2007/08 PRIORITIES AND STRATEGIES OVERVIEW (PSO)

Department Name: Energy, Science & Technology

PART 1: DEPARTMENT PLAN

A: INTRODUCTION

Energy, Science & Technology (ES&T) was established to stimulate the capacity for innovation in Manitoba, with the recognition that:

1. Innovation capacity drives community and economic prosperity;

2. Innovation capacity can be seeded through the development of appropriate infrastructure, skills and knowledge, and by ensuring appropriate partnering between a variety of champions (private, public, academic, and non-government organizations).

VISION

> *"Manitoba is the place where innovation flourishes, ideas grow and people prosper."*

MISSION

We build the capacity for Manitobans to prosper through innovation by:
* *Creating strategic partnerships;*
* *Encouraging investment;*
* *Enabling equitable access to the right tools;*
* *Promoting awareness and knowledge; and*
* *Championing critical policy development.*

VALUES

ES&T's leadership is committed to fostering the following values in our approach to our work:

Targets for a shared working culture:

* The **people** of Manitoba are at the centre of our vision.

* We seek and embrace **opportunities** that arise from positive change.

* **Collaboration** is the cornerstone of our philosophy and sets the groundwork for our actions, as we interact with our stakeholders to help them achieve their goals.

* We value **resilient,** flexible thinking and actions, remaining unsatisfied with the status quo and with organizational barriers.

* As **facilitators,** we add value by enabling the exploration of new ideas and knowledge in our strategic priority areas.

* We **challenge** each other to find better solutions and use **innovation as the thread** to implement them creatively, employing a long-term, **sustainable** and strategic view.

* We **expect** and **support** risk-taking to achieve our goals.

* Government processes and policies guide us and preserve **accountability** to citizens, while keeping us **focused on government goals**.

Our expectations of our Leaders—that they work to:

* Establish a safe and respectful work environment that nurtures **creativity, innovation, organization, and productivity**;

* **Celebrate the achievements** of our employees;

* Demonstrate **respect for all people** and appreciate the diversity of our employees;

* Cultivate an environment that encourages **open communication** and the exchange of ideas and concerns;

* Provide **learning and development opportunities** to achieve people development goals.

New/Emerging Developments

As part of the Manitoba Broadband strategy, a Virtual Classroom Project will be launched in September 2006. This project serves remote and northern communities and the pilot is serving Canupawapka Dakota First Nation.

The Industrial Technology Centre (ITC), a special operating agency of ES&T, has participated in three new initiatives over the past year:

- Manitoba Visualization Network, which enables researchers in life sciences, from a variety of organizations in Manitoba, to undertake collaborative visualization projects;
- Precarn Inc., which is an independent, not-for-profit, member-owned company that supports the development and use of enabling technologies by Canadian firms;
- Innoventures Canada (I-CAN), a proposed national network to link Canada's provincial research organizations and other specialized research and developers from across the country.

In the 2005 Speech from the Throne, Government announced the Manitoba Green Strategy. Two key developments have occurred since then:

- Manitoba's Green Strategic Framework, entitled "Green and Growing" was introduced in January 2006. It establishes a guide as to how we will continue to approach preserving and protecting our environment, promote health and well-being of Manitoba families, and stimulating and managing sustainable growth.
- Green Manitoba, an SOA of EST, was established in April 2006 with the mandate to develop new and innovative approaches to waste reduction and diversion and water and energy demand-side management through an inter-sectoral, community-based approach. The agency will work to implement many of the activities referenced in the Green Framework.

MERLIN, a special operating agency of ES&T, has experienced significant new developments. They have been asked to provide a long-term plan for the future of Cyberschools when the current funded model has been fulfilled. They have also been instrumental in building a relationship with the education community, and building a business case to help further the department's efforts in satisfying our commitment to high-speed connectivity throughout the province by 2010. MERLIN has also seen some exciting new developments in their work with schools in Manitoba. They have leveraged its Advisory Board and staff to represent the K-S4 education community on a collaborative committee of stakeholders to create a feasibility study on the connectivity of the education sector. They have also helped to create a favourable environment for cost effective, centralized services in Manitoba School Divisions. In addition, MERLIN has positioned itself as a central hosting facility for schools and proposed a bundled service package that can leverage enterprise agreements on behalf of all divisions in Manitoba. Finally, MERLIN along with Manitoba Education, Citizenship and Youth are consulting with school divisions on the best solution to continue to meet the government commitment to provide an email address for every student on a long-term basis.

Updated Environmental Scan

Opportunities	
Community Economic Development	School divisions are interested in the use of Voice and Video over IP (VOIP). Specifically, Manitoba School for the Deaf is considering partnering in a trial of VOIP; opportunities exist to leverage the technology to schools for training, collaboration, and tech support applications. There is also the opportunity to explore VOIP as part of the Broadband Strategy for connecting Manitobans.
	School divisions are seeking more centralized, cost-saving services and are acknowledging a need to address the increased volume of spam and viruses. Opportunities exist to increase MERLIN's volume of sales or incorporate technologies into a service bundle.
Research & innovation capacity, tech comm., trends	The Industrial Technology Centre relocated to Smartpark at the University of Manitoba on November 1, 2005. Relocation at Smartpark will: ○ Enable ITC and the University of Manitoba to work more closely together and enhance research and training partnership opportunities between industry, government and academia ○ Complement advanced technology organizations located at Smartpark and further its development, thereby helping the Province achieve its innovation goals ○ Enhance the development of the advanced manufacturing and materials cluster at Smartpark. ITC is leasing space to the Composites Innovation Centre (CIC). ○ Enhance the training and skill development of students.
	The International Centre for Infectious Diseases (ICID), established to foster collaboration and provide mentoring for scientists and infectious disease professionals, is creating a program to deliver educational service, training and instructional courses to Canadian and international students and organizations. The ICID is also beginning to enable scientists to commercialize the technology emerging from their innovative research. Ultimately, the ICID will seek to further support research, innovation and public outreach.
	The May 2006 federal budget indicated that the Winnipeg-based Public Health Agency of Canada (PHAC) will get $367 million over the next five years as part of a national pandemic preparedness program including enhancements to the microbiology lab on Arlington Street. These incremental funds will help support all of the Public Health Agency activities across the country, not just Winnipeg.
Energy & Environment	A new SOA, Green Manitoba, established in April 2006 presents a significant opportunity to accomplish more in the areas of energy and water demand side management as well as waste reduction and diversion, through an integrated community-based approach.
	Manitoba imported over $2.5B in gasoline, diesel and natural gas. EDI has developed strategies to cut imports by about 10% by 2010 in all 3 areas. Plans are underway to move beyond 10% in all 3 areas. Increased renewable electricity generation will help significantly on a net basis.
	In May 2006, the Climate Change and Green Initiatives Branch was created to lead the development climate change initiatives and coordinate government wide activities to achieve the "Green and Growing" strategies.
ICT Infrastructure	As reported in the 2006 budget, government will ensure the necessary infrastructure is in place to support a significant expansion of e-commerce capability.

Threats	
Community Economic Development	While school divisions are interested in the use of Voice and VOIP, additional technologies may require investment in hardware.
	School divisions are seeking more centralized, cost-saving services and are acknowledging a need to address the increased volume of spam and viruses. School divisions may use alternate service providers.
	The new Federal Government has cut funding to the Kelowna Accord, negatively affecting the planned partnership for Economic Development for Aboriginal Peoples.
Research & innovation capacity, tech comm., trends	ITC supports the manufacturing sector, which is Manitoba's largest industrial sector, employing about one in eight Manitobans. Manufacturers face the following threats, which in turn may impact the level of services required from ITC:
	• A substantial increase in the Canadian dollar has presented a significant and ongoing challenge to the Manitoba economy. The manufacturing sector is striving to maintain their export markets and employment levels in the face of this sudden rise in our dollar's value.
	• Competition is increasing from offshore manufacturers (e.g. China, India). The economic challenges faced by Manitoba industry have created pressures on them to contain costs and improve productivity.
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	The 2006 Federal Budget announced an additional $200M in R&D funds over 2 years; however, these funds are for national, competitive programs and will not necessarily be allocated by regions – the impacts for Manitoba researchers will likely be minimal.
	Manitoba's Innovation Framework set out a target to double provincial research investments by 2010. Between 2000/01 and 2004/05 (most recent data), total expenditures on R&D by the Manitoba government have risen from $19.8M to $26.9M, an increase of 36%. To reach the target of $39.6 million (using 2000/01 as the base year), total annual provincial research expenditure levels are required to increase by $12.9 million by FY 2010/11
Energy & Environment	The change in federal government has ended essential planned partnership initiatives aimed at encouraging community-based climate change action. The Green Manitoba Business Plan (Financial Plan), was developed with expectations of federal partnership funds. The Business Plan will require considerable revision.
	There is the possibility that fossil fuel prices could spiral downward. The impact for Manitoba is that hydro exports would be worth less and Hydro profits could fall. This could also lead to less uptake on Hydro's recently announced incentive programs for residential and commercial natural gas customers.
	Agricultural feedstock prices are increasing significantly
	Hydro to favour cheap imports of electricity vs. made in Manitoba
	Taxes applied often favour non-renewables vs. renewables
	Manitoba road tax on biodiesel has been removed as part of the biodiesel action plan, announced November 1, 2005. However, there is a minor threat that fuel prices could go down substantially. If this were to happen, biodiesel, ethanol, energy efficiency would all be a tougher sell because it would be easier for people to keep paying the low prices.
	The Energuide Program was cancelled by the Federal Government, resulting in a $50 million direct cut to Manitoba.

Strengths

- MERLIN, unlike other organizations, is well positioned to provide provincial coordination in supporting education-specific technology needs for school divisions across the province
- The ITC has demonstrated strengths, which include:
  - Technical capabilities that Manitoba manufacturers require
  - A reputation and achieved recognition for the ability to solve the problems of industrial clients
  - Strong relationships with private sector companies and associations, academia, and other government organizations.
- Green Manitoba undertook consultation with industry groups, which has resulted in good progress towards the formation of Industry Funded Organizations in each of the waste minimization priorities: tires, blue box, household hazardous wastes and electronics. As well, a water research studying in Manitoba by the International Institute of Sustainable Development (IISD) will provide Green Manitoba with an opportunity to obtain baseline information on water utilization.
- In terms of energy development strengths:
  - Feedstock for biofuels is still plentiful. Some provinces have a large market for ethanol but do not have the feedstock-grains to produce ethanol or biodiesel;
  - There is a lot of interest in renewable energy production. Many Manitoba groups are weighing investment decisions in wind, biodiesel, and other renewable energy generation sources;
  - Economic drivers are strong with respect to electricity DSM once reducing fossil fuels. Manitoba Hydro seeks to increase its lucrative hydro exports. Reducing demand in Manitoba frees up more energy for export; and
  - Manitoba Hydro is a crown corporation. Since Manitoba is the only shareholder of Manitoba Hydro, the crown is obliged to act in the public interest including promoting and supporting energy efficiency and renewable energy generation that privately owned companies might not otherwise do.
  - Abundant water resources for hydro development
  - Excellent wind resources
- Biotechnology has seen many positive developments in the recent past:
  - During the past four years, the industry has experienced a 40% growth rate and now employs 4,200 Manitobans.
  - We were named the fastest-growing biotechnology sector in Canada by Ernst and Young in 2004

    o Canadian Trends in Biotechnology highlighted that Manitoba's average annual growth rate of innovative firms is 58%, which is significantly higher than any other province in Manitoba.

Weaknesses

- MERLIN has limited resources for providing staff training on emerging technologies. School divisions have a time-sensitive budget cycle which limits the window of opportunity in which they can make technology decisions.
- ITC:
  - Insufficient resources to take advantage of opportunities
  - The size and breadth of the Manitoba economy make it difficult to provide targeted relevant infrastructure.
- The role and responsibilities of Green Manitoba are still evolving. The full scope of the agency's core work is still being defined.
- From an Energy perspective:
  - Manitoba Hydro like other utilities is inherently cautious. Mistakes and aggressive assumptions can be embarrassing in front of regulators and interveners;
  - Energy Efficiency and renewables are seen to cause rate hikes. Incentives provided by the utility have to be taken from the rate base. Rates have to increase to come up with the funds to support incentives. Rates go up very marginally while bills come down substantially due to conservation-efficiency work;
  - Manitoba has the lowest electricity prices on the continent and this is, contrary to popular belief, a weakness. Consumers would have greater incentives to engage in energy efficiency if their bills were higher.
  - Regulatory barriers
  - There is increased pressure on the provincial government to increase its investment in provincial research dollars if it is to reach the target of $39.6 million by 2010 as set out in Manitoba's Innovation Framework.

B: PRIORITIES, their OBJECTIVES, and STRATEGIES to achieve them

We seek to make progress across five priority areas *(numbered but not in rank order)*:

1. Drive implementation of the Green Strategy and maximize Energy & Climate Change Opportunities for Manitobans.

This strategy supports the government's Growing Green, Growing Smart building block which seeks to improve competitiveness, innovation and clean energy (wind, ethanol, and biodiesel) recently announced in the 2006 Budget Speech.

ES&T, in cooperation with Manitoba Hydro, created the Energy Code Advisory Committee (ECAC) that will work to update design, construction, renovation and building requirements to be both green and cost effective.

Through an MOU, Manitoba has partnered with Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories and Nunavut to work on energy issues common to the western region. An agreement has also been signed by South Australia, who we will cooperate with on a number of priorities including renewable energy.

Manitoba is a global leader in finding solutions to climate change. We seek to build upon this achievement and are working to create 1000MW of wind power over the next decade, cooperate with Husky Canada to move forward on our ethanol mandate while they are building their $145 million ethanol plan in Minnedosa.

High-level objectives	*Strategies/ actions for 2007/08 to achieve those objectives*
Maximum benefit for Manitobans over the long term, from development and sale of Manitoba's clean power potential.	Facilitate negotiations with out-of-province power customers on the export of Manitoba power in a way that provides maximum benefit for the Manitoba people our economy and our emission credit position.
Green Strategy goals implemented, through actions within each of the relevant departments including a clear understanding within Gov't of the Green Strategy elements, their relationships with community development, desired outcomes and which departments are responsible.	Integrate and co-ordinate government's Green activities across various departments, to ensure we are effective in meeting government's Green Strategy goals.
Manitoba as a national leader in the development and commercialization of new renewable energy technologies.	Create an environment conducive to the **development of renewable energy technologies** (including wind farm development and wind power purchase agreements, ethanol, hydrogen and bio-diesel mandates), by facilitating energy related agreements, legislation, investment environment and infrastructure.
Aggressive targets met for reduced energy usage (residential, commercial and industrial).	• Finalize commercial building codes and standards that support the Climate Change Action Plan • Reduce waste through enhanced recycling and reuse initiatives focusing in the immediate term on four waste minimization priorities: tires, blue box, household hazardous waste and electronics • Treasury Board Green Building Policy implementation • Implement Biodiesel Strategy By leading coordinated development and action on the **provincial implementation of Canada's Kyoto Protocol plan,** by implementing Manitoba's **Climate Change Action Plan,** create an environment that drives energy technology development and appropriate usage behaviours (domestic, industrial, commercial) sufficiently to allow us to achieve our zero emissions targets.
Be the first jurisdiction in North America to achieve net zero greenhouse gas emissions.	Ensure **Manitoba's interests** (economic and emissions targets and a potential carbon trading system) are represented in Federal Kyoto negotiations. Maximize our potential emissions credit position and prepare for the future.

2. Create major opportunities for Community & Economic Development, through 'new economy' technology and industry.

Maximum benefit from new industries and technologies for Manitoba's people, communities and businesses, in such areas as learning and skills development, wellness and health care, community development and empowerment, employment, business opportunities, access to government, and the ability to participate fully as citizens.

Through the Cabinet approved Provincial Broadband Strategy, this priority supports the government's Budget 2006 commitment to advancing the extension of broadband access to remote and Aboriginal communities, expanding opportunities for education, healthcare and economic development.

High-level objectives	*Strategies/ actions for 2007/08 to achieve those objectives*
Help Manitobans maximize opportunities from connectivity by: expanding the number of communities with access to networks, increasing bandwidth, increasing the number of computers available to communities and enhancing the development of local content.	*Connecting Manitobans* Broadband Strategy • Expand the Provincial Data Network to become a Public Sector Data Network • Community Innovations Fund to help communities drive connectivity themselves • Work with CRTC (Canadian Radio and Telecommunications Commission) to redefine 'minimum service' to communities – now defined as plain telephone service • MERLIN provides access to an email account for every Manitoba student through the Cyberschools Portal • MERLIN facilitates access for schools through the PDN • Assist in the development of community-owned ISPs in remote and northern communities, those telcos north of 53°, eg. Tataskeweyak Cree Nation Telecom Corp, Grand Rapids FN • Build on satellite-based telehealth connectivity to expand to host community • Mapping Provincial connectivity progress • Develop community content strategy for newly connected communities • Launch Virtual Classroom Pilot • Develop First Nations connectivity strategy as per March 06 budget commitment
Assist businesses in EST's target sectors with activities such as business expansion plans, strategic partnerships, access to programs and advice.	**Convergence** • Genomics, Proteomics and Bioinformatics strategic development plan to explore opportunities for convergence (i.e. Life Sciences with Information Technology, Biotechnology with medical devices) • Telehealth collaborative research/pilot projects **Life Sciences/ Environmental Industries** • Life Sciences industry human resources strategy • Policy on common drug review (with Health) • Strategic Plan for Environmental Industries sector **ICT/ Digital Media Industries** • ICTAM-led ICT Sector Development Strategy (ICT Association of Manitoba, recently established with our support) • ICT and Digital Media HR Assessment studies • Directory and metrics re current ICT and research organizations in MB • Directory of leading ICT companies in Manitoba • Increased provincial Aboriginal participation in ICT and New Media sectors • Electronic Gaming potential for Digital Media sector • ICT Vendor Capability enhancement • ICT Trade Mission potential **General** • Assistance to SMEs (Small and Medium sized enterprises) through TCP (Tech Commercialization Program), FSP and Interactive Digital Media Fund. • ITC provides comprehensive technical services that are not otherwise readily available in Manitoba. • ITC's participation in the Manitoba Visualization Network (MVN) will enable medical research, private companies in the biomedical and manufacturing sectors, government departments and agencies and researchers in many disciplines, to take advantage of advanced visualization technology. • ITC, as a part of the Innoventures Canada (I-CAN) network, will help small and medium sized enterprises (SME's) apply innovative technologies. • ITC will participate with Precarn Inc. in funding a very broad range of projects, covering sectors including environment, health care, public security, manufacturing, resource industries and communities. • ITC is working on the Advanced Manufacturing Initiative (AMI), the goal of which is to foster technology based innovation and growth by helping manufacturers adopt new technologies and practices to improve their productivity.
Facilitate development and growth of industry associations, including: Provincial Life Science Industry Association, new ICT Industry Association, and Manitoba Environmental Industry Association.	• New ICT Industry Association for Manitoba (ICTAM), now established as formal Ministerial ICT advisory body • New Provincial Life Sciences Industry Association • Partnership between ICTAM and Software Human Resources Council
Attract and retain industrial investment in Manitoba using high quality energy and price stability as distinguishing incentives.	• Energy-related programs to benefit Manitoba companies
Maximize community spin-off opportunities related to new renewable energy developments (wind, ethanol,	• Variety of research, development and feasibility activities (see Energy & Climate Change Opportunities) • C-4 Climate Change Community Challenge – help communities with energy

2. Create major opportunities for Community & Economic Development, through 'new economy' technology and industry.

Maximum benefit from new industries and technologies for Manitoba's people, communities and businesses, in such areas as learning and skills development, wellness and health care, community development and empowerment, employment, business opportunities, access to government, and the ability to participate fully as citizens.

Through the Cabinet approved Provincial Broadband Strategy, this priority supports the government's Budget 2006 commitment to advancing the extension of broadband access to remote and Aboriginal communities, expanding opportunities for education, healthcare and economic development.

High-level objectives	*Strategies/ actions for 2007/08 to achieve those objectives*
hydrogen and bio-diesel), such as materials manufacturing, construction, operations, haulage and related skills development.	efficiency programs.
Facilitate early development and assessment of critical infrastructure centres and infrastructure networks.	• International Centre for Infectious Diseases (ICID) and related Bio-Med Corridor activities. • Richardson Centre for Functional Foods and Nutraceuticals at the University of Manitoba's SMART Park. • Commercialization of BioMedical Technology Centre at the National Research Council. • U of M Scanning Probe and Nano-fabrication Lab • TRNet • IH Asper Research Centre • Digital Media Development Centre • Virtual Reality Centre • Composites R&D & prototype Facility • Assessment of Incubat
Continually facilitate appropriate partnerships among government and non-government stakeholders to seek maximum community value from major projects.	• Northern Communities and future Hydro development Projects • R&D Partnership Agreement between MB and San Diego Life Sciences • R&D Partnership Agreement between MB and State of Minnesota (Northern Great Plains Bioscience Corridor) • Mindset and related programming • City of Winnipeg Urban Development Agreement – innovation and community development aspects • Federal/ Provincial/ Territorial Life Sciences Working Group • Wellness West Steering Committee • Canadian BioSciences Group • MERLIN and The Department of Education, Citizenship and Youth (ECY), share joint responsibilities to a mutual client base • The proposed MERLIN Partner Program engages school divisions and other educational stakeholders • MERLIN provides a link between the education community and MRNet (Manitoba Research Network).
Create an environment conducive to investment in Manitoba Knowledge businesses, where potential investors are aware of opportunities, companies seeking funding have the required competencies to represent themselves, and an infrastructure exists to bring them together.	• ICT-specific investment attraction strategy • Short Term Accelerator program – business skills for ICT and Digital Media • Environmental Industries access to R&D incentives • Major conferences: Bioenergy Conference, BIO International Biotech Conference, Pharma Tech Summit, Americana 2005 (Environmental Industries), GLOBE 2006 (Environmental Industries) • Deliver *The Business of Science* conference • Deliver *The National Nutraceutical and Functional Food Conference* • Broker current ICT investment attraction opportunities • Bioproducts: Potential for new investment • Customer Contact Centres

3. Significantly improve Manitoba's scientific Research Capacity and the environment for our researchers.

This strategy supports Manitoba's Innovation Targets noted in the Innovation Framework (2003) which seeks to improve the innovation environment in Manitoba. Some of these targets include increasing provincial research investments, increasing biotechnology companies and creating spin-off companies for every $10 million spent on research and development. Almost $4 million was given to support over 30 research projects in the areas of health, agriculture and the environment in November 2005. In April 2006 an MOU was signed with the Australian State of Victoria to partner in infectious disease research. Another agreement was made with South Australia, to co-operate in the area of biotechnology.

High-level objectives	*Strategies/ actions for 2007/08 to achieve those objectives*
Significantly increase provincial capacity to perform relevant scientific research, to create and share scientific knowledge and to contribute to the commercialization stream.	• ITC promotes the use of current and emerging technologies ITC's participation in the Manitoba Visualization Network (MVN) will support the Ma Institute of Cell Biology (MICB) in research activities. • ICT, as part of the Innoventures Canada (I-CAN) network, will fill the gap between ea stage R&D and commercialization • ITC will participate in Precarn Inc., which funds, manages and promote collaborative R&D projects for its clients (companies, universities, colleges and gover laboratories). **To achieve this, we will expand our portfolio of strategic investment** in research at Manitoba institutions, focusing on support that contributes to economic and community development, retention of specialized people and their scientific knowledge and the creation of institutional capacity Improve awareness of research, science and

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High-level objectives	Strategies/ actions for 2007/08 to achieve those objectives
	technology in the province.
Create a provincial research environment that is highly attractive to top scientific researchers	ITC will explore opportunities to collaborate with the University of Manitoba in research projects that support advanced manufacturing. To create this environment we must enhance research relationships and infrastructure, and remove roadblocks to research capacity. MERLIN promotes awareness of technology through participation and active contribution to educationally-focused organizations, seminars and conferences. They are also a member of MRNet, which facilitates Manitoba's connection to global high-speed education and research networks through CA*net4.
Generate an effective and collaborative provincial network of research institutions that seek a common vision for research capacity in Manitoba	Seek improved Federal-Provincial research partnering conditions through facilitation and relationship development. Maximize added value from available federal contributions and aligned approach to research grants.

4. Drive and Support Service Transformation in Government.

The strategies below seek to support the above priority, which is also mentioned in the 2006 Budget Speech and the Manitoba Innovation Framework. We are working to expand the Canada Manitoba Biz-Gateway, extend the use of the common business identifier, and establish BizPal, a tri-level partnership to streamline information about business requirements. These all work to satisfy one of our Innovation targets, creating fully integrated service centres for the public's transactions with government.

High-level objectives	Strategies/ actions for 2007/08 to achieve those objectives
We hope to increase accessibility and improve overall service delivery to Manitobans, through leadership and focus for the Government's service transformation activities.	We can accomplish this through developing, assisting in or consulting with those populations who are directly impacted by the service being delivered. By focusing on the **appropriate environment and our current capacity and capabilities** (information, tools, skills and processes) we can easily support service transformation in Government.
An understanding, through modeling and promotion, of the necessary environment for transformational process change: an environment where employees and leaders demonstrate change resilience and systems thinking, and are open and flexible to a variety of working arrangements, resource sharing and skills acquisition.	**Modeling:** Establish EST as **a solutions-focused integrator** for government, by developing the *leadership capacity* to demonstrate our core values, the *organizational resilience* and the *diversity* to provide transformative thinking in government. **Modeling:** Use best practice approaches for **strategy identification, planning, monitoring, communication** and associated direction of resources within the department.

5. Find the top opportunities to lever and expand Government's ICT assets as strategically as possible, to the benefit of Manitobans.

- **ICT assets and processes** in the provincial Government that are **robust and flexible** enough to enable innovative public sector service delivery.
- **High-functioning and responsive ICT talent and organization,** committed to providing excellent service and exhibiting superior technical, project and customer relationship skill.
- **A community of public sector ICT stakeholders** that is committed to working together towards a shared vision for service delivery to Manitobans.

High-level objectives	Strategies/ actions for 2007/08 to achieve those objectives
ICT Organization and Service Transformation: Continued transformation and maturation of a service oriented ICT organization and delivery model	• Foster a client-focused service philosophy • Implement and refine service management processes • Implement and improve cost allocation and management practices • Identify and promote employee development opportunities • MERLIN has applied best practices in the proposal of a new bundled service package for school divisions through standardization and centralization.
Lever ICT Investments:	• Implement the recommendations of the Provincial Data Network Strategy to

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High-level objectives	*Strategies/ actions for 2007/08 to achieve those objectives*
Maximize investments made in ICT by extending existing assets and services into the broader public sector. Through continual relationship building, work towards a shared-assets and shared-approach vision for ICT between the government and other public service stakeholders.	enable a network infrastructure that services the broader public sector • Work with WRHA to implement managed desktop services in Regional Health Authorities. • Collaborate on the implementation of a redesigned health network that allows for central delivery of health services • Extend PSDN connectivity to schools and post-secondary education institutions in Manitoba • MERLIN facilitates the participation of the K-S4 community in a business case for connectivity for the education sector. • MERLIN provides central hosting services for school divisions. • MERLIN's proposed bundled service package facilitates standardization and long-term planning and training among school divisions
ICT Environment Vitality and Improvement Ensure the continued vitality and improvement of the government's ICT environment and infrastructure to maintain a high functioning work environment:	• Implement an operationalized Infrastructure Refresh Program that moves from a project/initiative based infrastructure upgrade model to a service based model where upgrades are an inherent part of the delivered service • Continue multi-year effort of consolidation and standardization of servers and applications • Plan an implement IP-based services (e.g. Voice Over IP) • Evolve the development of the Enterprise Architecture and ICT standards, and implement and execute processes to apply architectural principles, guidelines, directions, models and standards
Lever Modernized ERP Infrastructure: Lever the modernized ERP infrastructure to support identified government business transformation opportunities	• Foster close working relationship with Business Transformation Office • Implement a corporate capability that supports client driven needs for e-commerce
Technology Enabled Workforce Develop services and approaches that focus on productivity and self-service capability of the workforce	• Implement a solution platform (End-User Tools) that increases end-user self-service capacity and productivity while reducing the volume and uniqueness of applications in the environment • Develop an approach to making end-user training an integral component of the delivery of productivity and collaboration tool services • Investigate and, where appropriate, implement wireless and mobile access technology to support the diverse access needs of the workforce
ICT Management and Planning Continue development and implementation of approaches and processes that improve the effectiveness of ICT management and planning:	• Develop and approach for the anticipated ICT disaster recovery services that will be needed to respond to government's current focus on enterprise-wide continuity and resumption planning • Implement a business focused risk management tool and apply risk management methodology

C: MEASURES OF PERFORMANCE OR PROGRESS

Objective supported	What will we measure? Description of what the measure tells us.	How will we measure it? Description of the actual item measured.	Where are we starting from? The 'starting point' value of this measure (or closest available)
Drive implementation of the Green Strategy and maximize Energy & Climate Change Opportunities for Manitobans.	We are measuring whether or not we are implementing our Green Strategy to its fullest potential. In other words we want to measure how energy smart our province is becoming.	• Green House Gas Emissions • Wind Energy Production • Garbage produced, • Energy & water consumed	Kyoto Protocol Targets Under Development Under Development Under Development
Create major opportunities for Community & Economic Development, through 'new economy' industries and technology.	We are measuring whether or not we are creating opportunities for CED for Manitobans in the 'new economy.' By this we mean we want to measure how economically viable our province is in areas which revolve around the "new economy."	• Number of communities with broadband • New investments in Science and tech • E-readiness of province (4 pillars)	Year over year increases Under Development Under Development

Significantly improve Manitoba's scientific Research Capacity and the environment for our researchers.	We want to measure the status of Manitoba's Research community. In other words, we want to measure our research capacity, learning where our funding, scientists and outside investments are going.	• # of people conducting research • Amount of funding to Universities • Level of investment from outside sources (out of MB).	Data from research organizations Data from Universities Under Development
Drive and Support Service Transformation in Government.	We want to measure how government is transforming service delivery. We want to measure the progress and advances being made in service delivery.	• # of fully integrated service centres • Citizens First study Recommendations	Year over year increases Previous Citizen First Studies
Find the top opportunities to lever and expand Government's ICT assets as strategically as possible, to the benefit of Manitobans.	We want to measure how well our ICT assets are being used and levered. This is best exemplified by studying the quality of service being provided.	• MTS installation & network indicators • PDN technical performance indicators • SAP performance indicators • PRN extension success • SAP Upgrade	Ongoing Performance Statistics

D: DEPARTMENTAL CAPACITIES

EST is working to build its people capacity through its renewal strategy which focuses on three key areas Leadership capacity, change resilience and benefiting from diversity:

LEADERSHIP CAPACITY:

Goals	Activities
• Our leaders display the behaviours identified under our statement "Expectations of our Leaders" • All employees understand the strategies and priorities of Energy, Science and Technology and how they fit in to delivering on them. • We have leadership capacity throughout Energy, Science and Technology. • A cyclical employee performance and development process is launched and its effectiveness is regularly assessed. • Our employee performance and development process • Explicit people management performance targets for those managing people.	• Effective and continuous communication of EST's targets by all levels of management to employees (requires a communication plan and commitment to effective execution) • Entrenched, ongoing leadership development programming, targeted to different levels of people managers (currently under development through Renewal Team) • Development and implementation of a cyclical performance and development process that includes people management targets and expectations

CHANGE RESILIENCE: Change resilience is a state, described as having the ability to adapt to change and flourish even as conditions change. Being able to maintain focus, intensity and remain optimistic and persistent while continuing to achieve quality results in an effective manner describes our capacity. Change management represents the tools, approaches and processes an organization uses to achieve change resilience. Every organization must become as nimble as change itself.

Goals	Activities
• We model the capacity to lead positive change.	• Change management concepts; training and development; best practices for introducing/ evaluating change • Plan to ensure general understanding of effective project management concepts and practices • Continuous learning and sharing regarding impacts of change and lessons learned.

BENEFITING FROM DIVERSITY: We seek to recognize and effectively benefit from individuals' distinct and personal characteristics and perspectives, including age, language, culture, ethnicity, skills, gender, abilities, talents, previous experiences and perspectives. Diversity speaks to enriching the environment by facilitating the exchange of different perspectives, as an alternative to building a 'just like me' environment in an organization. (The concept of 'Employment Equity' is a subset of Diversity and refers to specific employment targets)

Goals	Activities
• We effectively use our inter-relationships and the differences in our perspectives and experience to accomplish our work • The culture of Energy, Science and Technology encourages and supports diversity.	• Educate and raise awareness about diversity. • Assess ourselves and our environment.

The department holds regular Employee Communication Forums at least two times a year to discuss:
- the department's goals,
- how we will meet those goals,
- what tools we need be successful,
- how we can further engage our employees, and
- how each employee fits into the big picture.

2. **Technology capacity to enable your priorities:** high-level technology requirements that you have in order to achieve your objectives for 2007/08 and beyond**.**

- Wireless access province wide to PDN via PC.

3. **Other capacity:** Disruptive Innovation describes revolutionary organizational action, that can emerge from leadership activities that:
   - quickly create visible change to an organization,
   - set aggressive and clear targets for it, and
   - exploit disruptive technologies that have significant possibilities.

   Re-framing the problem is the leadership challenge, particularly in the public sector. A presentation describing the concept of Disruptive Innovation, using energy as an example, is available at
   http://www.gov.mb.ca/est/strategic/innovation_challenges.pdf
   John Clarkson delivered this presentation to the Innovation in Canada Conference in February 2005.
   The Manitoba Innovation Framework, released in 2003, drives much of our activity related to innovation. It can be viewed at: http://www.gov.mb.ca/est/innovation/index.html

E: DEPARTMENTAL PROGRAM CHANGES:

Green Manitoba – Established as a Special Operating Agency (SOA) in April 2006 with a mandate to develop new and innovative approaches to waste reduction and diversion, water and energy demand-side management through an inter-sectoral community-based approach.

ICT Restructuring – Central ICT service delivery model that resides within ES. A new service-oriented centralized ICT organization is being implemented within Energy, Science and Technology that positions Manitoba to meet the ICT requirements of the government today and into the future. The new organization will be focused on: providing direction and management of ICT; effectively managing ICT assets and resources; aligning ICT services to clients needs; and continually delivering high quality ICT services. It will work closely with its clients, stakeholders, and service delivery partners to achieve improved service delivery, improved cost management, improved employee development opportunities, and maximum ability to be proactive and responsive to government's strategic requirements.

Climate Change and Green Initiatives – A newly created branch within EST, that will work to develop and implement climate change initiatives and economic development strategies which include developing, monitoring and coordinating the implementation of climate change policies and initiatives and related provincial programs.

F: CROSS-DEPARTMENTAL RELATIONSHIPS / PARTNERSHIPS

Other Departments that are impacted by our priorities, or on which our priorities depend	Drive implementation of the Green Strategy and maximize Energy & Climate Change Opportunities for Manitobans.	Create major opportunities for Community & Economic Development, through 'new economy' technology and industry.	Significantly improve Manitoba's scientific Research Capacity and the environment for our researchers.	Drive and Support Service Transformation in Government	Find the top opportunities to lever and expand Government's ICT assets as strategically as possible, to the benefit of Manitobans.
All Departments				Partner Impacted Dependency	Partner Impacted Dependency
MB Health Department's and RHAs		Partner Dependency			
MB Educ'n depts., schools and higher ed	Partner Dependency	Partner	Partner Impacted Dependency		
Research institutions in MB		Partner			
MB depts. of Conservation & Water Stewardship	Partner Impacted Dependency				
Industry, Economic Development and Mines (IEDM)		Partner			
MB businesses, industry groups		Partner Impacted Dependency			
Mb Agriculture, Food and Rural Initiatives	Partner	Partner	Partner		
Mb Aboriginal & Northern Affairs	Partner	Partner Impacted Dependency			
MB Family Services & Housing	Partner				
Mb Intergov'tal Affairs & Trade	Partner	Partner	Partner		
Service Manitoba Civil Service Commission				Partner Partner	Partner
Crowns and other agencies	Partner Impacted Dependency	Partner Impacted Dependency			Partner Impacted Dependency
Federal Gov't	Partner Impacted Dependency	Partner Impacted Dependency	Partner Impacted Dependency	Partner Impacted Dependency	Partner Impacted Dependency
Mb Cities, municipalities,	Partner	Partner		Partner	Partner

communities						

Partner: Departments are engaged as a partner on this priority (active project, team, committee in place)
Impacted: Department will be impacted by work on this priority, but is not yet a partner
Dependency: We will depend on contributions from this department to help address our priority but it is not yet a partner.

- ITC collaborates with Industry, Economic Development and Mines (IEDM) in providing support for Advanced Manufacturing
- Development of strategy to implement First Nation Connectivity as per the March 2006 Budget Speech. MICT will be integrated in the RFP process.
- ICT Service Manitoba will partner to develop the business requirements, there will be an impact on all departments and we will be dependent on them to gather information.

Part 2: OPPORTUNITIES FOR POSITIVE CHANGE

A. Opportunities within your Department:
In 2006/07, several initiatives including ICT Restructuring, Server Consolidation will identify areas for review.

Currently, MERLIN's Manitoba Cyberschool's Portal is under review. A new delivery model will be developed to increase the uptake from school divisions and improve support from the Department of Education, Citizenship and Youth while maintaining the commitment to provide access to an email account for every student.

B. Opportunities across Departments:
Across government, what systemic issues or opportunities do you suggest could be addressed centrally?

C. Opportunities for Collaboration between two or more Departments
EST is currently leading a project called FOCUS, which is a business process that aligns and prioritizes departmental activities. Currently we are implementing the process in three government departments – Manitoba Water Stewardship, Manitoba Conservation, and Manitoba Energy, Science and Technology. The three departments are responsible for program delivery in many priority areas. Increasing public expectations for service, results and accountability are constant pressure points that challenge these departments. Current management practices are just meeting these expectations, and given increasing expectations and decreasing resources, a better process or system must be implemented. FOCUS can provide that much needed coordination both within a department and across. A number of departments have inquired about the FOCUS project and opportunities to expand the project exist with appropriate funding.

MERLIN is seeking an early indication of support with the Department of Education, Citizenship and Youth to support the changes to the Manitoba Cyberschools Portal, which seeks to provide everyone student in Manitoba with an email address.

MAFRI is co-located with EDI. There are two working groups set up with FSH with involvement from ANA.

Once ICT Restructuring is more fully developed, opportunities may emerge, but at this time, the department is still in the discovery stage.

D. Other Ideas:
- What other potential reforms, cost reduction or process change ideas would you like brought to the attention of central government for consideration for 2007/08?

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