Yukon Energy Strategy Background Research

Part 2: Analysis of Existing Federal and Yukon Energy Initiatives

Submitted to:

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Table of Contents

Background	1
Federal Energy Initiatives and Programs	2
ENERGY EFFICIENCY AND CONSERVATION. ENERGY COST RELIEF TRANSPORTATION ALTERNATIVE ENERGY RESEARCH AND DEVELOPMENT INFRASTRUCTURE PROGRAMS PROGRAMS THROUGH FEDERAL GOVERNMENT FUNDED AGENCIES	
Yukon Energy Initiatives and Programs	8
ENERGY, MINES AND RESOURCES ENERGY SOLUTIONS CENTRE ENVIRONMENT YUKON HOUSING CORPORATION ECONOMIC DEVELOPMENT HIGHWAYS AND PUBLIC WORKS COMMUNITY SERVICES HEALTH AND SOCIAL SERVICES EDUCATION YUKON ENERGY CORPORATION	9 10 11 11 11
Summary Analysis of Federal and Yukon Energy Initiatives and Programs	12
Government of Canada Federal Budget Recent major federal initatives National intergovernmental collaboration Government of Yukon Climate change Oil, gas and coal development Electricity Renewable and alternative energy resources Energy conservation and efficiency Transportation Energy cost relief Intergovernmental collaboration Energy Policy Integration at the Federal and Yukon Levels	131314151616171818181819191919191919191919191919191919
References	22

Background

Energy is a vital part of the day-to-day lives of all Yukon citizens. We use energy in the whole range of our daily activities, from home heating to transportation, from cooking to leisure pursuits. The energy sector provides employment to hundreds of Yukoners. The production, transportation and consumption of energy has major implications for our environment.

The Yukon energy sector is complex. Many forms of energy consumed in the territory have their prices determined in highly competitive world markets. Those same world markets also determine the pace of development of the Yukon's energy resources. The continuing and adequate supply of energy in its various forms affects Yukoners of all ages, of all occupations, in all communities.

While all jurisdictions have various energy-related issues in common, many energy issues are specific to each jurisdiction. For example, endowments of energy resources such as oil, gas and hydro-electric potential vary widely between Canada's provinces and territories. In addition, vast distances between energy sources and consumption locations can result in significant differences in energy costs among jurisdictions. Geographic location is also a factor in the distribution of the impacts of climate change.

The importance, complexity and location-specific nature of energy suggests the need for a comprehensive made-in-Yukon energy strategy. Accordingly, the purpose of this project is to prepare background research that will facilitate the development of a comprehensive Yukon energy strategy. The research has been undertaken in three parts:

Part 1 consists of a high-level analysis of energy strategies and the associated development processes from British Columbia, the Northwest Territories, Saskatchewan, PEI and Quebec.

Part 2 presents a summary analysis of existing federal and Yukon energy programs and initiatives.

Part 3 presents an overview analysis of the Yukon energy sector through identification of key trends and issues related to energy production, management and use in the Yukon and makes recommendations about the potential scope and process that might work in the Yukon for developing a long-term energy strategy.

This paper presents the findings of the Part 2 project work.

The hyperlinks that appear throughout this report are 'live' in the digital versions of the report (both MS Word and Adobe portable document format). With a digital copy of the report up on your computer screen, simply click on a link to go to the source document.

Federal Energy Initiatives and Programs

The table below presents a summary of existing federal energy programs and initiatives.

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Summary of Federal Energy Initiatives and Programs			
	DELIVERY		
	DEPARTMENT		
NAME OF PROGRAM	OR AGENCY	DESCRIPTION OF PROGRAM	
ENERGY EFFICIENCY AND C	ONSEDVATION		
ENERGY EFFICIENCY AND C	ONSERVATION		
Canadian Renewable and	Natural	Tax incentives to industry for renewable	
Conservation Expense	Resources	and/or conservation expenses.	
Accelerated Capital Cost	Canada		
Allowance for Efficient and	(NRCan)		
Renewable Energy			
Generation Equipment (Class			
43.1)			
EcoAction Community	Environment	Funding up to \$100,000 for community-	
Funding Program	Canada	based organizations. Includes projects that	
		focus on reducing greenhouse gas	
		emissions.	
Building construction (reside	ntial, commercial		
ecoENERGY Retrofit –	NRCan	Grants to improve energy efficiency of	
<u>Homes</u>		homes.	
ecoENERGY Retrofit - Small	NRCan	Program to improve energy efficiency of	
and medium sized buildings		buildings include provincial, territorial and	
		municipal.	
ecoENERGY Retrofit - Small	NRCan	Financial incentive to make energy	
and medium-sized industrial		efficiency improvements.	
facilities			
ecoEnergy Assessment	NRCan	Financial incentive for process integration	
Incentive for Industry		studies that identify opportunities for	
		increasing energy efficiency and improving	
		production processes.	
ecoENERGY tools for	NRCan	Publications, training, tools and other	
commercial and institutional		technical information to improve energy	
buildings and industry		efficiency measures and practices for	
(information)	NDC==	existing buildings.	
<u>R-2000</u>	NRCan	Certification program that promotes the	
		construction of high-quality, energy-	
		efficient housing. Yukon Housing	
Energy efficient products (ap	l pliances equipme	Corporation is the licensed delivery agent.	
EnerGuide (information)	NRCan	Program that helps consumers purchase	
LiterGuide (initionilation)	INICALI	the most energy-efficient equipment on the	
		market.	
ENERGY STAR® (information	NRCan	ENERGY STAR is an internationally used	
and rebate program)	INICALI	symbol placed on products that that are	
and robato program)		among the most energy-efficient on the	
		market. It is a voluntary arrangement	
		between NRCan and organizations that	
		manufacture sell or promote products.	
		Many provinces offer rebates on purchases	
		of ENERGY STAR products.	
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Summary of Federal Energy Initiatives and Programs			
•	DELIVERY		
NAME OF PROGRAM	DEPARTMENT OR AGENCY	DESCRIPTION OF PROGRAM	
NAME OF TROOKAM	OR AGENOT	DEGCKII HON OF TROCKAII	
ENERGY COST RELIEF			
Energy Cost Benefit	Services Canada	One time tax exempt payment intended to help low-income families and low-income seniors with the effects of high energy costs.	
TRANSPORTATION			
EnerGuide (information)	NRCan	Program that helps consumers purchase the most energy-efficient vehicles on the market.	
Excise Tax (Green Levy) on Fuel Inefficient Vehicles	Canada Revenue Agency	Excise tax on new fuel inefficient vehicles.	
Eco-Transport Strategy (The strategy includes the subsequent listed programs that begin with the prefix "eco").	Transport Canada	Transportation strategy aimed as reducing greenhouse gas emissions from transport sector.	
EcoAUTO Rebate Program	Transport Canada	Rebates between \$1,000 and \$2,000 to people who buy or enter a long-term lease for a fuel-efficient vehicle.	
Freight Technology Incentive Program (Under the ecoFREIGHT program)	Transport Canada	Cost-shared funding to companies and non-profit organizations in freight transportation to purchase and install proven emission-reducing technologies.	
Freight Technology Demonstration Fund (Under the ecoFREIGHT program)	Transport Canada	Cost shared funding for real world testing of freight transportation technologies that have the potential to reduce the emissions of air pollutants and greenhouse gases.	
Transit Pass Tax Credit	Canada Revenue Agency	Tax credit on the cost of monthly or longer duration transit passes.	
<u>ecoMOBILITY</u>	Transport Canada	Program to help municipalities and cities reduce urban passenger transportation emissions by increasing transit ridership and the use of other sustainable transportation options.	
ecoENERGY for Fleets (information)	Transport Canada	Information sharing, workshops and training to help fleets increase their fuel efficiency.	
Excise tax exemption for ethanol and methanol	Canada Revenue Agency	Tax exemption to encourage the development and marketing of ethanol and methanol made from biomass.	

Summary of Federal Energy Initiatives and Programs		
NAME OF PROGRAM	DELIVERY DEPARTMENT OR AGENCY	DESCRIPTION OF PROGRAM
ALTERNATIVE ENERGY		
Biofuels Opportunities for Producers Initiative (BOPI)	Agriculture and Agri-Food Canada	Financial assistance to help farmers and rural communities hire experts who can assist in developing business proposals and undertake feasibility and other studies to create and expand biofuels production capacity.
ecoAgriculture Biofuels Capital Initiative (ecoABC)	Agriculture and Agri-Food Canada	\$200 million four-year program ending on March 31, 2011 that provides repayable contributions for the construction or expansion of transportation biofuel production facilities.
ecoENERGY for Renewable Power	NRCan	\$1.48 billion to increase Canada's supply of clean electricity from renewable resources such as wind, biomass, low-impact hydro, geothermal, solar photovoltaic and ocean energy. Businesses, municipalities, institutions and organizations are eligible.(The application deadline recently expired.)
ecoENERGY for Renewable Heat (solar)	NRCan	\$36 million incentive program over four years to increase renewable thermal energy use (solar) in Canadian buildings. Incentives offered to industrial/commercial/institutional sector. Additional pilot projects conducted with collaborators (energy utilities, energy service companies, community groups and other interested groups) will explore ways of increasing the market for residential solar water heating systems.
Renewable Energy Deployment Initiative (REDI)	NRCan	Incentive covers commercial, solar hot air, solar hot water and biomass combustion systems (only clean burning ones) in the industrial, commercial and institutional sectors. In remote communities, business, institutions and other organizations may be eligible for a refund. Some pilot project funding available. (Current status of program unclear.)
Aboriginal and Northern Community Action Program	Indian and Northern Affairs Canada	Funding program for Aboriginal and northern communities for climate change activities, and for sustainable energy needs, with an emphasis on community energy planning, capacity building, energy efficiency, renewable energy applications, alternate diesel technologies, improved transportation and impacts and adaptations.

Summary of Federal Energ	y Initiatives and	Programs
	DELIVERY	
NAME OF PROCRAM	DEPARTMENT	DESCRIPTION OF PROGRAM
Wind Power Production	OR AGENCY NRCan	Incentive program to encourage the
Incentive	INICan	production of new wind energy in Canada
(expired March 2007)		(4000 megawatts). Commitment of funds
(6.15.1.61.1.1.2.1.2.1)		for the program ended in March 2007.
RESEARCH AND DEVELOPM	ENT	
Canadian Transportation Fuel	NRCan	\$33 million initiative that will demonstrate
Cell Alliance		and evaluate fuelling options for fuel cell
<u>Och Amarioc</u>		vehicles in Canada. The initiative will also
		develop standards and training and testing
		procedures as related to fuel cell and hydrogen technologies.
Decree of Francisco	NRCan	Directly supports energy R&D conducted in
Program of Energy Research		Canada by the federal and provincial
and Development		governments; concerned with all aspects of
		energy supply and use.
Technology and Innovation	NRCan	\$115 million over five years to advance
Research and Development Initiative		promising greenhouse gas technologies. Started in 2003.
ecoENERGY Technology	NRCan	\$230 million investment to support the
Initiative	INICan	development of next generation energy
- maaro		technologies. It will also support the use
		and integration of clean energy in end-use
		sectors such as buildings and community
		systems.
Community Energy Systems	NRCan	The program identifies and develops
<u>Program</u>		community (including urban and remote)
		opportunities for the use of district heating and cooling, combined heat and power (co-
		generation), waste heat recovery, thermal
		storage, and local sources of renewable
		energy, particularly biomass.
Emerging Technologies	NRCan	Identifies technical barriers to increasing
Program		the energy efficiency of Canadian
		industries by providing up to 50% funding
		assistance.
		The program focuses on energy-efficient technologies that offer the highest rate of
		return on R&D investment for Canada's
		industrial sector.
Buildings Energy Technology	NRCan	Funding for projects that involve R&D,
Program		dissemination and deployment related to
		building technologies and tools that
		increase energy efficiency, lessen
		environmental impacts, and are replicable
		to the Canadian housing and commercial building industry.
Renewable Energy	NRCan	Supports the continued improvement of the
Technologies Program		economics and efficiency of renewable
		energy technologies. Technologies include:
		bioenergy (combustion, biochemical

Summary of Federal Energy Initiatives and Programs		
	DELIVERY DEPARTMENT	
NAME OF PROGRAM	OR AGENCY	DESCRIPTION OF PROGRAM
		conversion of biomass to ethanol, thermochemical conversion of biomass to bio-oil and biogas, and biomass preparation and handling); small hydro projects (less than 20 megawatts); active solar applications; and, wind energy.
Industry Energy Research and Development Program	NRC	Funding for Canadian companies engaged in energy efficiency research and development.
<u>HyFATE</u>	NRCan	Hydrogen, Fuel Cells and Transport Energy (HyFate) cost-shares transportation energy R&D.
Industrial Research Assistance Program	National Research Council of Canada	Technology assistance to small and medium-sized enterprises for the purposes of stimulating wealth creation for Canada through technological innovation. Energy related projects are considered.
Technology Early Action Measures (TEAM)	NRCan, Industry Canada, and Environment Canada	An interdepartmental technology investment program that supports projects that are designed to demonstrate technologies that mitigate greenhouse gas emissions nationally and internationally, and that sustain economic and social development. TEAM projects come from municipal, provincial, or federal programs, small, medium, and large businesses, and international companies or foreign governments.
INFRASTRUCTURE PROGRA	MS	
The Municipal Rural Infrastructure Fund	Infrastructure Canada & Yukon Government	Supports smaller scale municipal infrastructure projects in variety of areas, including environmental energy improvements. This program was launched in 2004 and has been structured to respond to the specific needs of Canada's smaller and First Nations communities. Up to \$48 million will be spent on Yukon projects.
Canada Strategic Infrastructure Fund	Infrastructure Canada & Yukon Government	Investments are directed to large-scale projects of national and regional significance. Investments conditional on the demonstration of a project's environmental benefit, including reduction of greenhouse gases.
Gas Tax Fund	Infrastructure Canada & Yukon Government	Federal transfer payments from the federal gas tax revenues to primarily support environmental sustainability objectives under a New Deal for Cities and Communities.

Summary of Federal Energ	y Initiatives and	Programs
	DELIVERY	
NAME OF PROGRAM	DEPARTMENT OR AGENCY	DESCRIPTION OF PROGRAM
Public Transit Fund	Infrastructure	Federal transfer payments to support
<u> </u>	Canada &	investments in public transit infrastructure
	Yukon	in cities and communities. These funds
	Government	support environmental outcomes of cleaner
Infrastructure Canada	Infrastructure	air and lowered greenhouse emissions. This transfer payment program has a green
Program	Canada &	project target of 50% and encourages
	Yukon	investment in such categories as
	Government	wastewater systems, public transit and energy efficiency. Virtually all funding has
		been committed. Seven Yukon
		communities benefited from this fund.
Canada ecoTrust for Clean Air and Climate Change	Environment Canada	\$1.5 billion fund to support provincial/territorial projects that will result
and Chimate Change	Canada	in reductions in greenhouse gas emissions
		and air pollutants. Yukon funds will be used
		to install a third hydro turbine at the
		Aishihik hydro electric plant in southwestern Yukon.
Building Canada	Transport,	\$33 billion in funding for infrastructure that
	Infrastructure	will include supporting investments in
	and Communities	large-scale projects, including green energy, public transportation and transit.
		one gy, passe nameportation and name
OIL AND GAS		
FORRI (Frontier Offshore	NRCan	Regulatory initiative to renew and
Regulatory Renewal Initiative)		modernize the regulatory environment for
		Canada's frontier and offshore oil and gas
		sector. Yukon has a seat (EMR) on the FORRI steering committee.
Major Projects	NRCan	Office designed to streamline the review of
Management Office		large natural resource projects. The \$60
		million investment over two years is designed to cut in half the average
		regulatory review period from four years to
		about two years. Initiatives such as the
		Alaska Highway Pipeline Project will fall under this office's review
		and the emote review.
DDOOD AME TUDOUGU FEDE	DAL COVERNIA	INT FUNDED ACENCIES
PROGRAMS THROUGH FEDE	RAL GOVERNME	IN I-FUNDED AGENCIES
Green Municipal Fund		Grants for feasibility studies, field tests and
		sustainable community plans. Delivered
		through the Federation of Canadian Municipalities. Energy projects considered.
		The program is on hold until 2008 while
O state D - 1		new funding requirements are developed.
Sustainable Development Technology Canada		Finances and supports the development and demonstration of clean technologies.
reciniology Canada		and demonstration of clean technologies.

Yukon Energy Initiatives and Programs

The table below presents a summary of existing Yukon energy programs and initiatives.

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Summary or Tu	NAME OF	any os and i rogiams
	PROGRAM OR	
SECTOR/AREA	BRANCH	DESCRIPTION OF PROGRAM OR INITIATIVE
ENERGY, MINES	AND RESOURCES	S (EMR)
Oil and gas	Oil and Gas Branch	 General oil and gas industry assistance. Pursue development of northern pipeline initiatives: the Alaska Highway Pipeline Project and the Mackenzie Valley Gas Project. Geosciences and technical information is provided through the Yukon Geological Survey Developing a Best Management Practices guide for oil and gas exploration and development activities in Yukon. Several chapters are completed to date. Organize pipeline development activities based on the Yukon's "7 Pipeline Interests", including gaining commitment from proponents for northern preference for workforce, business services, and training. Pipeline Strategy is key policy document that underlies the Branch's current activities. Copies of the report can be accessed through the Branch Director. Developing a draft Strategic Action Plan for the Alaska Highway Pipeline Project. This action plan is an intergovernmental initiative between the governments of Alberta, British Columbia and Yukon; it is designed to prepare the three parties for the pipeline project. Developing an Offshore Strategy for Beaufort Sea. This strategy is designed to strategically position Yukon to have an enhanced role in Beaufort Sea exploration and drilling activities.
Oil and Gas/Training	Job Site Transportation Fund	Financial assistance program for oil and gas drilling companies that wish to transport Yukon employees to job sites outside the territory where transportation costs are beyond the industry norm.
First Nations involvement	Oil and Gas Branch	 Fund Aboriginal Pipeline Coalition, which addresses regulatory framework, environmental issues, socio-economic issues, and revenue sharing mechanisms. Under the Yukon Oil and Gas Act, negotiate benefits agreements between proponents and First Nations for the purposes of training, employment and procurement of contracts opportunities.
Coal	Minerals Resources Branch	 Regulates exploration and mining activity and encourages its development. Geosciences and technical information is provided through the <u>Yukon Geological Survey</u>

Summary of Yukon Energy Initiatives and Programs		
	NAME OF	
	PROGRAM OR	
SECTOR/AREA	BRANCH	DESCRIPTION OF PROGRAM OR INITIATIVE
Electricity	Rate Stabilization Fund	Fund subsidizes customer bills so that consumption of the first 1000 kWh for residential and 2000 kWh for commercial and municipal customers is maintained at nine percent above rates established in January 1997. Fund is being phased out.
ENERGY SOLUTI	ONS CENTRE	
Energy efficiency	Public Buildings	Energy tracking database system that provides public
and conservation	Energy Tracking System (PBETS)	building owners with an overview report of energy- related data. Service includes assistance in analyzing the report; direction on options for how to improve each building's energy performance; and follow-up reports to help track the results of subsequent energy retrofits.
Energy efficiency and conservation (and incentive)	Public education	 Resource library and public education activities across territory to educate public on energy efficiency, conservation and renewable energy resources. The GreenHog Handbook is published annually and it contains energy saving information, coupons, etc.
Energy efficiency and conservation	Short-term energy efficiency projects	Offers short term incentive programs/services to encourage market transformation to greater energy efficiency, including: lighting (compact fluorescent and LED lighting), heating (oil burning appliance technology, HVAC controls) and appliance (Energy Star appliance rebate program). They currently have a rebate program for push lawn mowers.
Renewable energy	Energy partnerships	Partnerships with First Nations, municipal governments, and other agencies for purposes of promoting and developing renewable resources. ESC assists in funding application for renewable energy projects and provides follow-up assistance, including technical advice. A First Nations energy advisor is currently on staff.
Training	Training	Provide variety of energy-related training and capacity building. Courses include LEED™ (Leadership in Energy and Environmental Design) courses and specialized workshops on various alternative energy technologies.
ENVIRONMENT		
Renewable	Yukon Climate	Release of strategy in 2006.
energy	Change Strategy	 Leading the development of a climate change action plan which will include energy-related issues and actions. Financial suport for Northern Climate ExChange

Summary of Yukon Energy Initiatives and Programs		
SECTOR/AREA	NAME OF PROGRAM OR BRANCH	DESCRIPTION OF PROGRAM OR INITIATIVE
Transportation	Vehicle emissions clinics	Free vehicle emission clinics to educate motorists about the relationships between vehicle use, air pollution and GHG emission.
YUKON HOUSING	G CORPORATION	(YHC)
Residential energy efficiency	Green Mortgage	Reduced interest rate mortgage financing for homes built or upgraded to GreenHome standard.
Residential energy efficiency	R-2000	Homes built to the national R-2000 standard are certified and qualify for Green Mortgage interest rates. YHC is the licensed delivery agent for this Natural Resources Canada program.
Residential energy efficiency	GreenHome	Certification of green homes by EnerGuide for Houses evaluators. Upon certification, reduced rate mortgage financing is available.
Residential energy efficiency	eco-Energy	Certified eco-energy advisors conduct audits of homes. Grant provided to the homeowner to assist with the costs. YHC is the licensed delivery agent for this Natural Resources Canada program.
Residential energy efficiency	Home Repair Program	Loan program (under \$35,000) for repairs that include energy efficiency repairs.
Residential energy efficiency	Home Repair Enhancement Program	Loan program (over \$35,000) that include energy efficiency repairs.
Residential energy efficiency	Mobile Home Upgrade Program	Financing program that includes energy efficiency repairs.
Electricity	Residential Electricity Management	Low-interest financing for homeowners to change their primary heating system from electrical power to non-electrical. Jointly funded with Yukon Development Corporation.
Commercial residential energy efficiency	Rental Rehabilitation Program	Encourages landlords to upgrade energy efficiency in leased accommodation.
Residential energy efficiency	Joint Venture Program	Program levers private sector financing towards the increase of housing options and the development and demonstration of technologies to improve the quality of housing in the Yukon.
Training	R-2000 Builder Updates and Workshops EnerGuide Evaluator Training	 R-2000 training covers the principles of building high quality, energy efficient, healthy homes. EnerGuide covers principles and techniques of conducting energy efficiency evaluations under NRCan's EnerGuide program. Self-help courses and other training/certification opportunities are also available.
Public education	Energy saving fact sheets	Education fact sheets on how consumers can save energy at home.

Summary of Yukon Energy Initiatives and Programs			
SECTOR/AREA	NAME OF PROGRAM OR BRANCH	DESCRIPTION OF PROGRAM OR INITIATIVE	
ECONOMIC DEVI	ELOPMENT		
Energy development HIGHWAYS AND	Community Development Fund PUBLIC WORKS	Funding program that funds energy-related projects if they meet the criteria of creating economic benefits to communities.	
Energy efficiency and conservation in government assets.	Property Management Agency (PMA)	 Transportation division pursuing alternative vehicles such as hybrid units; currently in the process of evaluating alternative vehicle types for other areas within the fleet; monitoring idling rates on heavy vehicles. 31 vehicles being changed for more efficient use. Update the Fleet Vehicle Agency (FVA) Rate Structure to enhance cost incentives for the use of more efficient vehicle types. Reconfigure the FVA fleet to reduce the proportion of larger, less efficient vehicles where needs can be met with smaller, more efficient vehicle types. Planning a comprehensive energy conservation program for existing buildings to meet or exceed the standards proposed by the Green Building Council. The PMA has established policy that requires all new government buildings to be built to the Model National Energy Code for Buildings (MNECB) standards or higher, and is working towards new 	
		 building construction becoming compliant with LEEDTM standards. (The Tombstone Visitor Centre will likely be the first project to meet the LEEDTM certified standard.) As part of its maintenance and inspection procedure, PMA, with ESC's assistance, evaluates the energy efficiency of buildings and identifies circumstances where it makes sense to invest retrofit capital dollars to increase energy savings. 	
COMMUNITY SE	COMMUNITY SERVICES		
Electricity	Rural Electrification Program	Provides loans to put in power, either by hooking to the grid or by installing stand alone small hydro, wind or PV power systems.	
HEALTH AND SC	HEALTH AND SOCIAL SERVICES		
Rebate program	Pioneer Utility Grant	Helps eligible people 65 years and over with home heating costs (up to \$850 per year).	

Summary of Yu	kon Energy Initia	tives and Programs
SECTOR/AREA	NAME OF PROGRAM OR BRANCH	DESCRIPTION OF PROGRAM OR INITIATIVE
EDUCATION		
Training	Oil and gas training opportunities	 Funds trades training offered through Yukon College that would serve to meet oil and gas industry needs (pipefitting, etc). Department also has a program that ensures students in designated trades, including those associated with the oil and gas industry, can complete required apprenticeships in Alberta and other jurisdictions.
YUKON ENERGY	CORPORATION	
Electricity	Renewable Energy	Undertake demonstration projects to test renewable energy technologies.
Electricity	Secondary Sales Program	Eligible Yukon businesses are provided with the option of using hydro power to heat their facilities instead of diesel fuel or propane.

<u>Summary Analysis of Federal and Yukon Energy Initiatives and</u> Programs

This section of the report provides a brief summary analysis of energy-related activities of the Government of Yukon and of the Government of Canada. The summary is based on a high-level analysis of programs and services, accessible policies, publications, annual reports, departmental plans, discussions with staff, and commitments made through public communications (news releases, publicly available speeches, etc.). The review covers a five-year period (2002-2007). Most of the documents referenced can be found in the Yukon Energy Strategy Background Research Project digital directory. Programs referenced in the summary here are listed and described in the previous tables.

The Government of Canada does not have a national energy strategy. It currently has, however, several major energy-related initiatives; most of them are associated with the government's Clean Air Agenda.

Overall, there is a strong commitment to develop Yukon's natural resources, specifically oil and gas reserves, and to maximize economic benefits from the development of the Alaska and Mackenzie Valley pipeline projects.

Renewable resources, namely hydro, will continue to provide the majority of electricity needs in the territory. There is continued support for energy conservation and efficiency programs and initiatives.

Government of Canada

The federal government delivers over 40 energy-related programs, most of which can be classified as demand side management. These are mainly offered through Natural Resources Canada, which acts as a clearinghouse for information, as well as administering incentive and other programs. Many of the initiatives are designed to assist the private sector (and to a lesser extent communities and other levels of government) research and develop renewable energy technologies and integrate them into the market. The government also provides funding through the Aboriginal and Northern Communities Action Plan, to help Aboriginal and northern communities increase their energy efficiency and their use of renewable electricity.

There are also a range of incentive-based programs, including industry tax incentives for expenses incurred by implementing energy conservation measures, and incentives for the freight industry to install proven emissions-reducing technologies. There are also programs for homeowners to encourage home energy improvements. Several of these programs are delivered by the Yukon government.

The federal government has several infrastructure funding programs that the Yukon government has accessed. Yukon government recently received funding under the Trust Fund for Clean Air and Climate Change that it will use to install a third hydro turbine at the Aishihik hydro plant. ¹

The NRCan 2007-08 Estimates: A Report on Plans and Priorities outlines the department's corporate plan for the fiscal year. Many of the federal government's energy programs are summarized in this document.

In the Estimates, the Natural Resources Minister commits to working with Environment Canada to implement *Canada's Clean Air Act* (see description below). He also commits to supporting the development of renewable energy technology, and developing programs to assist Canadian citizens and businesses become more energy efficient in their range of activities.

Within the electricity sector, there is mention of working with US and Canadian governments to implement a policy and regulatory framework of mandatory and enforceable reliability standards.²

The minister also makes an ongoing commitment to the government's Smart Regulations initiative by continuing to streamline non-renewable energy regulatory processes to enhance economic growth and address environmental and social issues. This is currently being pursued by NRCan's Frontier Offshore Regulatory Renewal Initiative (FORRI).

The National Energy Board, an independent federal agency, regulates several aspects of Canada's energy industry. They are conducting hearings on the Mackenzie Pipeline Project that the Yukon government has made submissions to.

¹ See press release: <u>Canada's New Government supports clean air and energy efficiency projects in Yukon, March 2007.</u> (http://www.ecoaction.gc.ca/news-nouvelles/20070330-eng.cfm).

² Natural Resources Canada, 2007-08 Estimates, p. 26.

Federal Budget

The 2007 federal budget commits funding for energy-related programs and developments. Energy is primarily discussed in the context of creating more opportunities for the development of green or clean energy. Energy-related budgetary items are as follows (many are outlined in the federal programs table):

- Supporting major clean air and climate change projects with provinces and territories through the \$1.5-billion Canada ecoTrust for Clean Air and Climate Change.
- Rebalancing the tax system to encourage investments by the oil sands and other sectors in clean and renewable energy while phasing out accelerated capital cost allowance for oil sands development.
- Providing a performance-based rebate program offering up to \$2,000 for the purchase of a new fuel-efficient or efficient alternative fuel vehicle.
- Introducing a new Green Levy on fuel inefficient vehicles.
- Providing \$36 million over the next two years to help take older polluting vehicles off the road.
- Dedicating \$2 billion over seven years for the production of renewable fuels.
- Investing \$37 million per year through the federal granting councils for research targeted on energy, the environment, and information and communications technologies.
- More than \$16 billion over seven years—including an extension of the Gas Tax Fund for municipalities—to fund infrastructure projects, which include transportation and green energy. This includes the creation of a "Building Canada Fund", for infrastructure that will include supporting investments in large-scale projects such as public transportation and transit.
- Accelerate Capital Cost Allowance (50%) for clean energy generation for specified energy generation equipment using renewable energy sources (including wind, solar, biomass, small hydro), or by making efficient use of fossil fuels (high efficiency cogeneration systems).
- Extending and expanding the public transit tax credit.
- Creating a Major Projects Management Office to streamline the review of large natural resource projects. The \$60 million investment over two years is designed to cut in half the average regulatory review period from four years to about two years. Initiatives such as the Alaska Highway Pipeline Project will fall under this office's review.

Recent major federal initiatives

In October 2006, as part of its Clean Air Agenda, the Government of Canada tabled Bill C-30, *Canada's Clean Air Act.*³ The act contains three key elements:

1. Creation of a new Clean Air Part in the *Canadian Environmental Protection Act*, 1999 (CEPA) to strengthen the government's ability to take action to reduce air emissions, including regulating indoor and outdoor air pollutants and greenhouse gases; establishing national air quality objectives; and amend CEPA to enable the government to regulate the blending of fuels and their components. The sections of Bill C-30 dealing with CEPA would also allow provinces and territories to opt out of a wider range of federal regulations if they have drafted equivalent requirements.

³ Bill C-30, <u>Canada's Clean Air Act</u> (http://www.parl.gc.ca/legisinfo/index.asp?Language=E&query=4842&List=toc&Session=14).

- 2. Amend the Motor Vehicle Fuel Consumption Standards Act to enhance the Government of Canada's authority to regulate vehicle fuel efficiency.
- 3. Expand authorities under the Energy Efficiency Act to allow the government to set energy efficiency standards and labeling requirements for a wider range of consumer and commercial products.

Bill C-30 is currently being reviewed by a special all-party committee.

As part of the federal government's eco-Transport Strategy, Environment Canada announced in December 2006 that it would regulate an annual average renewable content of five percent in gasoline by 2010. The announcement states that "design and implementation of a regulation will require consultation with provinces, territories, affected sectors and other stakeholders". 4 Of the five jurisdictions studied in Part I of the YSE report, BC, Quebec, and Saskatchewan have committed to meeting or surpassing this target. PEI's plan predates the announcement.

The federal government also announced at the same time that the government intends to regulate a two percent requirement for renewable content in diesel fuel and heating oil by 2012.5 This will be done under the Canadian Environmental Protection Act. Both of these amendments to the Fuels Division of CEPA 1999 are proposed under Canada's Clean Air Act.

As part of the government's Clean Air Regulatory Agenda, the government has committed to developing and implementing new fuel consumption regulations, beginning with the 2011 vehicle model year.

In April 2007, the federal Environment Minister announced the government's Turning the Corner: An Action Plan to Reduce Greenhouse Gases and Air Pollution. 6 The plan is designed to set mandatory targets for industry to reduce their greenhouse gas emissions. The government commits to working with provinces and territories to avoid duplication of iniatives and will explore entering into "equivalency agreements" with provinces and territories to harmonize regulatory approaches in this regard. This plan is linked to the government's Regulatory Framework for Air Emissions (October 2006) that sets short-term targets to reduce air emissions within industry, including electricity produced by combustion and the oil and gas industry.⁷

National intergovernmental collaboration

The Government of Canada has no single energy strategy. The Conference Board of Canada recently released a discussion paper on national energy issues. The report states: "(Federal) energy policies rely heavily on market forces and are only beginning to be integrated with environmental and emission policies."8 The Board notes that while the latest budget states explicitly that the environment, economy and energy are inextricably

8 Conference Board of Canada, Canada's Energy Future, p.1.

⁴ See press release: <u>Canada's New Government takes new step to protect the environment with Biofuels</u> (http://www.ecoaction.gc.ca/news-nouvelles/20061220-eng.cfm), December 20, 2006.

See press release: Canada's New Government takes new step to protect the environment with Biofuels (http://www.ecoaction.gc.ca/news-nouvelles/20061220-eng.cfm), December 20, 2006.

See news release and links to backgrounders: Canada's New Government Announces Mandatory Industrial Targets to Tackle Climate Change and Reduce Air Pollution (http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=4F2292E9-3EFF-48D3-A7E4-CEFA05D70C21). April 2007.

See backgrounder: Regulatory Framework for Air Emissions (http://www.ec.gc.ca/doc/media/m_124/toc_eng.html). The

full text of the framework can be found in the YES digital directory which accompanies this report.

linked, the federal government has not yet provided a comprehensive strategy paper containing a national vision developed in consultation with other levels of government and other stakeholders around energy.

There are, however, several examples of intergovernmental collaboration at a national level. The Council of Federation, of which Yukon is a member, is developing a national energy strategy. The 13-member organization is composed of the Premiers from the 13 provinces and territories. The council meets to discuss a wide range of national issues, including energy. The council is currently in the process of developing a *Pan-Canadian Energy Strategy*. The strategy will establish a collective vision and a seven point action plan that strike a balance between a secure energy supply, environmental and social responsibilities, and continued economic growth and prosperity. There is no publicly available information on this strategy at this time.

Yukon is also a member of the Council of Energy Ministers. The council is composed of energy ministers from the 13 provinces and territories and the federal Minister of Natural Resources. The council meets annually to discuss energy issues. The ministers identified three key priorities at the 2006 meeting in Whitehorse: regulatory efficiency, energy technology development and innovation, and energy efficiency.¹⁰

Government of Yukon

Climate change

A Yukon *Climate Change Strategy* was released in July 2006.¹¹ The Department of Environment has been actively laying the groundwork for a climate change action plan, which the government committed to releasing by spring 2008.¹²

The strategy commits the government to developing a comprehensive energy plan that outlines supply and demand-side measures, and that will have a strong linkage to a climate change action plan. A brief energy analysis of the strategy and subsequent workshop reports reveals the following priorities:

- Increasing use of renewable energy: wind, solar, biomass;
- Build on successes in efficient building science, integrated household energy solutions and applied northern renewable energy research;
- Establish energy performance standards for Yukon government new building construction and renovations, and an energy conservation program for existing buildings;
- Institute energy efficiency measure for the Yukon Government vehicle fleet;
- Support conservation measures and integrated energy solutions for all sectors of the Yukon economy; and
- Support energy technology research and development.

⁹ The Web site of the Council is www.councilofthefederation.ca/index.html. There is, however, no publicly available information on the council's energy activities on the Web site as of July 2007.

¹⁰ See press release: Energy Ministers' Conference Focuses on Energy Collaboration (http://www.prcap.gc.ca/media/newsreleases/2006/200622_e.htm). August 2006

⁽http://www.nrcan.gc.ca/media/newsreleases/2006/200622_e.htm), August, 2006.
11 Yukon Climate Change Strategy (http://www.environmentyukon.gov.yk.ca/pdf/YGENVClimateChange_final.pdf), Environment Yukon.

¹² Commitment made by the Minister of Environment at the "Scoping Session for the Climate Change Action Plan", May 2007. See "Scoping the Government of Yukon Climate Change Action Plan", p.2.

¹³ Yukon Climate Change Strategy, p.5.

Actions to reduce greenhouse gas emissions will likely underpin a Yukon energy strategy, as it has in other Canadian jurisdictions.

Oil, gas and coal development

There is consistent and strong support from government to develop Yukon's oil and gas potential, including opportunities related to the Alaska Highway Pipeline Project and the Mackenzie Valley Gas Project. The Yukon Party's 2006 election platform makes over 10 commitments in this regard.

The Department of Economic Development's Pathways to Prosperity: An Economic Growth Perspective, 2005 to 2025, sets out the government's long-term economic vision. 14 Oil and gas development, along with pipelines development, play a key role in the territory's economic growth. The report emphasizes the need to develop appropriate industry infrastructure, and to invest in cold climate technologies that are developed through private-public initiatives. This strategic vision is reflected in the department's 2006-2009 Business Plan. 15 The department intends to develop a strategic sector and a sustainable resource development plan, along with a workforce development strategy associated with non-renewable resource development.

The Department of Energy, Mines and Resources (EMR), through its Oil and Gas Branch, supports oil and gas exploration and pipeline development. One of its primary objectives is to promote the territory as a service and supply center for the oil and gas industry in the north. Working in collaboration with First Nations communities, and workforce development, are part of its activities. 16 The Branch is also developing a Best Management Practices guide in areas of geographical, biological and cultural sensitivities unique to Yukon. An Offshore Strategy for the Beaufort Sea is also being drafted with a view to strategically position Yukon to have an enhanced role in Beaufort Sea exploration and drilling activities.

Oil and gas are being developed through partnerships. Yukon has signed agreements with several other jurisdictions, including the Northwest Territories, Alberta, and Alaska. 17 The Oil and Gas Branch is also drafting a strategic action plan with the BC and Alberta governments to collaboratively prepare for the Alaska Highway Pipeline Project. 18 The Branch is also currently discussing options with the federal Department of Indian Affairs and Northern Development regarding an enhanced role for Yukon in offshore management. This is being done in advance of commencing formal negotiations as committed to in the Canada Yukon Oil and Gas Accord.

While there is no coal extraction in the territory, there are significant deposits. In January 2007, the Minister of EMR said that the government will be exploring tax incentives and

Vector Research in association with Contact Research and Communications

¹⁴ Pathways to Prosperity: An Economic Growth Perspective, 2005 to 2025

⁽http://www.economicdevelopment.gov.yk.ca/documents/pathways.pdf), Department of Economic Development.

Department of Economic Development Strategic Plan, 2006-2009

⁽http://www.economicdevelopment.gov.yk.ca/documents/StratPlan2006.pdf).

The See press release: Drilling Companies Have Good Reason to Hire Yukoners, November 2001 (http://www.gov.yk.ca/news/2001/Nov-01/01-287.pdf).

¹⁷ See press releases: Ministers Lang and Antoine Sign Oil and Gas Agreement, December 2003

⁽http://www.gov.yk.ca/news/2003/dec/03-272.pdf).

Yukon & Alaska Sign Cooperative Agreement, December 2003

⁽http://www.gov.yk.ca/news/2003/nov/03-268.pdf).

Alberta And Yukon Sign Energy Cooperation Agreement, March 2005

⁽http://www.gov.yk.ca/news/2005/05-78.html).

¹⁸ See press release: Premiers, Governor Move Ahead on Pipeline Planning, October 2005 (http://www.gov.yk.ca/news/2005/05-285.html).

improvements that could be made to Yukon's royalty regime, as well as ways to improve infrastructure to encourage mining development and production in Yukon.¹⁹ These could apply to coal mining.

Electricity

New developments in the electricity sector are tied in good part to renewable energy resources and the territory's *Climate Change Strategy*. The Premier announced in April 2007, for example, that it will allocate up to \$10-million in funding for Stage One of the Carmacks-Stewart Transmission Project from Carmacks to Pelly Crossing.²⁰ This project was described as being one of a number of projects aimed at reducing greenhouse gas emissions, cutting down on the territory's dependence on diesel-generated electricity and developing sustainable energy projects.

The Yukon Party's 2006 election platform makes a commitment to public-private sector partnerships in supplying power to Yukon communities, a territorial-wide electrical grid, and continuing to assist Yukoners with access to rural electrification.

One of the most significant developments in the electricity sector is the phasing out of the Rate Stabilization Fund. The initiative is in part a means of sending consumers a message about the true cost of electricity. At the same time, government has said it will target a rate reduction for consumers based on the Power Purchase Agreement with Minto Explorations.²¹

Most of the government's electricity-related energy conservation programs are being delivered by the Energy Solutions Centre. They include short-term incentive programs to educate and encourage market transformation to greater energy efficiency. Neither Yukon Energy nor Yukon Electrical offer any energy conservation programs.

Yukon Energy's 20-Year Resource Plan: 2006-2025, suggests the potential development of coal and/or natural gas-fired generation of electricity, based on future developments in the oil and gas and mining industries. ²² Solar, wind and biomass are largely ruled out as holding any significant growth potential due to lack of economies of scale. These findings are in conflict with alternative energy priorities highlighted under the Climate Change Strategy.

Demand side management is a low priority for the utility due to the abundance of hydro power. The potential is greatest in instance where diesel fuel generation is utilized.

Renewable and alternative energy resources

In addition to the use of hydro energy, there are some demonstration projects and small scale uses of other renewable energy resources, including solar, geothermal, and biomass. Energy Solutions Centre is the primary agent. It works in partnership with the federal government, municipalities, First Nation communities, and in some instances Yukon Energy, to research and support the use of renewable energy technologies applied in a northern environment.

¹⁹ See press release: Yukon Government Sets Sights on Mine Development, January 2007 (http://www.gov.yk.ca/news/2007/07-014 html)

⁽http://www.gov.yk.ca/news/2007/07-014.html).

20 See press release: Yukon Allocates Money for Carmacks-Stewart Line to Reduce Greenhouse Gas Emissions, April 2007 (http://www.gov.yk.ca/news/2007/07-046.html).

²¹ See press release: Electrical Rate Reduction Targeted and Rate Stabilization Fund Extended, May, 2007 (http://www.gov.yk.ca/news/2007/07-091.html).

²² Yukon Energy Corporation 20-Year Resource Plan: 2006-2025, 2006.

There are no funding programs in Yukon designed specifically for energy projects. The Community Development Fund may consider energy projects if the project provides economic benefit to the community. For energy projects, communities generally have to access federal funding programs.

Energy conservation and efficiency

The Yukon government has a range of programs dedicated to energy conservation and efficiency. Most of these programs are delivered through the Energy Solutions Centre and Yukon Housing Corporation. Yukon Housing Corporation has, for example, over ten programs that have residential energy efficiency components.

Yukon Housing has a policy that all new residential construction will meet R-2000 standards, and the Tombstone Visitor Centre will likely be the first project to meet the LEED[™] (Leadership in Energy and Environmental Design) certified standard. Government has been recognized nationally for its energy efficiency programs and initiatives.23

Transportation

Initiatives in the transportation sector are few. Highways and Public Works is pursuing the incorporation of alternative vehicles into the government fleet and monitoring idling rates. 24 The Department of the Environment also holds annual fuel emission clinics for the public. The Climate Change Strategy highlights that the transportation sector is a significant producer of greenhouse gases and mitigating actions need to be taken.

Energy cost relief

The Department of Health and Social Services offers a Pioneer Utility Grant to offset high energy costs for seniors. The Yukon Party's 2006 election platform commits to continuing to index the grant.

In 2006, individuals who received a GST credit received a one-time energy cost rebate from the Yukon Department of Finance. Low-income families were also provided with some energy cost relief through the federal government.²⁵

Intergovernmental collaboration

The Yukon government is a member of a number of regional and national bodies related to energy issues, including the Council of the Federation, Western Energy Alliance, the Council of Energy Ministers, and Pacific Northwest Economic Region.

In May 2006, the Minister of EMR signed an MOU that identified areas of cooperation between the western provinces and territories. ²⁶ As noted earlier, EMR's Oil and Gas

²³ See press releases: Yukon Continues To Lead the Country in Energy Efficiency, December 2004. (http://www.gov.yk.ca/news/2004/04-297.html) and Yukon Wins Third National Energy Award, December 2001. (http://www.gov.yk.ca/news/2001/Dec-01/01-302.pdf).

²⁴ See press release: Smart Car Purchase Signals the Greening of Fleet Vehicles, February 2007.

⁽http://www.gov.yk.ca/news/2007/07-026.html).

Energy Cost Benefit (http://www.cra-arc.gc.ca/benefits/faq_ecb-e.html), Government of Canada, 2006. See press release: Government Helps Yukoners with the High Price of Energy, December 2005 (http://www.gov.yk.ca/news/2005/05-313.html).

²⁶ Memorandum of Understanding: "Energy Across Boundaries", Western Energy Alliance, Calgary, May 2, 2006.

Branch is also drafting a Strategic Action Plan with the governments of Alberta and BC, in preparation for the Alaska Highway Pipeline project.

Energy Policy²⁷ Integration at the Federal and Yukon Levels

With regard to the integration of energy policy measures at the federal level, this sections draws on the assessment of the state of energy policy in Canada published by the Conference Board of Canada under the title Canada's Energy Future: An Integrated Path in June 2007. As noted in the Conference Board assessment, national resource development strategies have in the past focused on low-cost crude oil and electric power as well as ready access to energy resources. The capital, labour and materials needed for the continued development are the current focus of Canada's energy policy efforts.²⁸

The Conference Board assessment argues that an integrated vision and accompanying strategies are required if Canada is to "...realize the economic benefits of continued energy sector growth and meet our obligation to protect the environment for current and future Canadians."29 Key findings presented in the Conference Board assessment include:

- "Energy sector stakeholders are looking to the federal government to develop and communicate a long-term vision and strategy for the sector:
- Future energy policy must reflect cross-cutting issues that arise from the shift to a low-carbon-emitting society:
- Canada's frontier hydrocarbon resources (offshore and northern) are critical elements to Canada's energy future;
- Improvement is required in several strategic areas, including:
 - o carbon emissions reduction within an appropriate time frame;
 - sustainability;
 - renewable energy;
 - o innovation and technology:
 - economic and export competitiveness;
 - transportation sector efficiency;
 - o energy efficiency:
 - electric power (including fuel mix);
 - resource management (particularly in areas of joint federal/regional oversight); and,
 - information collection and dissemination.
- Policy capacity and effectiveness is lagging and needs to be reinforced especially in areas of joint responsibility such as offshore and northern oil and gas resources;
- Energy regulators, particularly in northern Canada and the offshore, suffer from limited resources; and,
- Environmental assessment reviews are burdensome, particularly where federal and provincial responsibilities overlap, and need to be streamlined."30

²⁷ The term policy as it is used in this section implicitly includes legislation. ²⁸ Conference Board of Canada, *Canada's Energy Future*, 2007, page i.

Conference Board of Canada, Canada's Energy Future, 2007, page i.

Conference Board of Canada, Canada's Energy Future, 2007, pp. 3 and 4.

With regard to the integration of energy policy measures at the Yukon level, similar to the federal government, the Yukon does not currently have a comprehensive energy policy per se. The most recent example of a Yukon energy policy is the work undertaken by the Cabinet Commission on energy, published in 1998. With the completion of devolution in 2003, however, the energy policy landscape in the Yukon has changed dramatically as the Government of Yukon is now the lead act on the energy infrastructure stage.

An overview examination of current Yukon energy policies and initiatives indicates that while *de facto* policies in the form of legislation and regulations are in place there is generally an absence of integration between the energy sectors and other sectors or aspects of what could conceivably be included an energy policy. For example, while the Yukon *Oil and Gas Act* and associated regulations effectively constitute an oil and gas policy, little or no mention is made of the cross-cutting issue of greenhouse gas emissions. By way of another example, notwithstanding the requirement for land use planning which flows from the Yukon land claim agreements, little or no mention is made in the energy policies and initiatives reviewed of that requirement.

An example of a comprehensive and forward-looking energy-related policy within a single sector may be found in Yukon Energy's 20-Year Resource Plan 2006-2009.

In addition to the observations above, in terms of Yukon energy policy gaps, the following were identified:

- coal bed methane regulations;
- nuclear energy policy;
- · completion of the draft Oil and Gas Royalty Regulations; and,
- analysis of how land claim requirements and energy policy fit together.

Some of the key findings noted in the Conference Board of Canada's energy sector assessment (*Canada's Energy Future: An Integrated Path*) are also relevant at the territorial level. Notable among the Conference Board findings is that policy capacity needs to be reinforced in areas of joint responsibility including northern oil and gas resources and that northern energy regulators suffer from limited resources.



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