Fueling a Cleaner Future

Balancing the need for more energy and a cleaner environment is our generation’s prevailing challenge.

By taking a sensible, pragmatic approach, we can address both

sequences of certain actions and the need to engage all countries. More than 80 percent of the growth of CO2 emissions is expected to take place in the developing world, with only 15 percent of the growth from developed countries. Climate change is a global problem, and therefore, we need to act collectively.

We need to take steps at home to reduce emissions in effective and meaningful ways. One clear area of opportunity is through energy efficiency. Major technological advances have been made to improve the efficiency of heating, lighting, air conditioning and appliances. On the industrial front, companies have introduced energy-efficient equipment and processes.

At Imperial, we maximize the energy efficiency of our operations. Our refinery is about 16 percent more efficient than it was just over a decade ago. This has produced savings equivalent to providing heat to about 80,000 Canadian homes a year. This pragmatism in action: saving energy while reducing GHGs. Of course, more can be done to improve energy efficiency, and we should be clear that the trend of rising emissions cannot be reversed through efficiency alone. At best, energy efficiency advances can only slow the rate of increase.

The most critical tasks remain – expand the use of economic, lower-emission technologies and advance the search for innovative approaches that can reduce GHGs released through the combustion of hydrocarbons. The situation is clear: if we are to meet growth in energy demands and environmental expectations, we will need to draw on all available energy supply options.

Renewable energy is one option. The use of wind, solar and hydro power will increase, but it is important to put this growth into perspective. For example, with hydro alone, more than 10 percent annual growth rates, wind and solar combined are not likely to contribute more than one percent of the world’s energy needs in the next 25 years. By comparison, as pointed out by the International Energy Agency, more than 85 percent of future energy needs are expected to be met by oil, natural gas and coal. This is the current reality in the absence of major technological advances.

Consequently, balancing demands for energy while moderating the risks of climate change requires a commitment to develop innovative, commercially viable energy technologies that address CO2 emissions. This challenge has implications for industry, and at Imperial, we continue to invest in research and development that could lead to improvements in internal combustion engines resulting in as much as a 30 percent increase in fuel economy and lower emissions.

Reducing emissions from coal-fired power plants must also be a priority, as worldwide CO2 emissions from this type of power generation are more than four times those from light-duty transport. There are promising technologies that involve clean coal power generation and capture and sequestration.

We’re also contributing to research at Stanford University’s Global Climate and Energy Project on possible breakthrough technologies that aim to supply and use energy with significantly lower GHG emissions. The possibilities being studied range from more efficient technologies for transportation and new ways to produce hydrogen to research into underground reservoirs and aquifers for storing CO2.

I like to think of these and other examples as helping us to achieve our CO2 emissions and environmental challenges. The idea is to consider where we need to be 50 years from now to meet these challenges and then to figure out decade by decade how to do it.

Many of the suggestions outlined in climate change and air quality share some common characteristics and are based on practical near-term actions while encouraging the development of long-term solutions. They balance the need for evolutionary and revolutionary technologies. They also allow us to test and evaluate different options over time, and to learn as we go.

What can we do to promote this approach?

First, it is the action of policymakers that have the greatest impact in shaping our country’s shared energy and environmental future, because they create the legal and regulatory framework in which we operate. Often, this is the result of a fact-based understanding of the global energy challenges and the energy industry is an absolute necessity to develop appropriate long-term energy and climate change policies. We also need support from the public in order to achieve meaningful goals and goals at the most efficient manner. Furthermore, additional research and development is needed to create innovative and affordable lower GHG emission technologies. Finally, we must continue to evolve new technology alternatives and thoughtful analysis of costs and benefits. As always, our focus should be to achieve the best environmental results while meeting our energy needs.

In the end, our choices should not be between more energy and more environmental protection; we must find a means of providing and consuming cleaner, more environmentally efficient energy solutions. Now, it is time to act. It is time for honest pragmatism, to move in this direction.

Tim Hayward is chairman, president and chief executive officer of Imperial Oil.
Oil Sands' Green Team

By thinking green and reinventing how oil is extracted, scientists at the Centre for Oil Sands Innovation hope to reduce costs and the environmental impact of future oil sands projects

BY BRIAN BURTON

A NDY MAIN HAS A WAY OF CATCHING PEOPLE BY SURPRISE, sweeping listeners into his ideas with a few well-chosen words. He is a soft-spoken man with a quiet Lincolnshire (U.K.) inflection, but his passion for science is nonetheless palpable. Tall and trim with silvery white hair, he has spent his 25-year career in petroleum research, 21 years in petrochemicals and the past four years in the specialized world of the Canadian oil sands. Main, manager of Facilities and Environmental Research for Imperial Oil, and a handful of his colleagues have a mandate to rewrite the book on how oil is extracted from the vast, tarlike oil sands deposits of northern Alberta. Their assignment is to improve the economics of oil sands extraction and upgrading and, at the same time, reduce the environmental impact of oil sands projects.

Far from daunted, Main says it's a dream assignment for a petroleum scientist. A PhD in chemical engineering, he has no trouble explaining his objectives to the less scientifically inclined.

"There has to be a better way," he says. "At Imperial, we don't believe the current oil sands technologies are the best they can be. We believe oil is essential, but the technologies to mine, extract and upgrade it have to change."

Current mining practices rely on what Main calls "brute force" technologies, which require massive operations to break open the stubborn oil sands and separate a very heavy grade of crude, called bitumen, from the sand. But Main says those technologies require too much steel equipment and energy, leaving too big a footprint on the environment.

The oil sands industry needs "technology breakthroughs" that will lead to "radically new processes," he says. "We're looking for significant reduction in capital and operating costs that will deliver proportionately smaller environmental impacts."

There is a certain urgency to finding these new technologies. Main points out that oil provides 36 per cent of the primary energy the world uses for industrial output, transportation, heat, light, and air conditioning and petrochemical products, which include medical supplies, making it the planet's largest single source of energy and an indispensable ingredient in nearly everyone's livelihood.

Small wonder, then, that Alberta's oil sands are attracting dozens of project proposals with investments totalling approximately $90 billion. These deposits are among the few places on earth where major oil production can actually be increased over the long term. And the oil is there for the taking, no exploration required. In northern Alberta, the oil sands resources that are considered recoverable with today's technology are placed at almost 175 billion barrels—second only to those of Saudi Arabia (260 billion). That's less than one-tenth of the total oil in place—some 1.7 to 2.5 trillion barrels—if the right technologies can be brought to bear.

"It's a challenge we have to take on for the sake of the environment and the economy," Main says.

"Editor's note: Regrettably, a short time after this article was written, Dr. Andy Main passed away after a lengthy battle with cancer. He will be deeply missed by his family, friends and colleagues. This article is dedicated to his memory."
In northern Alberta, the oil sands resources that are considered recoverable with today's technology are placed at about 175 billion barrels, second only to those of Saudi Arabia (260 billion). That's less than one-tenth of the total oil in place.

This dilemma, in fact, was the motivation behind the development of the Centre for Oil Sands Innovation (COSI) at the University of Alberta. In October 2004, Imperial, Aphrodite, and the University of Alberta would give COSI $10 million over five years to find new and better ways to extract and upgrade bitumen from the vast sand-laden, tarlike deposits of northern Alberta.

"COSI is about developing more cost and energy efficient processes, specifically in bitumen extraction and upgrading," Main says. "The company of the owner of Alberta's largest steam injection project at Cold Lake, Alta., and a 25 percent owner of Syncrude Canada, the world's largest oil sands mine, is now planning a major foray into surface oil sands mining. The proposed Keal project would be a new three-phase mining project on the company's Keal lease near Fort McMurray in northern Alberta. Main says eventual COSI break-throughs will change the way their operations are conducted and improve the environmental footprint of the project."

"The industry focus has been on tweaking existing technology," Woywod says. "There needs to be step-wise change in the technology that leads to a dynamic reduction in the environmental footprint." So on that basis, he supports Imperial's COSI initiative. But he says technology alone is "not a silver bullet." PetroChina is pushing industry to prove and implement new technologies before proceeding with any more projects.

Gray and Main, however, hold a shared vision of the oil sands mining project of the future — one with radically lower water use, no tailings ponds and significantly reduced energy consumption and emissions.

Their vision involves using continuously recycled solvents to separate sand and clay from bitumen and dramatically reduce water consumption, as well as using catalysts to enable low-temperature upgrading. That would end the need for brute force extraction and provide a basis for longer-term sustainability and profits based on temperature and pressure, with very high capital costs and a lot of energy consumption.

Nano-technology — the precise design and control of materials with world-class capabilities to conduct oil sands research

Imperial's COSI investment is the company's biggest contribution to a university and the largest donation ever received by the University of Alberta (U of A) in Edmonton, and much of the hands-on science is done there. U of A, he explains, has world-class capabilities to conduct oil sands research.

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Picturing Canada

Through his photography, George Hunter has brought the world to Canada and Canada to the world

BY MARCIA KAYE

MACKenzie King once famously complained that Canada simply has "too much geography," and millions of impatient commuters and travellers might agree with him. But not George Hunter. There can never be too much geography for George Hunter.

Hunter has crisscrossed Canada at least a hundred times and would willingly do so again at the drop of a lens cap. Known as Canada's Location Photographer, he has visited virtually every nook, cranny, peak, prairie, main street and outpost in this vast country, documenting it all in a monumental body of work that spans a remarkable seven decades. Not only has he loved every minute of it, but he always got the shot he was after, despite his numerous close calls with plane crashes, shipwrecks, mine explosions and a moose attack. Even now, at a vigorous 85, he's ready at a moment's notice to grab his cameras and hop on a plane, train or helicopter, anywhere, anytime.

"Canada is my backyard," says Hunter, who is based in Mississauga, Ont. "I feel just as much at home walking down Georgia Street in Vancouver or up Spring Creek Road in Halifax as I do in downtown Toronto."

Even if you may not recognize Hunter's name, you're almost certainly familiar with his work. In fact, you've probably carried small reproductions of his photographs in your pocket or purse. Remember the wooden-hulled salmon seiner pictured on the back of the blue five-dollar bill in the 1970s and 1980s? That was a George Hunter photo, shot in British Columbia's Johnstone Strait. How about the refinery shown on the back of the purple 10-dollar bill of the same vintage? Also a George Hunter, taken in Sarnia, Ont. If you were at Expo '67 in Montreal and visited the Canada, Western Provinces, Ontario or Quebec pavilion, you would have seen his photographs. Canadian stamps have also borne his photographic images, including a memorable one of a northern Quebec woman hanging a beaver pelt up to dry.

"George's work has made its way into the Canadian conscious," says Andrew Rodger, a photographic archivist with Library and Archives Canada (the former National Archives in Ottawa), which houses several thousand Hunter photos. "He has provided views of Canada that have reached around the world." While Hunter specializes in location photography for government and corporate clients in petrochemical, mining, forestry, manufacturing and travel industries, his photos of the Inuit of the High Arctic from the 1940s are still garnering international attention. In the past year or so, he has had major exhibitions in Las Vegas, Yellowknife, Calgary and Mississauga.

Hunter has worked variously as a photojournalist, documentarian, commercial photographer and travel photographer, creating photos that are more than historical or geographical records; they're works of art. His prints form part of the permanent collections of public galleries in every province, as well as Yukon and Northwest Territories. He has also brought the world to Canadians: his images from 50 countries formed, in 1972, the National Film Board's long-running People of Many Lands show.
Providing an exotic window into countries such as Liberia, Iran, Senegal, Upper Volta, Guatemala, Cambodia and the South Pacific island nation of Tonga.

An avid private collector of Hunter prints is David Goldstein, a Toronto-area physician and amateur photographer who displays several of Hunter's two-metre-wide panoramas of Canadian landscapes both in his home and in his medical offices. "They're breathtaking, and they demand you look at them," Goldstein says. "Patients always ask me who took them. There is no other photographer like George. He's a national treasure."

Digital technology has revolutionized how photos are captured and printed, but Hunter, who moves, speaks and acts like a much-younger man, welcomes the changes. Several years ago he converted to digital processing and scanning, and his enormous home studio houses three powerful Macintosh computers as well as an older PC. He's not the least bit sentimental about having given up his darkroom equipment. "In the darkroom if you wanted to lighten something up on a print, you'd have to 'burn and dodge' the image onto the paper under the enlarger, holding your hand under the lamp, all the while trying not to jiggle the light. With the computer it's wonderful now. For more control, and it's consistent if you want to make multiple prints — you hit it once and it's fixed forever. I don't miss the darkroom at all." He adds, though, that despite the newer technologies, photography hasn't really changed. "I liken it to carpentry. In the old days they'd use hammer and nails and now they use cordless screwdrivers, but the house looks just the same."

A prairie boy, Hunter was born in Regina, where his father worked as a travelling salesman for Imperial Oil. When the family moved to Winnipeg during the dust bowl days of the 1930s, enterprising young George campaigned to get himself voted as his school's representative to the 1937 coronation of George VI at Westminster Abbey. The 15-year-old sold some stocks he'd purchased with his paper route money to buy his first camera, a Voigltlander Bessa. On the six-week trip, during which he made an unchoreographed detour to bike solo around Ireland, Hunter discovered what would become his two lifelong passions: travelling and taking pictures. On his return he created a magic lantern show to give illustrated lectures of his trip to the folks back home.

Hunter began freelancing for local newspapers, learning never to come back to the office without the shot. Within a few years he had a number of corporate clients, including major mining companies who wanted shots of mines and miners for their corporate headquarters, annual reports and calendars. He soon became a specialist in underground photography and was sent to mines all over the country, from Bell Island, Nfld., to Com Mine (near Yellowknife, N.W.T. He loved the continual challenge of making pictures in hazardous pitch-black environments that couldn't have been more photography-friendly. "There's not a single picture ready to be taken underground," he says. "You have to build it with lighting to preserve the underground atmosphere. I couldn't even carry my headlight on my hat because it got in the way of the camera. I had to carry it on my belt."

Hunter's toughest shot involved 102 metres of lamp cord attached to flashbulbs positioned in 10 different locations and hidden from view among the rocky ledges. The result is a dramatic, artfully lit black-and-white shot of miners at work. "I don't know how I got through all those years without falling into an ore chute or something," he says cheerfully, "although once..."
Hunter never tires of visiting places he's seen before, because to a photographer's eye, the scene is always changing.
"George has photographed Canada from east to west and north to south, capturing the essence of this country during its growth period."

N.S., a professional photographer whose work has appeared in the Toronto Star, Maclean's and Rolling Stone, says, "I feel honoured to be asked, and to study at the feet of the master." Louis Perrin, a Calgary pictorial photographer who helped Hunter shoot a corporate calendar two years ago, says, "It was on the ground directing traffic and there's old George - and he's not a young fellow - way up in a cherry picker taking the picture."

Hunter is currently the driving force behind the creation of an organization to preserve Canadian heritage photos and make them available for public viewing. He is steadily persuading influential people to support his idea. Retired plastic surgeon Neville Fox, who is in addition to being the brother of the former governor general Adrienne Clarkson is also an accomplished photographer, says, "George has photographed Canada from east to west and north to south, capturing the essence of this country during its growth period. His work is archival, and I'll support any move to have it preserved and displayed."

Despite the advent of video, still photography remains a powerful and essential medium. As Hunter says, if you're car shopping you need to see a photo on a printed page, not a video of the car sneaking by. Moreover, a still photo can transcend language, culture and time. Hunter tells of an acquaintance, raised in Africa, who was recently flipping through Hunter's latest series when he stopped at a particular print. "I know that picture," he cried. "That's a Hudson's Bay post. Those are fox furs being traded for sticks. My teacher showed us that picture in a schoolbook."

When Hunter asked where, the man replied, "Dar es Salaam, Tanzania, in 1965." - four decades and half a world away. As Hunter says today, "That's an illustration of the strength and endurance of a single photograph."
Contributing to Cleaner Air

The recent completion of a multimillion-dollar refinery project promises fewer vehicle emissions and cleaner air

By Paul Miller

While heading out past the sleek new head office of Challenger Motor Freight Inc. in Cambridge, Ontario, our freightliner Columbia tractor-trailer—a classic 18-wheeler capable of hauling more than 19,000 kilograms (42,000 pounds) of cargo—pulled steadily through 10 forward gears toward nearby Highway 401. With a 12.8-litre Mercedes-Benz turbocharged diesel engine and a maximum fuel capacity of 1,000 litres, our rig has an effective range of more than 3,000 kilometres, enough to take us within shouting distance of Brownsville, Texas; smack up against the U.S.-Mexican border. On this outing, however, the destination of my “chauffeur,” Challenger Freight driver Mike Watts, is considerably scaled down. He’s hauling 135,000 pounds of recycled plastic, along with a joyriding writer banker for a ride of the open road, to a plant in Woodbridge, Ont., where it will be manufactured into building materials.

According to Transport Canada, there are more than 279,000 Class 8 trucks—the heavy haulers like our rig—in this country, part of a total commercial trucking fleet of about 600,000 vehicles. On this particular afternoon, each one of them appears to be out on the 401 between Toronto and Windsor, one of Canada’s busiest traffic corridors. Driven by the modern business imperative of “just-in-time” manufacturing and aided by computer-controlled inventory programs and satellite tracking systems, the trucks on this busy stretch of highway have become, in effect, huge mobile warehouses, carrying thousands of finished products, as well as raw materials for manufacturing, to tens of thousands of destinations. Along this highway and others across the continent, trucks move about 90 percent of the consumer products and foodstuffs used in Canada, and two-thirds of our trade with the United States.

And yet, as I can see from the plumes of black smoke streaming out the exhaust pipes of heavy laden vehicles as they labour up the inclines of the Niagara Escarpment, there is a price to be paid for the essential contribution that trucks make to our economy. Exhaust smoke is a major source of particulate matter (suspended particles in the air). Under certain conditions, particulate matter can combine with inorganic vehicle exhaust emissions of nitrogen oxides (NOx) and volatile organic compounds (VOCs) to form smog, which then hangs as a brownish-yellow haze in the air of my home city of Toronto and other urban centres across the country.

But soon, the smog-causing emissions from trucks—both visible and invisible—will start on a steep downward path. A new generation of heavy-duty diesel engines, coming to market in the 2007 model year, will produce about 49 percent less particulate matter, 95 percent fewer NOx and 89 percent fewer VOCs than the engines that immediately preceded them.

“The smog-free truck is here,” says David Bradberry, CEO of the Canadian Trucking Alliance, a federation of provincial trucking associations representing more than 4,500 trucking companies. “And with its arrival, the Canadian trucking industry will be able to continue playing its vital role in the Canadian economy, while also contributing to a steady improvement in Canadian air quality.”

The introduction of the smog-free truck is being made possible by the availability throughout North America of a new kind of diesel fuel—known in the industry as ultra-low sulphur diesel, or ULSD—that contains 97 percent less sulphur than the fuel that immediately preceded it. Imperial invested $500 million and employed the talents of 5,000 people during two years of construction to enable all of its Canadian refineries to meet a June 1, 2006, target for the production of ULSD that had been set by the federal government.

“Only a few years ago, you would not have heard an environmental group talk about diesel as a solution to environmental problems because of its high particulate emissions,” says David Hargens of the Office of Transportation and Air Quality of the U.S. Environmental Protection Agency (EPA). “But if you are looking for solutions that are safe for both users and non-users, as well as being visible, which is to say available, stable and affordable, then you have to look at diesel.”

The introduction of ULSD is part of a long-running saga of continuous improvement in fuel quality, which has paved the way for the introduction of increasingly sophisticated vehicle emission systems. Those systems, in turn, have contributed to steady improvements in Canadian air quality, particularly in our cities.

“One of the earliest and most significant initiatives was the introduction, about three decades ago, of unleaded gasoline,” says Cindy Christopher, manager of safety, health and environment in
Imperial's products and chemicals division. "Since then, ambient lead levels in Canadian cities have fallen by more than 90 percent."

Equally significant, the availability of unleaded fuel allowed the introduction of vehicle catalytic converters, which use a catalyst (that is rendered ineffective by lead) to convert harmful exhaust emissions such as carbon monoxide, NOx, and VOCs into nitrogen, water and carbon dioxide. Subsequent generations of catalytic converters were treated with relentless more powerful on-board computers that further reduced emissions and improved engine efficiency by precisely controlling fuel injection and other functions.

Imperial and others in the petroleum refining industry responded to the growing prevalence of fuel injection by introducing detergent gasoline, which contains additives that prevent the buildup of deposits on fuel injectors, enabling engines to continue operating at peak efficiency.

"It's almost unbelievable progress that's been made in the automotive sector in the last 35 years," says the EPA's Haggerty. "Compared to the cars and trucks sold in the 1960s, today's vehicles are 98 percent cleaner."

By the 1990s, monitoring data indicated that despite steady improvements in general air quality across the country, these brown days were continuing to occur with dismaying regularity, turning smog into the number one air quality problem in North America. Not only was smog implicated in a variety of human respiratory problems, it was also suspected of causing damage to vegetation, including important commercial crops such as soybeans, tomatoes, corn and wheat.

Sunlight, wind, steam formation, and in Canada, smog occurs year round. It is of major concern in southern areas such as the Lower Fraser Valley of British Columbia, the Windsor-Quebec corridor of central Canada and areas around Saint John, New Brunswick. Combating the Canadian battle against smog is the fact that in certain parts of the country at certain times of the year, up to 80 percent of the smog-forming compounds in the air are not produced locally but drift across the border from the United States. During the 1990s, Imperial launched a series of voluntary measures aimed at cutting emissions of smog ingredients. These included the introduction of less-toxic summer gasoline in smog-prone regions. Additionally, in the most smog-prone regions, tank trucks used in the delivery of products to retail gasoline stations were fitted with systems to recover vapors which would otherwise be released to the atmosphere, as were the distribution terminals where the tank trucks refilled. A major program to find and stop minor leaks at refineries and the chemical plant has also reduced emissions of VOCs by up to 90 percent.

Despite these and initiatives by other industries, smog continued to be the major air quality issue across much of the continent. In response, in the mid-1990s, the U.S. Environmental Protection Agency issued its so-called "Tier 2" standards for automotive exhaust emissions, which would apply to 2004 and subsequent model-year vehicles. The 2004 vehicles were up to 95 percent cleaner in terms of smog-forming compounds compared with those of the previous model year.

As they set out to meet the aggressive new emission standards, vehicle manufacturers discovered that the new generation of catalytic converters required to attain the targets would not function properly with the levels of sulphur then prevalent in North American gasoline. In effect, the sulphur poisoned the catalyst, just as lead had done to early catalytic converters and new passenger-car engines. To support the new emission standards, the EPA issued regulations that required the sulphur content of gasoline to be reduced by January 1, 2005, to levels that would not harm the new pollutants control equipment. A few years earlier, the agency established similar guidelines for heavy-duty trucks engines, which required an even greater reduction in the sulphur content of diesel fuel.

Given the highly integrated and interrelated nature of the North American vehicle manufacturing and trucking industries, the government of Canada eventually settled on similar regulations for Canadian fuel, albeit with some timing differences from the United States. The requirement to dramatically reduce the sulphur content of its gasoline and diesel fuels in a few years triggered for Imperial— and for the domestic refining industry in general—the largest fuel oil investment program in its history. As Canada's largest refiner and marketer of petroleum products, Imperial alone has spent more than $1.2 billion on sulphur-reduction projects at its four Canadian refineries in the past five years. The gasoline project was completed in October 2005 at a cost of $650 million in November 2003, cutting the sulphur content of all Esso gasoline manufactured at the company's refineries by more than 90 percent. That was followed, almost immediately, by the diesel project, which Imperial completed at all its refineries in May 2006.

As a result, the stage has been set for further improvements in Canadian air quality. Testing the Tier 2 car engines with low-sulphur gasoline and the 2007-2008 model year gasoline vehicles with ultra-low-sulphur diesel fuel will contribute to an additional 80-90 percent reduction in smog-producing emissions by the year 2020.

The pace of the improvement will be gradual, notes Gilles More, a senior regulatory affairs adviser in Imperial's products and chemicals division. "The sulphur in road diesel was not, in itself, an environmental problem. So removing almost all of it doesn't change the air quality conditions. Instead, low-sulphur fuels are an enabler. They allow the introduction of increasingly sophisticated vehicle emission systems—and that's what will contribute most to a steady improvement in air quality. The pace of future air quality improvement will therefore depend, to a considerable degree, on the rate of turnover of the vehicle population.

Today, new vehicles represent only eight percent of the 18.7 million vehicles on Canada's roads and less than one percent of total emissions.

According to David Adams, president of the Association of International Automobile Manufacturers of Canada, "The real offenders are the existing million 1987 or earlier model-year vehicles still in operation on Canada's roads. In perspective, it would take 37 of the 2006 model-year vehicles to emit the same emissions as just one 1987 model-year vehicle."

That why, for the past six years, Imperial has sponsored the Clean Air Foundation's Car Heaven campaign.

"Our program provides practical incentives to motivate Canadians to accelerate the retirement of their higher-polluting vehicles and to promote a shift to newer, cleaner and more efficient technologies," says the Clean Air Foundation's executive director, Ernie Serdula.

To date, more than 44,000 high-polluting vehicles have been retired through the Car Heaven program, resulting in reductions of more than 32,000 tonnes of greenhouse gas emissions, 19,000 tonnes of carbon monoxide and 5,000 tonnes of smog-forming compounds.

As important as reduced vehicle emissions are in the continuing quest for improved air quality—and as significant as Imperial's investments have been in recent years—transportation is not the only arena where the company is working on environmental progress.

During recent years Imperial has played a leading role in what is often described as a groundbreaking initiative by the Canadian Petroleum Products Institute—working with the Canadian Council of Ministers of the Environment—that promises to achieve significant reductions in emissions from petroleum refining.

"The starting point in discussions with government was that if alignment across North America could work for fuel-quality standards, it might also work for setting emission standards for refineries," says Imperial's Christopher. "After further analysis and dialogue, we concluded that the U.S. refineries have the most stringent air emissions requirements in the world and that future regulations for Canadian refineries should reflect the performance of comparable U.S. refineries."

Caps on targeted emissions are set by local and provincial authorities on a refinery-by-refinery basis, reflecting the size and configuration of the plant in question and a variety of local factors. The initial caps, based on benchmarking of the U.S. refining industry carried out two years ago, will result in very significant reductions. For example, emissions of sulphur dioxide from Imperial's Sarnia refinery are slated to fall by 50 percent by 2009. Moreover, the targets are not static. Every three years another benchmarking will be carried out and the targets for Canadian refineries may be adjusted accordingly.

"Probably the most encouraging aspect of this agreement from the industry's perspective is that governments in Canada are not prescribing how we meet the targets," says Christopher. "They are allowing each company to harness the ingenuity of its people and their intimate knowledge of these very complex manufacturing facilities to find the most effective way to achieve the required reductions."

Emission reductions are by no means limited to Imperial's refining, chemical and marketing operations. In the upstream, an investment program is currently underway to reduce emissions of sulphur dioxide from the company's Gold Lake operations by 25 percent by the end of 2007. As well, Imperial has reduced the flaring of natural gas produced during oil production to the degree that 99.8 percent of the gas is now recovered, the highest rate of recovery among the top 50 oil producers in Alberta.

"Although the achievements of these programs are heartening news, we aren't ready to relax on air quality," says Christopher. "It's a complex issue and we know Canadians are concerned. We need to understand what the overall result will be with all the improvements underway, and then, in collaboration with other industry, governments and consumers, define what else needs to be done. However, we've done a lot of good work and we are clearly headed in the right direction."

18 Winter 2006/2007
INTERNATIONAL OIL REVIEW 19
Canada's Upstart Child

Alberta was founded by mavericks — men and women who were adventurous, tenacious and arrhythmic. To understand the province, you need only look to its past.

BY BRIAN BERGMAN

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Then the Canadian family, Alberta is the upstart child. Yes, Quebec is probably the more spirited — as two separation referendums, and counting, quickly attest — and Newfoundland is certainly the more flamboyant. But for sheer chutzpah (in reality, a curious mixture of cockiness and ingrained insecurity), it's hard to match the Wild Rose province.

Alberta is the place where political movements and leaders are matured and then exported (think of the Reform Party of Canada and our current prime minister) in an attempt to shake up the status quo. Its oil wealth is also transforming the country's economic and social dynamics. Thousands of newcomers arrive in the province each year — people who, in many cases, become Alberta's most fervent boosters.

In Alberta, as elsewhere, the past informs the present and gives us strong clues as to the future. Starting with the early fur traders and explorers, Albertans (then part of the vast Northwest Territories) proved a magnet for those seeking new beginnings and opportunities. The same held true for the ranchers, homesteaders and oil wildcatters who followed in their wake. Here, pedigree mattered less than perseverance, and the possibilities for reinvention seemed endless.

It's the kind of culture that attracts risk-takers and rewards innovation. It's a place that, for good or ill, embraces mavericks.

When Calgary-based novelist Arthia van Hek was invited by Penguin Books (Canada) to write a popular history of Alberta, she thought long and hard about how to best explain her native province to the rest of Canada. As she trolled through the lives and exploits of the men and women who founded and fostered Alberta, she kept coming back to this theme of dogged independence. The title of her best-selling book says it all: Mavericks. An Incorrigible History of Alberta.

In February 2007, Calgary's Glenbow Museum will open a new 21,600 square foot permanent exhibition of the same name, to which Imperial Oil made a substantial contribution. Building on van Hek's book, and with the author's assistance, the museum's $12 million showcase tells the history of Alberta through the life stories of 48 Alberta mavericks, from early explorer David Thompson to such modern-day icons as Peter Lougheed.

What follows are the stories of five of these individuals, drawn from a variety of fields including politics, ranching, and the oil and gas industry. At first blush, the populist premier William Aberhart, the determined feminist Henrietta Muir Edwards, the gutsy rancher John Ware, the pioneering geologist Helen Belyea, and the crusading journalist Bob Edwards might appear to have little in common. But they do.

All were outsiders who came to Alberta from other parts of the country or the world, either in mid- or late age. They changed Alberta — but, just as important, they were changed by their experiences here. In Alberta, they found their voice and their vocation. They were free to realize their maverick visions.

There are certain politicians who define their vis by embodying all the hopes, aspirations and fears of the voters who put them in office. Newfoundland's Joey Smallwood was such a politician, as were Quebec's René Lévesque and Maurice Duplessis. Alberta, arguably, has produced more than its share of electoral titans, including premiers Ernest Manning, Peter Lougheed and, of course, Ralph Klein. But at no point in Alberta's history did the times and an individual come together so intricately and so dramatically as when William "Bible Bill" Aberhart strode onto the provincial scene in the mid-1920s, at the height of the Great Depression.

By Alberta standards, Aberhart's time in office (from 1935 until his death in 1943) was brief. It was also turbulent, dys-functional — and endlessly fascinating. Many of Aberhart's major initiatives, including legislation to control the banks and muzzle the media, were struck down by the federal government as unconstitutional. Yet his political footprint was enormous. Aberhart founded the Social Credit Party, which went on to rule Alberta for 36 consecutive years. He also championed a brand of campaigning and governing — charismatic, populist and constantly on guard against those whom Aberhart called "the big shot" of Central Canada — that has defined Alberta politics ever since.

Ironically enough, Aberhart was himself a son of the Canadian heartland, born and raised on a farm in Pith County, Ontario, and later trained as a teacher in Hamilton. He moved to Calgary in 1912, at the age of 12, and five years later became principal of Crescent Heights High School, then the city's largest public school.

An active fundamentalist lay preacher, Aberhart founded his own religious training school, the Calgary Prophetic Bible Institute, in 1927. Two years earlier, he'd begun to use the new medium of radio to broadcast his weekly religious lectures across Alberta. By 1935, his back to the Bible Hour had a radio audience of more than 350,000.

By 1932, Aberhart had come under the sway of "social credit" economic theories espoused by a British engineer, Major C.H. Douglas. These called for the creation of "new money" to comform the power of the few financiers who were said to control the world's monetary system. Aberhart brought these theories to the airwaves and his listeners embraced them as a possible solution to the ravages of the Depression. His crusade for a new political movement, with the newly minted Social Credit Party capturing 36 of 63 ridings in the 1935 provincial election.

The chief promise made by Aberhart during that election was a $25-per-month dividend for every Albertan to buy basic necessities. It never materialized. Instead, he was faced with a $130 million provincial debt and the prospect of being unable to meet the civil service payroll. Aberhart announced a scheme to sell "prosperity certificates" — a version of credit that could be exchanged for goods. Albertans were asked to sign loyalty pledges to the Social Credit government to receive the certificates. The proposal, widely derided as "funny money," never got off the ground.

The west was yet to come. The Alberta legislature passed legislation to write control of the banks, only to see it struck down by the courts. A similar fate awaited Aberhart's Accurate News and Information Act, which would have required newspapers to reveal their sources and to print government statements verbatim.

Aberhart, in power, was a polarizing figure. The elites — the media, the courts, academia — universally detested him. The people, though, never lost faith and he won a second majority government in 1940. Only his death, a year later, finally unseated him.

Ernest Manning, Aberhart's protege and father of future Reform Party leader Preston Manning, served as Alberta's premier for the next 23 years. But the populist revolt Aberhart had led was largely over. Manning scrapped the more radical precepts of Social Credit and allied the party increasingly with big business interests, especially the province's emerging oil industry.

So what to make of the Aberhart phenomenon? University of Calgary historian Douglas Francis, who has studied the leader, said Francis, who has studied the leader, said he'd known how to appeal to the people to make sure he had strong grassroots support. And he capitalized on this belief that the West has always been victimized by eastern interests. He identified the characteristics of Alberta politics that allowed leaders who followed his example to remain in power for a very long period of time.
Henrietta Muir Edwards
Henrietta Muir Edwards was Canada's foremost expert on women and the law

Emily Murphy, Nellie McClung, Louise McKinney and Irene Parlby – in using a little-known section of the Supreme Court of Canada Act that allowed any five individuals to petition for the clarification of the BNA Act. The Alberta five challenged a section of the BNA Act that said women were not persons "in matters of rights and privileges." The provision was being used to deny women the right to serve in the Senate. In April 1928, the Supreme Court of Canada upheld the BNA wording. The Alberta five then persuaded Prime Minister Mackenzie King to appeal the decision to the judicial council of England's Privy Council.

On October 18, 1929, the committee overturned the Supreme Court, declaring that "persons" referred to both genders. The exclusion of women from public office, wrote the committee, was "a relic of days more barbarous than ours."

Marilou McPhedran is a lawyer and modern-day women's rights activist who was partly influenced by the actions of Edwards and the rest of the Famous Five. In the early 1980s, McPhedran participated in the grassroots campaign that ensured women's equality rights were enshrined in the Canadian Charter of Rights and Freedoms – a battle very reminiscent of the Persons Case. And in 1985, she co-founded the Women's Legal Education and Action Fund (LEAF), which has followed the example of the Famous Five by pursuing what McPhedran calls "high-impact" litigation.

"The Persons Case was the earliest example of successful, high-impact litigation on women's rights in the Western world," says McPhedran, who is currently co-director of the International Women's Rights Project at the University of Victoria. Edwards grasped very early on that making a change in a single piece of legislation could have a direct impact on the lives of millions of women. What she and the other members of the Famous Five did was launch a crucial first step in a struggle that has just never ended.

The Golden Era of Racing
In Alberta actually predates the birth of the province. The great cattle drives of the 19th century, across a frontier extending from Texas to what was then the Northwest Territories, produced an outgrowth of legend and folklore. But perhaps the most intriguing figure of all was John Ware, a black man who was born a slave on a small cattle and horse ranch in northern Texas and who first crossed the border into Canada in 1866; at the age of 12.

Ware worked on two of the largest corporate ranches of the day, the Bar U and the Quaro, both nestled in the Rocky Mountain foothills west of Calgary. It went on to establish its own cattle brand and ranch while earning a reputation as a first-rate horseman. Ware was genuinely loved and respected within the ranching community – and this at a time when race was an ugly fact of life on both sides of the border.

Black cowboys were actually quite common in the American Southwest, many of them having gained valuable experience working with horses and livestock prior to the Civil War. On the Canadian plains, though, they were a rarity. For Ware, this might could have made him a target of scorn, and there are, in fact, accounts of him being refused accommodation and taunted because of his race.

But Ware's talent and good nature stood him in good stead among his peers. After working with Ware during the 1887 roundup, A.E. Cross, a prominent rancher who went on to help found the Calgary Stampede, described him as "a splendid cowhand and the greatest bronco rider in the West." And in 1892, when Ware married Mildred Lewis, a young black woman who had recently immigrated from Toronto, the announcement in the Calgary Tribune observed that "probably no man in the district has a greater number of warm personal friends than the groom, Mr. John Ware."

John and Mildred had six children in quick succession. The family grew in lockstep with Ware's ranching operation, which at its height included 100 homes and 1,000 cattle – stable numbers for the times. At 190 centimetres (6'7") and 90 kilograms (200 pounds), the man who could wrestle a 675-kilogram (1,500-pound) steer in less than a minute must have struck many as indestructible. But he wasn't. The loss of his youngest son, Daniel, at the age of two in 1904, followed a year later by Mildred's death from typhoid and pneumonia, devastated Ware. On September 12, 1905, less than two weeks after Alberta became a province, Ware was crushed
to death in a freak riding accident on his ranch. George Lane, owner of the famed Bar U ranch, took change of Ware's funeral arrangements, declaring that "the best for this man is not good enough."

Loran Loumberry, senior curator of cultural history at the Glenbow Museum, has closely studied those early ranching years. She says that when men like Lane and Cross sang your praises, people took notice. "The ranching community looked at a person's skills, and that's what made John stand out first and foremost," says Loumberry. "He also built a good life for himself and his family and did it at a time when colour was something that could be held against him. John overcame all that and is still looked upon as one of the greatest cattlemen and horsemen of the era."

“John overcame all and is still looked upon as one of the greatest cattlemen and horsemen of the era”

Edwards grasped very early on that making a change in a single piece of legislation could have direct impact on the lives of millions”

"Edwards grasped very early on that making a change in a single piece of legislation could have direct impact on the lives of millions“
Helen Belyea was always ahead of her time. She was born in Stittsville, N.B., in 1913, and her childhood exploration at the rugged Maritime shoreline fostered an early interest in rock formations. While still in her teens, Belyea moved to Halifax, where she earned a bachelor's degree and a master's in geology from Dalhousie University, before heading to the United States to complete her PhD in geology. She did all this at a time when very few women pursued advanced degrees, and fewer still specialized in the sciences.

Despite her impeccable credentials, Belyea had difficulty finding work after graduating from Northwestern University in Evanston, Illinois, in 1939. She taught high school science in Toronto and Victoria before serving as an intelligence officer with the Women's Royal Canadian Naval Service during the Second World War.

Belyea's big break came after she joined the Ottawa-based Geological Survey of Canada (GSC) in 1945. Two years later, oil was discovered at Imperial Oil's Leduc No. 1 oil well near Edmonton, an event that propelled Canada's oil industry into the modern era. When the GSC opened an office in Calgary in 1950, Belyea was one of two geologists transferred to the city. For the next 20 years, she worked as a petroleum geologist and helped to bring the Canadian petroleum industry into the century. For all her expertise, Belyea faced career obstacles because of her gender. A crucial part of geology is fieldwork in remote locations. But it was considered inappropriate in the 1950s to send a woman on such expeditions. Calgary geologist Brian Norford, who as a young man worked with Belyea, recalls that she braved at these restrictions. "But she also realized that it's hard to move a mountain," says Norford. That's one reason Belyea specialized in subsurface interpretation, work she could do largely in the lab. As it turned out, her detailed studies of the Devonian reef, laid the foundation for extensive oil and gas exploration and the industry that remains Alberta's economic bedrock.

Eventually, Belyea was allowed to go into the field, where she proved the match of any man. Although only 145 centimetres (4'9") and 45 kilograms (100 pounds), Belyea was extremely fit, the result of her many athletic hobbies, including hiking, horseback riding, swimming and skiing. By all accounts, Belyea proved a friendly, feisty and down-to-earth companion who worked hard during the day and had a bottle of Scotch at the ready for the evenings.

In 1962, Belyea was elected a fellow of the Royal Society of Canada. Prior to her death in 1986, at the age of 73, she amassed several honorary degrees and citations, including being appointed an Officer of the Order of Canada. When asked not to write a eulogy, she never married, Belyea replied, "Perhaps it's because I didn't meet a man who could accept my independence."

Belyea served as a role model and mentor for the dozens of women who followed her in the field. "She was a leader in the acceptance and prominence of women in the sciences," says Norford, who notes that 40 percent of geology graduates these days are female. "Helen's uniqueness was that she said these things when women were discouraged from being part of the profession."

Bob Edwards

The Eye Opener founder and publisher helped define public discourse in Alberta

Although nominally a Conservative, Edwards was no partisan. "The Progressive Conservative Party is non-existent," he wrote in 1936. "The parties have all been cut out of it by a host of corporation magnates." In fact, the most famous "skeptic and critic" attributed to Edwards nearly sums up his view of the political classes. "Now I know what a statesman is-he's a dead politician. We need more statesmen." Edwards also poked fun at the land and building boom that gripped Calgary in the early 1930s. "The First Great World War. He ladled out real estate speculators and declined to accept ads from those he considered shady characters, which included almost everyone. When friends urged him to get in on the good times by buying property, Edwards replied in print. "Why should I bother to make more money?" he wrote, "I couldn't eat any more and I shouldn't drink any more." An infamous imbiber, Edwards surprised everyone by supporting Prohibition in 1913. The reason? He disagreed with hoteliers charging the same rate for a room as they did for hard liquor, encouraging motorists to choose the latter. Edwards changed his mind after witnessing the widespread bootlegging that followed Prohibition—and he missed no opportunity to write about the "prohibitionists" that Alberta's chattering classes indulged in.

The Eye Opener effectively died with Edwards, who was bound along with a copy of the paper and a flask of whiskey after suffering a fatal heart attack in November 1922. But if Archie van Horck could have her way, she'd resurrect the old camaradeau. Of the dozens of characters van Horck fashioned for her book and the Glenbow exhibit, Edwards is one of her favourites. "What I love is his fearlessness," she says. "He would take on anyone and do so using the tool that is closest to my heart, the pen. We get so little of that today, especially in our newspapers."

Like all the other great Alberta mavericks, Edwards was an outsider who found his identity, and his calling, after coming to a new land where everything seemed possible. For all that has changed over the past century, that spirit of defiance and discovery lingers on. And as long as it does, Alberta will remain Canada's upbeat child. ■

Special thanks to the Glenbow Museum for providing the research material that helped to richly inform this article.
Heaven on a Half Shell

Writer Margo Pfeiff takes a shellfish pilgrimage to Malpeque Bay, P.E.I., to shuck and savor the world’s best oysters

BY MARGO PFEIFF

IT is mid-December and James Power is “wighting the ice.” Using a chainsaw, he cuts a hole through the top nine inches of frozen New London Bay in Prince Edward Island. Then he dons a wetsuit and lowers himself into the chilly water to hoist a rope attached to a metal cage filled with oysters to a hydraulic lift that will haul the oysters to the surface.

“They’re very tasty in winter,” he says, “when they’re plump, sweet and juicy from the fat they’ve gained because the water is cold.” Across the Maritimes and in Quebec, one of the country’s biggest consumers, oysters will appear on Christmas dinner tables as a prelude to traditional turkey and ham feasts.

While the old adage is true that oysters are at their prime in months ending with an r – September through December – they are a treat any time of the year, especially on a hot summer day. Chilled on a bed of ice and served with a cold glass of white wine, I try local oysters wherever I travel, having collected Sydney Rocks at low tide in Australia, sampled Kamutkowski in Tokyo and downed exquisite morsels cultivated in the Antarctic-cooled waters off the coast of Namibia. I have eaten them in chowders and on burgers, deep-fried, smoked, barbecued in their shells and sautéed with black bean sauce at Chinese restaurants. But, given the choice, I prefer them naked and unadorned – raw.

My favourite oysters anywhere are P.E.I.’s Malpeques and, for that reason, arriving in Charlotte-town to eat them fresh from their home waters in late summer was something of a shellfish pilgrimage for me. I am not alone in my love of Malpeques; as far back as the 1900 Paris Exhibition, they won the award for “World’s Best Oyster” and have retained a stellar reputation for well over a century.

I head straight for Chaddagh Oyster House, where John Bil is behind the bar shucking at a furious pace, an awe-inspiring sight for someone who still bears the scars of past encounters with sharp shells and oyster knives. “The first 20,000 are the hardest,” admits the restaurant’s co-owner, whose catering company goes by the name “Keep on Shucking.” He demonstrates how to firmly hold the oyster on a folded towel with the flat shell up. Inserting the knife to one side of the “hinge,” he gives a quick twist, then moves the knife along the edge of the top shell to cut the upper adductor muscle. With the “lid” off, he slides the knife under the creamy flesh to sever the muscle beneath, which is attached to the lower shell. Unlike my sloppy attempts, his finished product contains no gritty shell bits, sand or macerated oyster. The cupped bottom is filled with salty juice as it should be. Bil makes it look easy, and so he should; the 38-year-old Ontario native is the three-time and reigning Canadian Oyster Shucking Champion, and his trophy towers over the bar. But in only three days, he will have to...
defend that title in the western P.E.I. village of Tyne Valley during the 42nd annual Oyster Festival, where the highlight is the Canadian Oyster Shucking Championship.

Tipping back my head, I lift the tree shell to my lips. There is the fresh smell of the sea before the juicy oyster slides into my mouth, then the luscious taste of sea salt that is the P.E.I. oyster hallmark. "They don't get any fresher than that," says Bil. "Oysters are one of the few creatures we eat alive." Bil likes to compare oysters to wine. "West Coast oysters are strongly flavoured. They are the red wines of the oyster world, while slower growing, cold water East Coasters are like the white wines." And, although they are all the same species, the American oyster or Quagga stagna, oysters grown in New Brunswick and Nova Scotia have a distinct taste from those in P.E.I., and even vary in different waters across each province. Flavour change for many reasons, including the types of algae floating about and the water's salinity. Bil sets down a plate of samples from different parts of the island with a list and description of the half-dozen varieties on hand that day. Like wine tasting notes, he uses such terms as "vanilla, citrus, metallic" or "a hint of lettuce-like bitterness." To me, they all taste like heaven on the half shell.

The next morning, I make my way west of Charlottetown, past roadside potato stands, through tiny towns with tall church steeples. Signs point to festivaling and lobster suppers as we reach the western shore of Malpeque Bay. Near the village of Ellerslie, I stop at a former 1900s oyster research station that is now the quaint P.E.I. Shellfish Museum. From the displays inside it is clear that Malpeques have seen hard times. After their success in Paris in 1900, increased demand strained their numbers. Stocks brought in from other provinces to boost supply in 1913 also brought an illness that wiped out 90 percent of P.E.I.'s Malpeques.

In the 1970s, oyster numbers again plummeted, this time due to poor growing conditions as a result of soil runoff from the farm land along the shore. Government and industry devised a plan to work together and, as a result, P.E.I. now has an oyster industry that is unique in many ways. Roughly 80 percent of P.E.I.'s oysters are wild and only 20 percent cultivated. The 750 active oyster fishers work with the government's fisheries and aquaculture division and the industry's P.E.I. Shellfish Association to ensure sustainability by maintaining "public beds," which any licence holder can fish. "We spread shells on the seaweed to attract spat," says Bil. "Other oyster growers use different oyster seeds that like to attach to smooth, clean and hard surfaces," says Richard Gallant, director of the provincial fisheries and aquaculture division. Spat is spread from area to area so that more oysters can grow. Anyone with a licence can harvest mature oysters for sale, or collect spat and transfer them to their own private leases.

All P.E.I. oysters bear the brand name "Malpeque," but not all are from Malpeque Bay itself. They are indeed of cultivated stock in bays and rivers across the island. Some fishers simply grow them on the bottom while others use mesh bags suspended on lines or set on tables on the seabed. Today, P.E.I. produces 80 percent of the Maritime's oysters, about 3,000 metric tonnes a year, with a landed value of $6 million, and an economic value of $15 million for the island. Most are shipped to Quebec or Ontario, some go to Western Canada, the United States, where I've seen them on Los Angeles restaurant menus.

Dories, flat-bottomed fishing boats, bob in the shallows of Malpeque Bay in front of the Bedeford home of one of the island's oyster legends, Leslie Hay. "Back in the day, the oyster season takes me out "tonging." Unlike those in leased beds, oyster from those in public beds are harvested using a century-old device that looks like two very long garden rakes hinged together. "It's the rake," says David as we motor out, "to keep the industry sustainable." That stipulation is also unique to P.E.I. He shunts off the engine, lowers the tongs into the bay, scours the handles together and lifts the device, filled with seaweed-entwined oysters, from the water. The few oysters he can't see by sight are shucked a piece at a time. The measure of oysters is sorted into a box and the youngesters pitched overboard. "The bonus of this method of harvesting is that the ones we throw back are rotated, which helps them form a nice round shell shape," he says. "It's hard, slow work that could be accomplished with greater speed using draggers or suction, but I remember John Bill's take on tonging: 'If they had given all loggers hand saws, we would still live in forests.'

Leslie takes me into the processing shed where the oysters are sorted into fancy, choice, standard and commercial grades based on the oyster's length-to-weight ratio, then washed and boxed for sale. Like every oyster producer I met, he shocked as he talked and shared one tip: "Make sure you get all of the oyster muscle under the oyster when you slice it because that's like a scallop—the sweetest part." We down a dozen before heading inside for breakfast with his family, who are busy serving costumes for the first in the next Oyster Festival parade. The many Hardy grandkids, nieces and nephews will bestartled, jellyfish, crabs and a seaweed called "oyster thief" that attaches itself to oyster and floats them away. Green hulls from grass sprints are standing in for strands of seaweed. Wading through green rolling Anne of Green Gables country, I stop at James Power's oyster shack, which overlooks New London Bay. Power takes me by barge to the 60-hectare aquaculture lease he manages, home waters to the much-loved Raspberry Point oysters. He leaps into the shallow waters in his hip waders and takes up handfuls of harvest-ready oysters. "Because we grow them on the bottom and the water is cold, they take six to seven years to reach this size," he says. That is twice as long as their New England cousins; a Pacific oyster takes only 12 to 14 months to grow to the same size. "The slow growing produces superior flavor." What is Power's tip for oyster eating? "They taste best after a couple days in the fridge," he insists, "where they last quite happily for a month or so.

Nearby, at Carr's Oyster Bar, an island institution at Stanley Bridge, I meet 75-year-old George Carr, one of the industry's old-timers. "In the old days before refrigerators, we used to store oysters in boxes or barrels in the cellar all winter," he says, rubbing his arms. "I'm sure from 'shocking.' We did 7,500 oysters for tonight," he asks, referring to the all-you-can-eat oysters that are included in this evening's admission fee for the main night of the Oyster Festival.

Striped tunas, carnival rides and cotton candy vendors have popped up on the lawn alongside the outdoor beer garden in the usually tranquil village of Tyne Valley. On this warm summer evening, country tunes are drifting into the Firemen's Club, where the fried scallop and oyster supper is underway. Across the street in the community sports centre, where the serious business of the festival is conducted, nervous young participants in the Miss Oyster Pearl pageant are modeling street wear. There is a singing competition with some fine local talent, and everyone examines the decorated oyster boxes that will be judged later in a weekend that includes concerts, magic shows and horse racing.

As it has been since 1904, when it was started to raise money for a new ice rink here in the heart of oyster country, the festival is an unpretentious local event, the biggest of the year. Farmers, fishers and housewives mingle with shuckers from the trendiest restaurants.
I've been told that some people have all the luck. I know that I am not in that camp, but if you ask George Hunter, the Canadian photographer who profiled this issue, he'll tell you he is one of the luckier people you'll ever meet. First, however, he'll regale you with his harrowing stories of close calls with death and serious injury. Take in the astonishing moment when a mad sled dog nipped at his throat. Stumbled by girl's shouts, George grabbed up the dog's lead and the dog's jaws clamped down on the flash of his camera instead.

Then, I considered how his story came to the Review. The idea originated from a conversation between two old friends. A former oil executive told an Imperial vice-president about a photographer, George Hunter, who has historic black-and-white photography of the Mackenzie River Valley dating back a half century. Wouldn't that make an interesting story? The idea eventually made its way to the desk. Intrigued, I asked myself, who is George Hunter? I looked to the window and, impressed by what I saw, decided we should instead profile him and his life's work.

In our first telephone conversation, he told me the article might help him in his current pursuit. Today, George feels it's his obligation to make his photographs known to Canadians, both as a historical record of our country and as Canadian art. "Canadians don't appreciate photography as art," he likes to see it hanging on walls and there are few collectors in Canada. And that's what I'm trying to do. I'm trying to elevate its stature in my own country."

In late September, I meet George in person. He stops by our offices in Calgary to say hello and to show me some photos possibly for the cover. We happen to be in town after working in Edmonton for a national trucking company to shoot its 2008 calendar. Colleagues who see him in his office marvel that he is 85 and still working hard. Who is he? They want to know. I can't be more proud of him and feel so grateful to be there at the precise moment to capture that magic on film.

From the photos he has brought to show me, I select the image for the front cover not only because it's a beautiful shot, but because I love the photo's story. It's a shot George took of teenagers in Quebec. They are tramping through knee-deep snow in a farmer's field, having just chopped down a tree for Christmas. When George was done taking their photograph, the farmer pulled up in his truck to shout at the kids to get off of his land. George looks at me and winks. "They were great kids. It's a good thing they didn't figure out where they got the tree from." The photo later won second place in a Quebec photography contest, Regards du Quebec, that received over 27,000 entries. George, of course, entered the contest on a lark. The conversation turns to the artist behind the lens and his perception of the world he is photographing. George entertains me with his stories and the conversation shifts back to his marvelous life and how his enchanted life has been filled with the most wonderful kind people.

George, I also discover, has a knack of befriending just about anyone he meets: he has broken bread with Frenchphone families in Quebec (he speaks only a few words of French), miners have fought to carry his equipment, and flight crews have gone out of their way to help him gain passage to destinations around the world. George also has good friends everywhere that he can count on to locate new areas in their region for photographic subject matter. In a few days, he will be flying to British Columbia to stay at a hotel he has been going to for 50 years. "I'm like family to them," he says. I suppose George has had "all the luck." From humble Saskatchewan roots, he has gone on to experience the best our world has to offer: he has travelled the globe, met with royalty, and photographed hundreds of notable and historic sites, some that are now gone or destroyed. As I flip through his photographs, however, it becomes clear that the photos that hold the most meaning for him aren't the ones that reveal the world at its grandest but those that capture common people from the most modest of circumstances—the farmer, miners, loggers and rural families. As we part, he tells me I’ve purchased his new Calgary friend, and that in many ways, he has found his best luck in the world. — Catherine Tisdale