 billion over five years for the Green Infrastructure Fund to support projects such as sustainable energy.
- Providing \$500 million over two years to build and renew community recreation facilities across Canada.

- Accelerating up to \$1 billion in payments over two years under the Provincial-Territorial Base Funding Initiative to expedite "ready-to-go" infrastructure projects.
- Providing up to \$500 million over the next two years for infrastructure projects in small communities.

CLEAN ENERGY FUND PROGRAM

Budget 2009 includes the Clean Energy Fund (CEF) which promises *'to invest a total of \$1 billion over five years in research, development and demonstration projects to advance Canadian leadership in clean energy technologies'*. The Government of Canada defines clean energy as *'energy that is produced, transmitted, distributed and used with low or zero greenhouse gas (GHG) and other air emissions'*.

The Clean Energy Fund includes \$350 million of funds available to WADE Canada stakeholders. \$200 million have been allocated to *'smaller-scale, demonstration projects of renewable and alternative energy technologies and systems, with a maximum of \$50 million for an individual project'*.

An additional research and development fund of \$150 million is dedicated to basic research and pre-demonstration pilot projects. Funding for R&D can support WADE Canada stakeholders that are working on technological breakthroughs for renewable clean energy, hydrogen and fuel cells, and technologies to address the environmental challenges in the oil sands.

OUR PROVINCIAL AND TERRITORIAL LEADERS

Some of Canada's provinces and territories have already emerged as green leaders. In April 2009, the first Green Provincial Report Card was published by the quarterly magazine Corporate Knights. The Report Card scored each province and territory according to ten environmental categories, including clean air, green buildings, waste reduction/waste management and clean energy. The top three scores were given to Ontario, British Columbia and Northwest Territories. See the Appendix for a clipping from the Report Card Analysis.

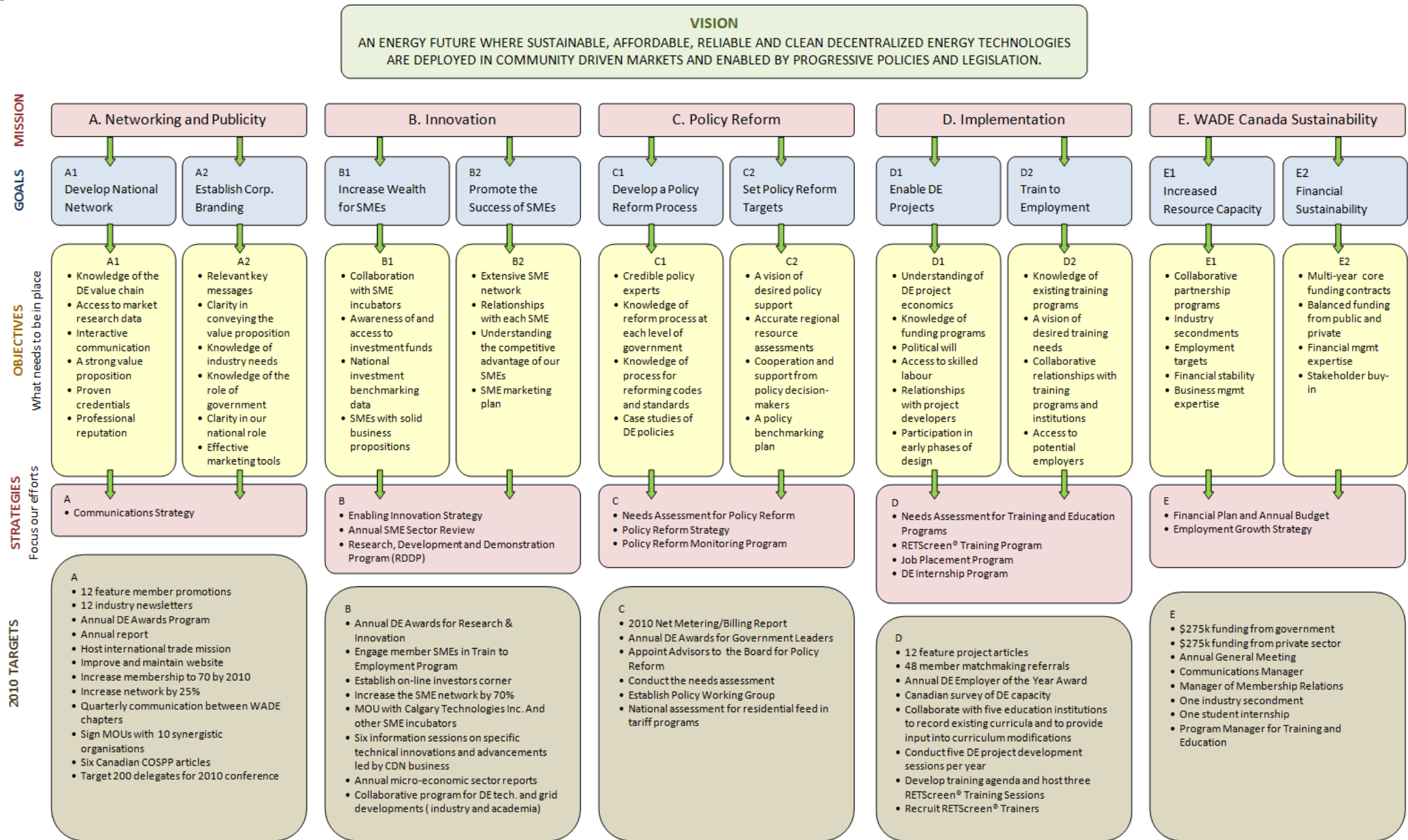
Ontario is leading the way with standard offer programs and the Green Energy and Green Economy Act, 2009. The Act's core components include:

- a system of Advanced Renewable Energy Tariffs as the primary procurement mechanism for renewable and clean distributed energy,
- an obligation for all utilities to grant priority grid access to green energy projects and an obligation for all utilities to connect green energy projects to the grid,
- the explicit and direct participation of First Nations and Métis as stakeholders, developers and owners in energy projects,
- premium tariffs for First Nations, Métis and community energy projects, and
- the establishment of a Green Energy Debt Finance Program and other community power initiatives.

Nova Scotia is also taking notable and bold steps. In July 2009, the province announced an aggressive target of 25percent of its electricity from renewable sources by 2015. Decentralized energy projects are expected to play a significant role but the results of a consultative process will determine the precise details of the implementation program.

STRENGTHENING NATIONAL EFFORTS

Municipalities, provinces and territories are developing foundations for success in our DE industry; however, for Canada to achieve a balanced-growth supply mix that provides us with a long-term supply of sustainable, affordable, reliable and clean energy, Canada needs to develop national legislation and programs for implementation that attract investment dollars into the DE industry. WADE Canada will play a key role in this effort.



VISION

A sustainable energy future where affordable, efficient, reliable and clean decentralized energy technologies are deployed in community driven markets and enabled by progressive policies and legislation.

Our energy future will be supported by a balanced-growth supply mix that maximizes the benefits of both centralized and decentralized energy systems. A future where buildings and communities are carbon neutral, our waste streams are harvested for thermal and power generation and our electric grid operates as a smart, self-healing ElectriNetSM.⁴

MISSION STATEMENT

WADE Canada's mission is to sustain the accelerating growth of DE through innovation and collaboration. What brings WADE Canada's members together is our common interest in the production, management and storage of clean and green energy closer to the end user. What keeps us together are trusting relationships built on open and honest discussion and realistic expectations.

Hence, the WADE Canada Mission is to:

- A. establish ourselves as the national point of contact for the DE industry network,*
- B. enable innovation in the DE industry by supporting the growth of small to medium sized business,*
- C. lead the DE industry through a national policy reform process that engages and enables government, education and industry,*
- D. support stakeholders throughout the value chain to accelerate DE deployment in Canada and*
- E. successfully manage a financially sustainable industry association.*

With this Mission, WADE Canada contributes to improving Canada's commitment to DE at a national level.

⁴ The Electric Power Research Institute, Inc. (EPRI) refers to the ElectriNetSM concept as architecture that "can enable a highly interconnected, complex, and interactive network of power systems, telecommunications, the Internet, and electronic commerce applications. It could facilitate more competitive electricity markets by supporting myriad informational, financial, and physical transactions between traditional utilities, independent power producers, third-party providers of electric energy services, consumers, and new members of the electricity value chain. Most importantly, it integrates all of these market integration functions with the real time management of the grid itself to assure reliable and secure operation"
http://www.smartgridnews.com/artman/publish/Technologies_Communications_Resources/Strategic_Technology_Research_Backgrounder_ElectriNet-1103.html

GOALS, OBJECTIVES AND STRATEGIES

A successful industry association is measured by its service to its members and its ability to collaborate with stakeholders to challenge the status quo in order to drive beneficial change. We will fulfill our mission by focusing our business resources on strategic goals.

Each goal is supported by specific objectives. The objectives outline what needs to be in place for us to achieve our mission and is outlined in detail on page 12.

Our goals and mission are supported by strategies that focus our efforts and guide us through the implementation process.

Each of our strategies consists of specific outcomes and deliverables. Our annual targets support a phased implementation of our business plan and state what we can realistically achieve from each of the strategies on an annual basis.

TARGETS

The following three tables include WADE Canada strategy implementation targets for November 2009 through to November 2012. The targets are grouped under relevant component of the mission and then sub-grouped according to which specific strategy they support. September 2009 benchmarks data is provided where appropriate.

	Benchmark (Sept 09)	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012
NETWORKING AND PUBLICITY								
Communications Strategy								
Annual DE Awards Program	0		launch program		Year 2		Year 3	
Annual Report	5		annually		annually		annually	
Annual Trade Mission	0			Inaugural Mission		Year 2		Year 3
COSPP Articles from Canada	2	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly
Government Relations								
Improve and Maintain Website	60%	Continuous Updates	Member's Area Launch	Continuous Updates	Continuous Updates	Continuous Updates	Continuous Updates	Continuous Updates
Increase membership to 200 by Nov. 2012	16	26	56	86	116	146	176	206
Increase network by 25%	3,300	3,320	3,380	3,500	3,750	4,000	4,250	4,500
Internal Communications (built around WADE chapter information exchanges)	0		semi-annual	semi-annual	semi-annual	semi-annual	semi-annual	semi-annual
Other media mechanisms - TV, radio, displays/signs, posters, word of mouth, direct mail, special events, brochures, attendance at events etc.	Ongoing		set media targets		annual review		annual review	
Membership Promotion (Feature Members)	5	monthly	monthly	monthly	monthly	monthly	monthly	monthly
National Representation (how many provinces do we represent in?)	3/13		5/13		7/13		10/13	13/13
Partnerships (e.g., MOUs with syn. org.)	6	7	9	11	13	14	15	15
Research, Fact Finding on Market Trends				Canadian DE survey		Canadian DE survey		Canadian DE survey
Target 200 delegates for annual conference	126		200		200		200	
Industry New sletters	2	1/month	1/month	1/month	1/month	1/month	1/month	1/month
INNOVATION								
Enabling Innovation Strategy								
Annual DE Awards for Research & Innovation	0		launch program		Year 2		Year 3	
Engage member SMEs in Train to Employment Program	0		0+40=40		40+40=80		80+40=120	
Innovations and advancement speaker series	0	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly	bi-monthly
MOU with Calgary Technologies Inc. and other SME incubators	0	1		2		3		4
On-line Investors Corner	0		3 Investors listed	6 listed	9 listed	12 listed	15 listed	18 listed
SME Job Placement	0			3/year		3/year		3/year
Annual SME Sector Review								
SME Network	136	145	200	250	300	350	400	450
SME Directory	1		1		1		1	
Micro-economic annual report				benchmark report		Year 2		Year 3
Research, Development and Demonstration Program (RDDP)								
Support collaboration between laboratories, industry and academia								
DE technology R&D network								
Grid infrastructure R&D network								

	Benchmark (Sept 09)	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012
POLICY REFORM								
Needs Assessment for Policy Reform								
Establish policy focus group			complete					
Conduct the needs assessment				complete				
Perform gap analysis with focus group				complete				
Identify causes of performance problems				complete				
Identify possible solutions and growth opportunities				complete				
Identify priorities and importance				complete				
Policy Reform Strategy								
National assessment for residential feed in tariff programs					complete			
Other activities to be determined in needs assessment								
Policy Reform Monitoring Program								
Appoint advisors to the Board in policy								
Net metering/billing program annual report								
Annual DE Awards for government leadership			launch program		Year 2		Year 3	
Other activities to be determined in needs assessment								
IMPLEMENTATION								
Needs Assessment for Training and Education Programs								
Review existing training and education programs		complete						
Establish an training focus group			complete					
Perform gap analysis with focus group			complete					
Identify causes of performance problems			complete					
Identify possible solutions and growth opportunities			complete					
Identify priorities and importance			complete					
RETScreen® Training Program								
Recruit RETScreen® Trainers								
Develop RETScreen® Training Agenda								
Host RETScreen® training sessions				3	3	3	3	3
Job Placement Program								
Design job placement program								
Collaborate with training and educ. institutions								
Collaborate with DE employers								
Annual DE Employer of the Year Award			launch program		Year 2		Year 3	
DE Internship Program								
Design internship program								
Collaborate with training and educ. institutions								
Collaborate with DE employers								

	Benchmark (Sept 09)	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012
WADE CANADA FINANCIAL STABILITY								
Financial Plan and Annual Budget								
Secure funds from government programs and grants	\$0.00	\$50,000.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00
Secure funding from private sector	\$44,000.00	\$25,000.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00	\$137,500.00
Employment Growth Strategy								
Industry secondments				1		1		1
Student internships				1		1		1
Increased resource capacity		communications manager	program manager for training	manager membership relations				

GUIDING PRINCIPLES

WADE Canada conducts its business according to seven principles.

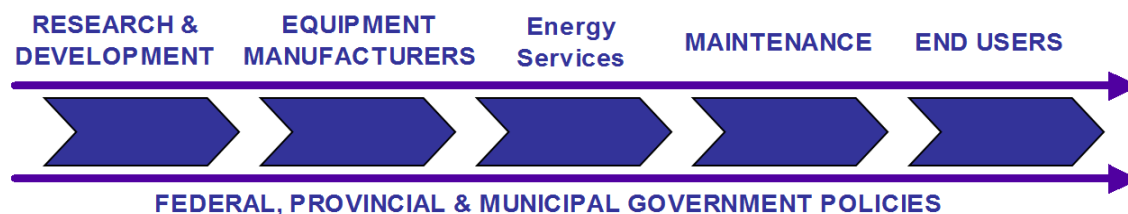
1. WADE Canada conducts its business with integrity and transparency
2. WADE Canada follows a 360° multi-stakeholder process
3. WADE Canada is industry-led
4. WADE Canada values small to medium sized businesses
5. WADE Canada encourages diversity in membership representing all value chain sectors
6. WADE Canada maintains balanced funding from both private and public organizations
7. WADE Canada creates partnerships built on trust

VALUE PROPOSITION

WADE Canada works to strengthen our DE markets and infrastructures through awareness, engagement, enablement and monitoring. Members of WADE Canada that actively engage in our projects and initiatives enjoy several benefits:

- Increased sales
- Access to Canada's most developed DE network
- Access to global DE markets
- A stronger voice in driving policy reforms
- Contributing to the development of new legislation for clean energy
- Collaborative business opportunities
- Access to municipal, provincial and federal policy makers
- Access to financing and capital investment organizations
- Increased opportunities for staff training
- Job creation in the DE industry

WADE Canada is the focal point for Canada's traditionally fragmented decentralized energy industry. It serves as a national coordinator for stakeholders from all municipalities, provinces and territories and from all aspects of the value chain.



Our challenge is to encourage open and honest discussion between stakeholders for the purpose of improving Canada's energy generation and delivery system and to identify realistic

expectations of DE technologies in both domestic and export energy markets. Hence, our challenge becomes our value proposition.

The table below lists many, but not all of our target members.

Generating Technologies	Enabling Technologies	Energy Services	Policy, Education and Economic Diversification
<ul style="list-style-type: none"> • Bioenergy technologies • Combined heat and power • Fuel cells • Internal combustion engines • Hydrokinetic turbines • Micro-turbines • Solar photovoltaic systems • Solar thermal systems • Solar thermal electric systems • Concentrated solar power systems • Stirling engines • Wind turbines 	<ul style="list-style-type: none"> • Balance of plant systems • Hardware and software associated with generating products • Controls and communications • Cooling and heating technologies • Energy storage • Gas compression • Hydrogen systems • Information technologies • Inverter technologies • Metering and meter reading (electrical, gas, thermal) 	<ul style="list-style-type: none"> • Utilities • Contract research • Emissions credits • Energy consulting • Engineering, Procurement, Construction (EPC) • Maintenance • Systems integration • Technology development (developers, designers, commercialization) • Testing services and facilities 	<ul style="list-style-type: none"> • Urban and rural planners • Municipal, provincial and federal governments • Schools, colleges, institutions and universities • Financing and capital investment • Market research

COMPETITOR ANALYSIS

As per the table above, WADE Canada supports a broad spectrum of Canadian innovators and firmly believes that this fulfills an otherwise neglected need in Canada's energy industry. There are no other industry associations in Canada that support all of the various sectors of the decentralized energy industry.

However, our Mission can only be achieved by developing partnerships with other associations and organizations that are synergistic with WADE Canada's strategic objectives. Hence, we nurture strong and trusting partnerships with suitable organizations in each of the provinces and territories in Canada. WADE Canada has already established partner organizations including:

- Association of Power Producers of Ontario
- Calgary Technologies Inc. (CTI)
- Canadian American Business Council, Canada and USA
- Canadian GeoExchange Coalition
- Institute for Sustainable Energy, Environment and Economy
- Petroleum Technology Association of Canada
- Quality Urban Energy Systems of Tomorrow (QUEST)

OPERATIONS

BUSINESS LOCATION

WADE Canada's administrative offices and headquarters are located in Calgary, Alberta.

3608 33 Street NW
Calgary, Alberta T2L 2A6

We officially opened our Québec office in January 2009 allowing us a closer connection to industry stakeholders in Eastern and Atlantic Canada.

Suite 202, 3575 Blvd St Laurent
Montreal, Québec H2X 2T7

Our website address is: www.wadecanada.ca

ORGANIZATION STRUCTURE

WADE Canada is a country chapter of the World Alliance for Decentralized Energy (WADE). WADE has four official country chapters: Canada, China, Mediterranean and Peru. An Affiliation Agreement between WADE and WADE Canada outlines our collaborative commitment. The Executive Director of the WADE is automatically appointed to the Board of Directors of WADE Canada and represents one vote.

In terms of daily operations, WADE Canada is an autonomous organization and is registered with Corporations Canada as a national, non-profit industry association.

Within the corporate entity of WADE Canada, we are managed by a board of directors. WADE Canada's officers consist of a chair, vice-chair, secretary and treasurer.

MANAGEMENT

WADE Canada is led by industry through its members and sponsors, and is supported by a contracted management team. The business and affairs of the association are governed by its board of directors.

WADE Canada's management team carries out the daily activities of the association and reports to the board. The management team assists the board by determining which issues should be addressed and by assembling the information required for informed discussions.

As of October 2009, WADE Canada's list of Board of Directors and Management Team are as follows:

Board of Directors

Ben Kennedy, Business Development Leader,
GE Jenbacher
Bert Dreyer, EMF Technical Services
Bob Hawkesworth, Alderman, City of Calgary
Brent Harris, (Vice Chair and Secretary) Vice President,
Sustainable Energy Technologies
David Sweet, Executive Director, WADE International
James Sidlofsky, (Chair) Partner,
Borden Ladner Gervais LLP
Jan Buijk, Vice President DDACE Power Systems
Owen Schneider, Manager New Ventures,
Enbridge Solutions Inc.

Management Team

Anouk Kendall, President
Geraldine Byrne, Vice President
Patricia Faucher, Communications Officer

Project teams are formed when specific expertise is required for a project or activity aimed at achieving WADE Canada's business goals. For example, when WADE Canada members make a request for a specialized report, event or technology demonstration, WADE Canada will form a project team to assess the scope of the work, its budget and funding opportunities. The project team reports to the management team who is ultimately responsible for ensuring that the board and all relevant committees are kept informed of progress.

FINANCIAL PLAN

Our fiscal year end is December 31 hence our financial plan has been developed using budget targets for December 31, 2010. The table below details our revenue and expense targets.

2010 Targets	Total
REVENUE:	
Memberships	\$40,000
Grants and Government Programs	\$185,000
Strategy Support from Private Sector	\$200,000
Events	\$80,000
Training Delivery	\$45,000
TOTAL REVENUE:	\$550,000
EXPENSES:	
Strategy Implementation	\$390,000
Travel & lodging	\$12,000
Meals & Entertainment	\$6,000
Office expenses	\$32,000
Legal	\$5,000
Accounting	\$7,500
Information technology	\$7,500
Event costs	\$60,000
Training Expenses	\$30,000
TOTAL EXPENSES	\$550,000

SURVEY HIGHLIGHTS

The Industry Survey polled 60 industry stakeholders from all parts of Canada's DE industry value chain including generating technologies, enabling technologies, DE services, policy makers, educational institutions and financing. The survey polled opinions on which generation and enabling technologies hold the most potential for Canada's DE industry and how the various stakeholders in the value chain can play a role in strengthening the industry cluster and addressing our barriers and weaknesses.

Below is a summary of the results from this survey.

Which technologies are very important or extremely important DE Technologies in terms of Canada's future energy supply?

- 91.1% said **combined heat and power**.
- 78.9% said **waste to energy**.
- 71.5% said **distribution connected bioenergy**.
- 69.6% said **solar thermal systems**.
- 69.0% said **distribution connected wind**.
- 65.5% said **solar photovoltaic**.
- 52.6% said **concentrating solar power**.
- 51.7% said **micro-hydro turbines**.

Which enabling technologies are currently very undervalued or extremely undervalued in terms of DE potential?

- 75.0% said **cooling and heating technologies**.
- 74.5% said **energy storage** in general.
- 68.0% said **waste management technologies**.
- 61.7% said **meters and meter reading technologies** (gas, electric, heat, etc.).
- 60.0% said **controls and communications**.
- 54.0% said **batteries**.

Which stakeholders play very important or extremely important roles in the fulfillment of DE potential in Canada?

- 92.4% said **provincial government**.
- 88.7% said **financing and capital investment** bodies.
- 84.9% said **federal government**.
- 83.0% said **utilities**.
- 80.8% said **municipal government**.
- 69.8% said **urban and rural planners**.
- 65.4% said **schools colleges, institutes and universities**.

- 56.6% said the **taxpayer**.

Which aspects of Canada's DE industry cluster are **not** performing well?

- 61.9% said that we do not have enough **knowledge of and linkages with the various stakeholders throughout the value chain**.
- 58.5% said that we do not have a **collaborative mindset**.

In terms of DE deployment, which are seen as very important or extremely important weaknesses to address?

- 93.4% said **lack of progressive energy policies**.
- 86.7% said **lack of basic understanding that decentralized energy is a form of energy efficiency and demand side management**.
- 82.7% said energy planning in Canada is **still limited to the centralized generation model**.
- 81.2% said **lack of coordinated nation programs and initiative for implementation**.
- 70.8% said **lack of emphasis of polygeneration/tri-generation systems design** (i.e., all-in-one heating, cooling and electricity)
- 70.4% said we have **little or no regard for life cycle cost assessments** in energy planning.
- 62.2% said **lack of market research data and in-depth sector analyses**.
- 59.5% said **lack of basic systems economics data**.

Which Canadian advantages are very significant or extremely significant with respect to improving our global DE competitiveness?

- 80.9% said **early adopter municipalities** are setting a good precedent for Canada.
- 76.6% said our **skilled and educated workforce**.
- 74.5% said the presence of **government policies related to emissions reductions**.
- 74.5% said **innovative policy makers** (e.g. those championing net metering policies, feed in tariffs and energy conservation mechanisms).
- 74.4% said our **entrepreneurial spirit, risk takers and R&D investors** give us our global advantage.
- 69.0% said our recently **restructured electricity markets** have positioned us for DE adoption.
- 63.8% said **established educational and research capabilities** make us more competitive.

Which of Canada's 2009 budget areas are very important or extremely important to the economic success of the DE industry?

- 85.4% said **empowering municipalities**.
- 81.6% said that **support for small to medium sized businesses**.
- 68.1% said **sustainable energy solutions for remote communities**.

- 60.4% said **training programs, modifications to educational curricula and job creation.**
- 58.4% said **support for agricultural energy solutions.**
- 55.1% said **youth engagement initiatives.**

What activities should WADE Canada accomplish to support its members and the industry as a whole?

- 81.4% said **promoting incentive regulations** (e.g. revenue decoupling, feed-in-tariffs, standard offer programs, energy conservation mechanisms etc.)
- 80.8% said **promoting codes and standards policy change.**
- 78.7% said **promoting interconnection policy change.**
- 78.3% said **information dissemination** (e.g., studies, reports, newsletters, website etc.).
- 68.1% said **business matching and grantsmanship** (e.g., neutral project brokering service, recommend strategic project partnerships, project development sessions etc.).
- 65.2% said **promote net metering policy change.**

STRATEGY SESSION HIGHLIGHTS

The Strategy Session was a facilitated exercise held in Montreal May 5, 2009 that brought together 25 of Canada's leading DE stakeholders. The purpose was to formulate the vision and industry objectives for DE in Canada and to agree on specific mechanisms that WADE Canada should adopt to support its members and the industry as a whole.

The following is a summary of outcomes from this session.

WADE Canada's strengths include:

- expansive network,
- emergence as national chapter of an international organization and
- obvious potential given societal directions.

These strengths are currently offset by weaknesses or challenges including:

- perceptual issues,
- limited awareness, and
- capacity (particularly funding).

Going forward, our main opportunities may exist at the municipal level while we fulfill our mandate as a nation-wide voice for DE.

Conveying the benefits of DE, particularly regarding the part it can play in addressing climate change, is a definite opportunity.

The risks or threats we face as an industry include:

- fragmentation,
- competition,
- opposing lobbyists,

- Canada's daunting geopolitical setting and
- energy industry inertia.

WADE Canada has come a long way since NewERA's heady launch in Alberta in 2002. But new focus and energy are now required in order to;

- continue to grow as a national organization;
- improve our efficacy in the eyes of members, funders and partners; and
- make a difference by asserting leadership for DE in Canada.

Research and promotion will continue to be among our primary activities but, increasingly, we must pursue advocacy in the interests of DE stakeholders.

The vision for DE in Canada is one of a clean, green, efficient, vibrant and economic place in our energy industry, part of an integrated system or model, placing the emphasis locally while achieving a national impact that is supported by prudent, farsighted policy.

The path toward this vision will be facilitated in the near term through confirmation of our value proposition, vision and business model and enhancement of our overall capacity (including communication capabilities). Ultimately, our strategic priorities encompass engaging policymakers, emphasizing "local," and achieving broad education/awareness.

Not all of this will occur overnight, but if we move deliberately ahead and "stick to plan," we are confident that WADE Canada will continue to make a significant impact on the clean energy future of Canada.

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Air

The territories received a solid B score, with top marks going to Northwest Territories for its low particulate matter (PM2.5) and greenhouse gas intensity (GHG).

In 2006, Alberta emitted the most GHGs in Canada at over 230 Mt, but when values are normalized for GDP, Saskatchewan is the worst performer (2.3 Mt GHG for every \$1B of GDP). The territories produce the least GHG per unit of economic output (0.26 Mt GHG/\$1B of GDP, 1.68 Mt collectively). Québec has the lowest per capita greenhouse gas emissions. In 2009, the province achieved a fourth consecutive year of reducing emissions. Ontario fares poorly on PM2.5, a known smog precursor, with values at 31 µg/m³ in 2005 compared to Newfoundland with 11 µg/m³.

Building

According to Natural Resources Canada, over 2007 and 2008, Alberta had the greatest number of certified green homes per 100,000 people (104.9 homes per 100,000 people). As of the CaGBC's 2009 tally, BC takes first place in the number of green LEED-certified buildings per unit of GDP, followed by the Northwest Territories, at 0.27 and 0.24 per \$1B GDP respectively. Ontario has the greatest number of LEED certified buildings to date at 57. The territories fare poorly in terms of green building construction via these parameters—there are no green homes in the Northwest Territories, nor LEED-certified green buildings in the Yukon and Nunavut.

Waste

Top marks went to Nova Scotia (A+) and New Brunswick (A-) with their significant achievements in waste reduction and recycling. Nova Scotia exhibited excellent progress in both indicators. In 2006, Nova Scotians generated an estimated 430 kg of waste per capita—less than half the amount produced in other regions. In this same year the province recycled nearly 70% of its waste. These results for Nova Scotia are consistent with the province's efforts on organics bans, full curbside recycling, and significant emphasis on reduction. The highest amount of waste per capita was generated in Alberta (1,133 kg), and next in Québec (890 kg). Newfoundland had the worst recycling rate at 7.5%, followed by Saskatchewan at 12.8% (all values for 2006).

Energy

BC achieved an A for its performance in energy consumption intensity, energy efficiency and proportion of green to brown energy. The most effective province in total energy consumed per GDP of output was British Columbia, followed closely by Ontario and Manitoba (6.03, 6.14, 6.41 terajoules/\$1M GDP respectively). In contrast, Saskatchewan came in last at 16 terajoules consumed per \$1M GDP output.

Ontario used the most energy in total, at over 3 million terajoules, and the territories used the least, with 30,000 terajoules in total. The ratio of green to brown electricity capacity (fossil fuels) is over 10% in five provinces (SK, NB, ON, BC, NS) and two territories (NT, YT). The highest proportion of green to brown electricity capacity is in the Yukon (72.1%) with its significant number of small hydro facilities, and the least in Nunavut (0.4%). In 2008, the Canadian Energy Efficiency Alliance awarded an A+ to Manitoba and BC for their energy efficiency efforts and a D to PEI.