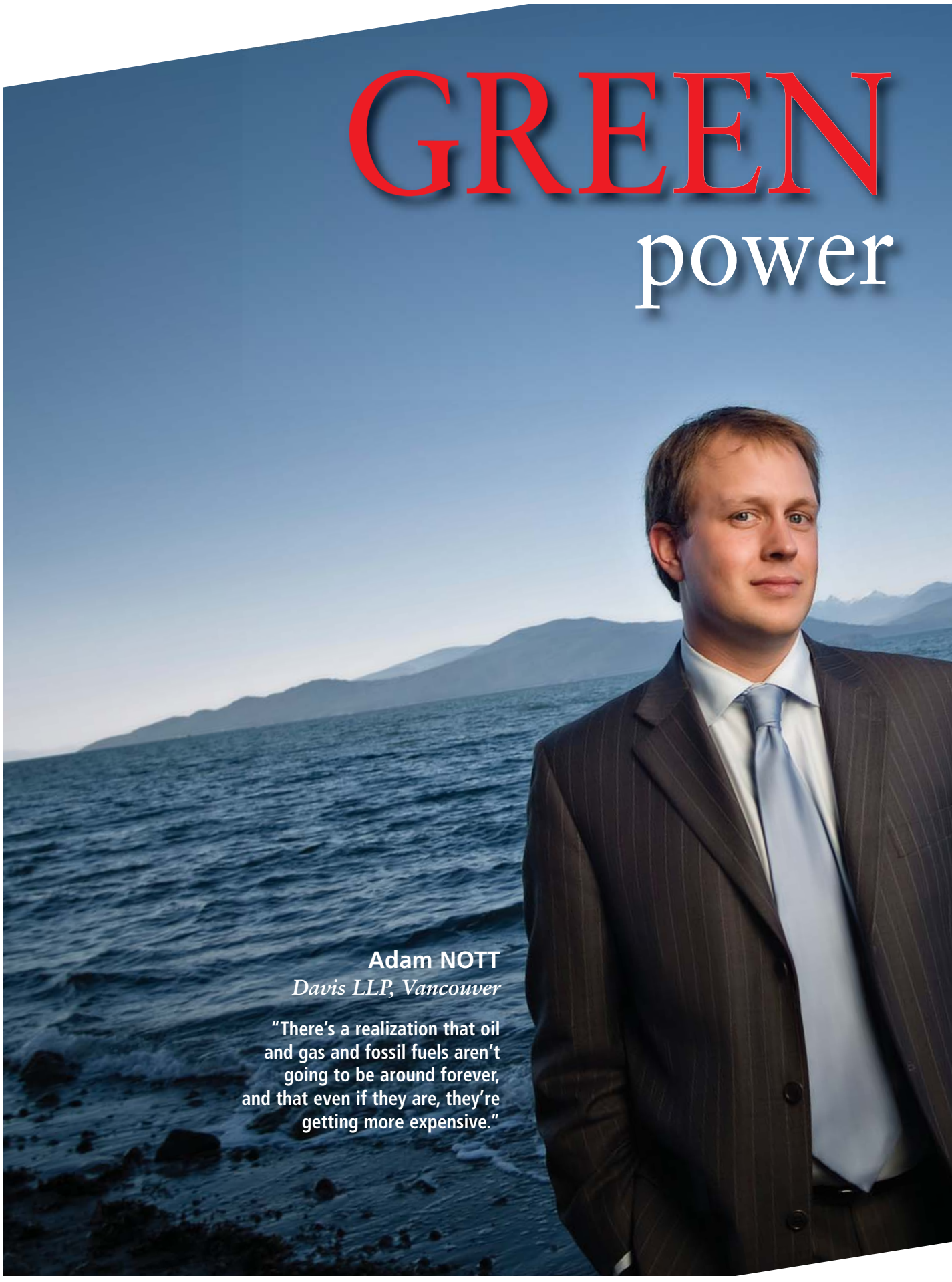
GREEN power



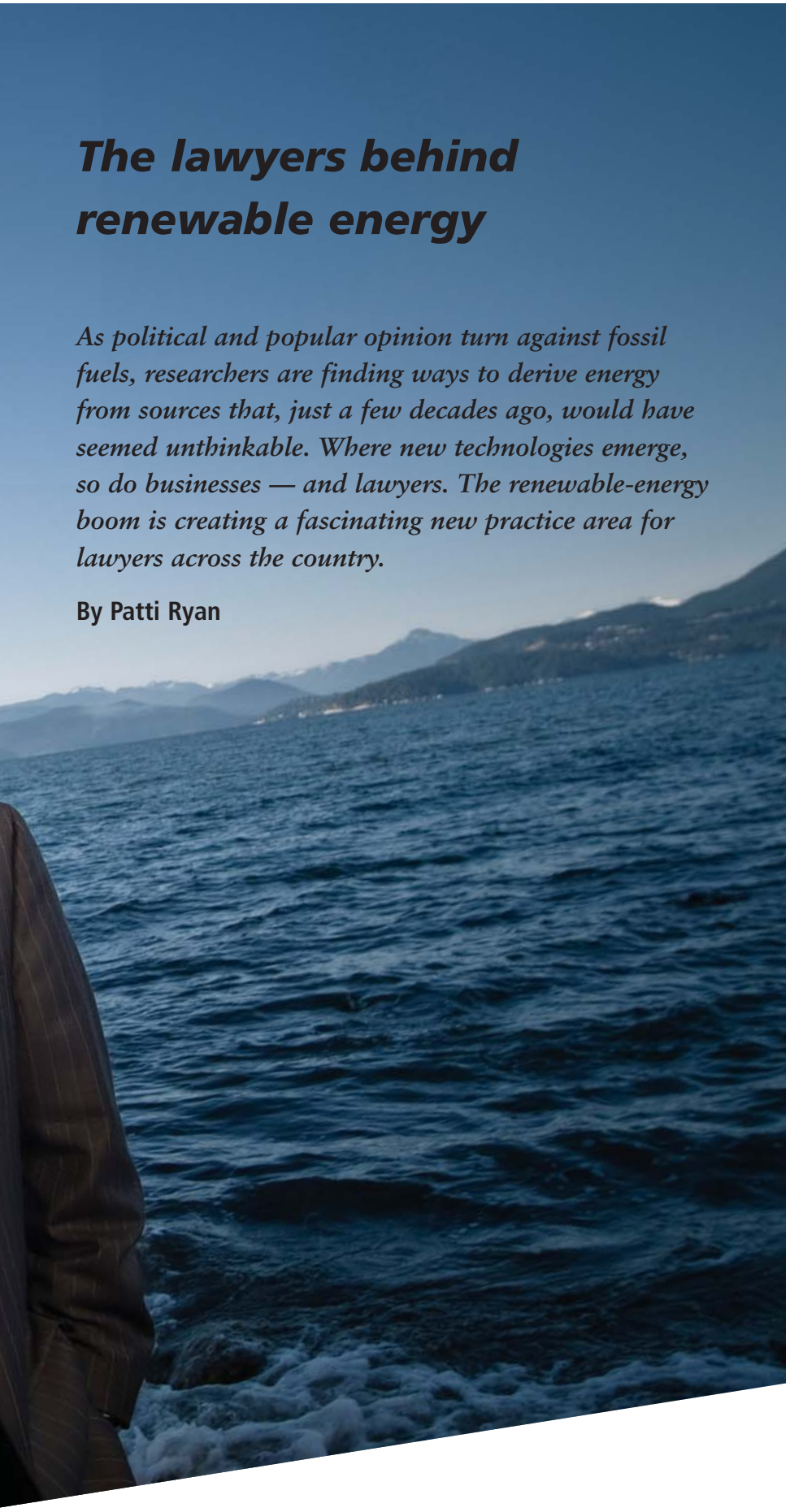
Adam NOTT
Davis LLP, Vancouver

"There's a realization that oil and gas and fossil fuels aren't going to be around forever, and that even if they are, they're getting more expensive."

The lawyers behind renewable energy

As political and popular opinion turn against fossil fuels, researchers are finding ways to derive energy from sources that, just a few decades ago, would have seemed unthinkable. Where new technologies emerge, so do businesses — and lawyers. The renewable-energy boom is creating a fascinating new practice area for lawyers across the country.

By Patti Ryan



ROBERT KARPA

Everything green is suddenly red — red-hot, that is. Chalk it up to increasing geopolitical tension or a world awakening to the realities of climate change: as a society, we've become averse to carbon-generating energy sources. A general consensus is emerging that the North American economy needs to shake its dependency on oil and coal. It seems we want green power, and we want it now.

Where there's a market, profit-seeking companies will follow. Increasingly, investors are eyeballing the renewable energy sector, sizing up projects whose aim is to develop energy sources that are homegrown, renewable, less damaging to the environment, and, of course, profitable. Canadian businesses of all sizes are competing with each other to be first, best and biggest when it comes to developing and commercializing green energy projects across the country.

By all accounts, the future looks bright. Industry Canada expects Canada's renewable energy industry to expand "significantly" over the coming years. Pollution Probe is even more ambitious, stating that with sustained determination over the next several decades, green power "has the potential to supply half of Canada's current annual electricity generation."

The Ontario Power Authority (OPA) is putting its money where its mouth is, too. In August, it filed an application with the Ontario Energy Board for approval of its Integrated Power System Plan (IPSP). According to Toronto lawyer Krista Hill, co-coordinator of the Infrastructure and Energy Group at Torys, part of the IPSP calls for a 6,400-megawatt increase in the amount of

Krista HILL
Torys LLP, Toronto

"Even four years ago, there was not a lot of wind power development in Canada. Now it's exploded, and there's no end in sight."

renewable energy resources by 2025 (to reach a total of 16,000 megawatts).

That's a "very significant" increase, says Hill. To understand how much power is involved in 6,400 megawatts, consider that four nuclear reactors at the Pickering Nuclear Generating Station near Toronto can collectively produce about 2,000 megawatts.

It certainly seems that the green-energy train has left the station. So what are the lawyers on board actually doing? Specialties depend on interest, background and geographical location, but lawyers are working with businesses of all sizes on jobs that range from real estate to financing to joint ventures and tax structuring, to name just a few.

Hill, for example, helps some clients complete mergers and acquisitions; others want her assistance with power-purchase agreements, financing, or real estate deals, which can mean shepherding them through permits, environmental assessments, First Nations issues, construction contracts and manufacturing agreements.

Adam Nott is a lawyer with Davis LLP in Vancouver, which is working with a range of clients in various areas of the renewable energy sector, from wind and solar power to run-of-river hydro and biomass energy, as well as nuclear and traditional power. Clients often include banks or would-be financiers, independent entrepreneurs in search of financing, and start-up technology companies looking to get established and obtain venture capital.

As Vancouver chair of his firm's Renewable Energy and Sustainable Development Practice Group, Nott says his practice area is growing rapidly. "There's a realization that oil and gas and fossil fuels aren't going to be around forever, and that even if they are, they're getting more expensive," he says. "Anytime you have one technology coming down in price and another going up, you're going to see some replacement."

Mike RICHMOND
McMillan Binch Mendelsohn LLP, Toronto

"As long as the government keeps committing to buying green power, then there'll be more people available to sell it."

The wind has shifted

There are currently about half a dozen "green energy" technologies being developed in Canada. Wind and run-of-river hydro are two of the most significant emerging sources of power, followed by solar. Nuclear power — whether or not you think of it as truly green; choose your camp — remains a strong (though not a new) contender. And a handful of slightly more obscure energy sources are gathering steam too, including wave (also known as ocean or tidal), fuel cell and biomass energy.

Of course, the significance of each of these alternative energy sources depends to some extent on which part of the country you're looking at. Ocean power, for example, is the domain of maritime provinces like Newfoundland & Labrador, Nova Scotia and British Columbia.

According to the Ocean Renewable Energy Group, numerous ways of harnessing wave and tidal energy are currently in

Énergie verte

Pendant que les chercheurs s'évertuent à trouver des moyens de puiser de l'énergie à partir de nouvelles sources, un champ de pratique inédit pour les avocats émerge.

Compte tenu des enjeux environnementaux majeurs qui prévalent actuellement, la dépendance nord-américaine par rapport au pétrole et au charbon est maintenant vue d'un très mauvais œil. Le consensus en vigueur veut qu'il soit grand temps de passer à l'énergie verte. Faisant écho à cela, les entreprises canadiennes de toutes tailles rivalisent afin de se tailler la première, la meilleure et la plus importante place en matière de commercialisation de projets d'énergie verte à travers le pays.

Les projets verts abondent et les avocats sont donc appelés à jouer un rôle central pour encadrer les projets de compagnies de toutes tailles touchant le droit immobilier, le financement de risques partagés et la structuration des taxes, pour ne nommer que ces derniers. D'autres enjeux couverts ont trait aux permis, aux questions concernant les Premières Nations, ainsi qu'à l'élaboration de contrats et d'ententes liés à la fabrication.

Adam Nott, avocat chez Davis s.r.l. à Vancouver et président du groupe de pratique sur l'énergie renouvelable et le développement durable, se penche sur différentes sphères d'activités du secteur de l'énergie renouvelable, du pouvoir éolien, solaire, hydroélectrique (au fil de l'eau) et provenant de la biomasse (aussi connu sous le nom de biocombustible). « Il y a une prise de conscience à l'effet que le pétrole, le gaz et les combustibles fossiles ne seront pas présents éternellement et qu'ils deviennent de plus en plus chers », précise-t-il.

Un vent écologique souffle

Actuellement, environ six technologies basées sur l'énergie verte sont en cours de développement au Canada. L'énergie éolienne et hydroélectrique (au fil de l'eau) sont les deux sources de pouvoir énergétique émergentes les plus significatives, suivies de l'énergie solaire. L'énergie nucléaire reste une alternative importante. En filigrane, on trouve quelques sources d'énergie comme celles des vagues et des courants marins, des piles à combustible et de la biomasse. Pour l'heure, c'est l'énergie hydraulique qui prévaut au Canada.

Le secteur de l'énergie renouvelable admet des joueurs de toutes tailles. Une règle du jeu établie favorise néanmoins les intervenants de poids au détriment des petits joueurs. C'est le cas pour les compagnies d'énergie éolienne. La résultante de la réglementation a été l'acquisition par les grandes compagnies des petites entités, ce qui a eu pour effet de consolider les projets.

Même si l'énergie éolienne est devenue importante, André Turmel, un associé chez Fasken Martineau DuMoulin s.r.l. à Montréal, de même que les autres avocats que nous avons interviewés disposent de clients spécialisés en hydroélectricité et en biocombustible. Krista Hill, avocate de Toronto chez Torys, fait remarquer l'essor de l'énergie verte : « Quatre ans auparavant, il n'y avait pas beaucoup de développement en matière d'énergie éolienne au Canada. Maintenant, il y a eu une expansion qui n'est pas prête de faiblir ».

Mike Richmond, président du Groupe de droit sur l'énergie chez McMillan Binch Mendelsohn à Toronto, pense également que le marché axé sur l'énergie verte continuera d'être « très prometteur ». « Si ce marché avait été basé purement sur les lois du marché, nous aurions seulement de l'énergie nucléaire et basée sur le charbon actuellement. C'est en raison de l'orientation des affaires publiques que les politiques requièrent un certain pourcentage d'énergie verte. Tant que le gouvernement continuera à s'engager à acheter de l'énergie verte, il y aura plus de personnes disponibles pour en vendre ».

Adam Nott prédit que l'énergie verte proviendra de six à huit sources distinctes. « Il faut une combinaison d'énergie solaire, éolienne, océanographique et de biomasse », dit-il.

Une nouvelle spécialisation du droit est née

« Dans n'importe quel autre domaine du droit, on demande à un client dont les méthodes ne sont pas totalement concordantes avec les règlements de modifier ses méthodes pour s'assurer de se conformer à la loi, c'est l'opposé dans le domaine de l'énergie, s'étonne encore parfois Mike Richmond. La suggestion est de modifier la loi pour qu'elle se conforme avec les pratiques. Parce qu'il s'agit d'une sphère de politiques mouvantes, les lois et règlements changent à un rythme hebdomadaire, si ce n'est quotidien ». Ce faisant, l'avocat aide le gouvernement à formuler la législation.

André Turmel fait remarquer que le droit relatif à l'énergie verte et au changement climatique constitue une spécialisation stimulante et gratifiante. Il conseille à ceux qui seraient tentés de se consacrer à cette pratique du droit en plein essor de s'initier préalablement au secteur. Une bonne connaissance d'ensemble de l'industrie est requise avant de se retrouver en phase de négociation des ententes, suggère Krista Hill. Cela ne revient pas à dire qu'il faille acquérir des connaissances scientifiques. « Il faut comprendre comment le domaine fonctionne, ses composantes importantes et la façon dont elles interagissent entre elles. Il convient aussi d'être capable d'identifier les risques associés au projet », conclut-elle. **N**

— Yasmina El Jamaï

various stages of research and development or demonstration in Canada. Here's how it works: radiation from the sun warms up the ocean's surface, creating wind. In turn, the wind creates waves, a source of energy. The strongest waves — and thus the best wave energy potential — are typically found in regions that lie within 40 to 60 degrees of latitude.

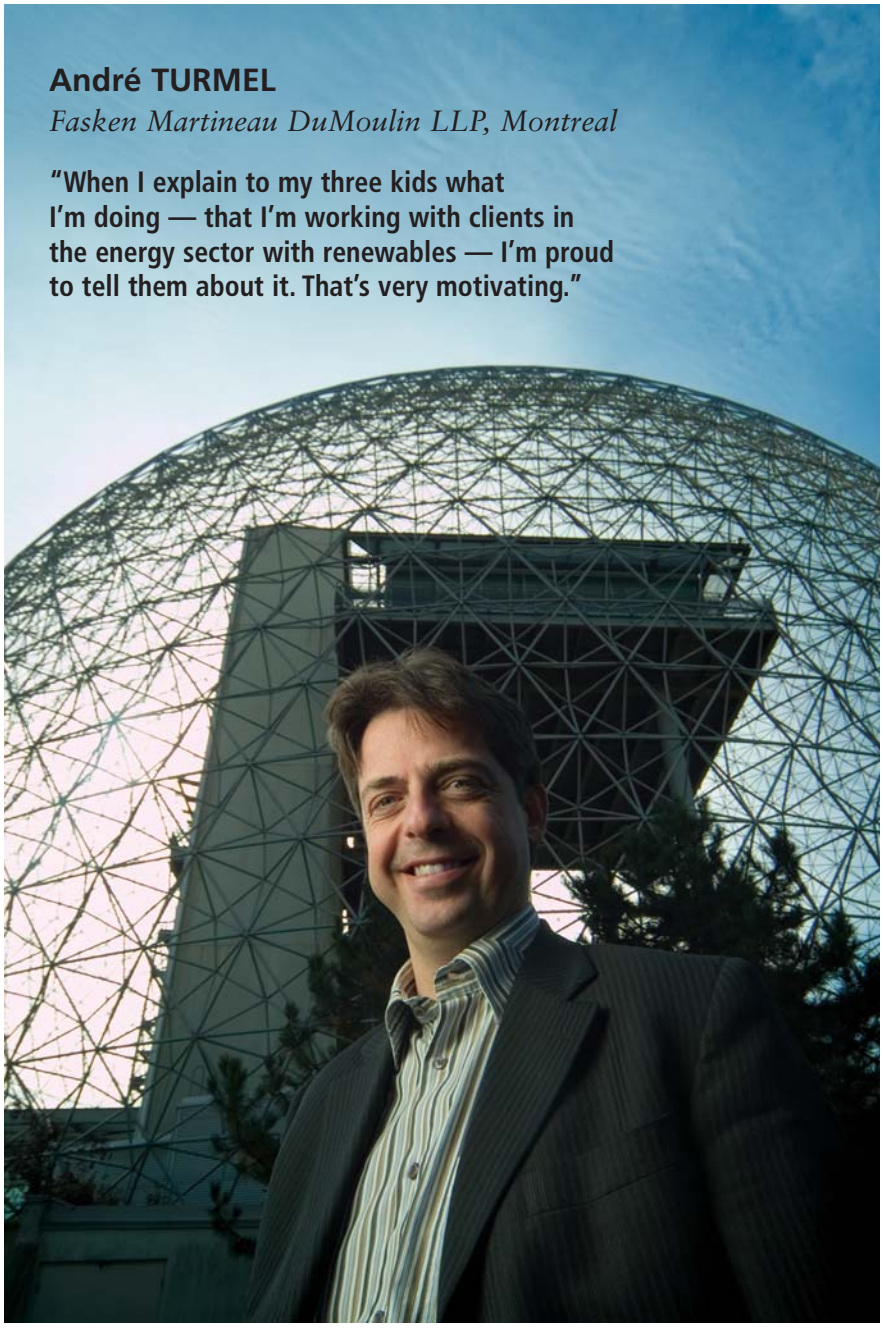
Meanwhile, fuel cell technology has the potential to revolutionize the automotive and airline industries. According to the National Renewable Energy Laboratory, fuel cells use a chemical reaction between hydrogen and oxygen to produce electricity with emissions that are minimal to non-existent.

Fuel-cell vehicles — also known as zero-emission vehicles, or ZEVs — are cars of the future that would likely store hydrogen in fuel tanks as a pressurized gas. Such vehicles are unlikely to appear on the mass market anytime before 2010, but most major auto manufacturers are reportedly working on demonstration models.

Biofuel — also called biomass energy — is another eco-friendly energy source currently under development. Biofuel is extracted from the solar energy stored in organic materials, such as plants, wood or straw, or in waste from the forest, agricultural and industrial sectors. It can also be derived from municipal solid waste and sewage sludge.

The beauty of biomass energy is that it can be derived from easily renewable materials. Decomposing organic waste in landfill sites, for example, produces methane gas that can be

ALENA GEDEONOVA



converted into heat or electricity.

Sexy new developments in green technologies like wave power, fuel cells, and biomass energy can cause people to lose sight of the fact that plain old hydro power is also a renewable source of energy, and a plentiful one, says Mike Richmond, chair of the Energy Law Group at McMillan Binch Mendelsohn LLP in Toronto.

"Hydro is still by far the largest source of renewable energy in Canada, certainly in Ontario," he points out. Hydro power is usually generated in one of two ways. The first is via the older and well-understood hydro dam. The second is run-of-river hydro, considered a "greener" alternative.

According to Richmond, run-of-river projects are usually established on a piece of land with a steep drop. A portion of water is diverted through pipes, or a temporary dam may be created to build up a reservoir of water that will drop through the pipes. Run-of-river hydro projects are viewed as more environmentally friendly than large dams because there is no permanent water storage. As well, most projects are located at large waterfalls that present natural fish barriers, so no downstream fish are affected.

That said, Richmond does consider wind power to be "definitely the workhorse" of the renewable energy sector. "The costs have come down over the past few years, while the price of gas has gone up," he explains. "With some help, wind can now be competitive. Solar and biomass are not quite there yet — there aren't the economies of scale yet."

Help is on its way, however. The OPA, for example, is currently running a Renewable Energy Standard Offer Program that invites small renewable-energy generators to apply for contracts. As of September 2007, the OPA had executed 165 of these contracts and had another 115 applications in the works.

Under this program, says Richmond, the OPA will pay 11 cents per hour for any type of renewable power — but it is willing to pay 42 cents for solar. "That's not because solar is worth 42 cents," he points out. "That's to encourage people to develop solar, to come up with new ways to make it more efficient."

Size matters

There are players of all sizes in the renewable energy sector. Perhaps predictably, the biggest players are in the more mature industries, while the newer sectors are populated mainly by smaller start-ups. For example, four or five years ago, the wind sector was dominated by "small players who had land and some money to invest, or who were able to go and lock up some options on land," says Richmond. "Most of these have since flipped these assets to larger players."

This is at least in part because as the wind sector heated up, there was an international run on wind turbines. The demand exceeded the supply, so it became impossible for a company to gets its hands on a wind turbine unless it was a major player willing to order a thousand of them. "If you wanted one or two, good luck. The General Electrics of the world wouldn't talk to you," says Richmond.

Bigger players also have the luxury of being more flexible, which has helped their position in the sector. Because of rapidly changing regulatory processes, things don't always go as planned, he explains.

For example, suppose you own a small wind power company and you buy a turbine. A regulatory obstacle then appears out of the blue, and you're no longer permitted to build your project. If you're a bigger player, you can simply use the turbine for a different project elsewhere. "But if you have just one project, you can't do that," says Richmond.

"So recently we've seen a lot of the bigger players coming in and consolidating the projects — big guys buying out the

SPYROS BOURBOULIS

small guys. Now most of that has been done, and the new projects coming in are just the big guys."

Krista Hill has seen the same thing. "A quick way to get into the market is to buy an existing company that has a portfolio," she says. In the past year, Vector Wind Energy Inc. and GW Power Corp. were acquired by Canadian Hydro Developers Inc., and Airtricity Inc., an Ireland-based multinational wind power firm, bought Gale Force Energy Ltd. Another example is Acciona SA, a Spanish wind company that has partnered with Suncor Energy Inc. and Enbridge on several projects.

André Turmel, a partner with Fasken Martineau DuMoulin LLP in Montréal, specializes in energy and climate change law, and is intimately acquainted with Québec's recent calls for tenders for wind energy. There was a call for 1,000 megawatts in 2003, and a second for 2,000 megawatts just ended in September.

"That was the biggest call for tenders for wind energy in the world," he says. "Two thousand megawatts, installed, is worth $4 to $5 billion of investment. Wind energy is a booming business."

"A big component of this is helping the government figure out how to get it right."

Despite the progress, there has been some controversy in Québec (as in other places) around the creation of large wind farms. Some of the controversy stemmed from "NIMBY" syndrome, says Turmel. "Everybody likes green energy. But if you have a nice house in the countryside, even if you call yourself an environmentalist, suddenly you may not be so sure about having a 100-metre tower in your window."

The Hydro Québec projects were planned to benefit the province's economically depressed Gaspésie region, where wind turbine manufacturers would establish plants, says Turmel. Still, that part of Québec attracts tourists for its spectacular scenery. "So, many people thought one is nice, ten are okay — but a wind farm with 50 towers of 100 metres may be too much," he says.

The closing of the call for tenders is not the end of the game, he adds. "Hydro Québec will study the bids and will render public the winner early in 2008. And most of the bidders who may have won will still face a social and environmental assessment. So we will continue to see more of this controversy in the coming months and years."

Although wind has become big business, Turmel, like the other lawyers interviewed for this story, has clients who specialize in hydro and biomass as well. Likewise, Hill says her firm has expertise in a broad range of emerging renewable power sources, including solar and biomass. As a general practice area, green energy is "absolutely" growing, she says. "Even four years ago, there was not a lot of wind power development in Canada. Now it's exploded, and there's no end in sight."

Looking ahead, making a difference

The green-energy market continues to look "very promising," agrees Richmond. "It's politically driven, obviously. If it was purely market-based, we'd be running nuclear and coal only. But because you have a political direction and positioning, there are policies that say we have to have a certain percentage of green power, and there's a mandate for that. As long as the government keeps committing to buying green power, then there'll be more people available to sell it."

Vancouver-based Nott envisions a future in which green energy comes from six or eight different sources. "You really need to have a mixed grid with some solar, some wind, some ocean, some biomass," he says.

The trouble with wind, for example, is that when it stops, you're out of power — and solar presents the same challenge. "So if you've got a very dark, heavy winter, the solar power would be a lot lower, and our society is not ready to face the reality of that."

As well, it makes sense from a risk management point of view to mix the sources as much as possible. "That also allows you to focus on the resources that generate the best energy, as opposed to going out and maximizing every last breeze that's out there for wind power," says Nott.

Government policy on green power is fascinating, says Richmond, a former political advisor to the Ontario government and self-described "political hack" who especially enjoys the policy angles involved in his job. "The energy area is highly regulated, and because the key direction and demand come from government, policy shifts have a huge impact on our clients and on the business.

"In any other area of law, usually if a client comes to you and they're not totally in line with the regulations, you would suggest ways to change their practice to make sure they're complying with the law," he notes. "In energy, it's the opposite: someone comes to you and you suggest how they should change the law to comply with their practices.

"Because it's a shifting policy area, the laws and regulations are changing weekly, if not daily — so a big component of this is helping the government figure out how to get it right."

Turmel says that as a specialty, green energy and climate change law is both exciting and rewarding. "I wasn't part of the tech boom during the nineties, but now I'm in the midst of the green boom," he says. "When I explain to my three kids what I'm doing — that I'm working with clients in the energy sector with renewables — I'm proud to tell them about it. That's very motivating."

If you're tempted to switch into this booming new practice area, however, consider the uphill battle first. Many lawyers learned about wind energy "on the job" as the sector matured, but it would be difficult to be dropped in and try to negotiate agreements without having the industry background and some knowledge of the technology, Hill says.

"I do a lot of work in the nuclear sector as well, and I don't know how to split an atom — it's not at that level, understanding the nuclear physics," she says. "But you have to understand how things operate, what the important components are, and how they all connect together. You need to be able to identify the risks associated with the project."

For his part, Nott enjoys having the opportunity to do the kind of work that harmonizes with his own values. "The whole climate change matter is the issue I grew up with, going to high school in the early nineties," he says.

"The first UN climate change conference in 1992 was a big issue for me — it was the nuclear war issue for my generation. To be able to move in and practise law in this field, and help work towards solutions and moving our whole global economy toward a lower carbon footprint, it's great." N

Patti Ryan is a freelance writer based in Ottawa. Her previous article for *National*, on the impact of generational change in the practice of law, appeared in our April/May 2007 edition.