

A sustainable energy future

Speech by

Al Monaco
President and CEO,
Enbridge Inc.

September 28, 2017

Illinois Chamber of Commerce
Annual Meeting

Drake Hotel
Chicago, Illinois



EMBARGOED until Thursday, September 28, 2017 at 11:30 a.m. MT — Check against delivery



Al Monaco

President and CEO, Enbridge Inc.

Al Monaco was appointed President and Chief Executive Officer on October 1, 2012. He is also a member of the Enbridge Inc. Board of Directors. Prior to being appointed President of Enbridge Inc. in February 2012, Mr. Monaco served as President, Gas Pipelines, Green Energy & International with responsibility for the growth and operations of Enbridge's gas pipelines, including the Gas Gathering & Processing operations in the United States, Enbridge's Gulf Coast Offshore assets and the Company's investments in Alliance, Vector and Aux Sable, as well as Enbridge's International business development and investment activities and Green Energy.

Mr. Monaco has more than 30 years experience in the energy business including the upstream oil and gas exploration, development and pipelines businesses.

Since joining Enbridge in 1995, he has held positions including Executive Vice President, Major Projects & Green Energy, and as President, Enbridge Gas Distribution; Senior Vice President, Corporate Planning and Development; and Vice President, Financial Services and Treasurer for Enbridge's U.S.-based master limited partnership.

Introduction

Thanks Todd.

It's great to be here in Chicago – one of my favorite cities (and hockey teams) . . . and from Enbridge's perspective, it's the center of our energy universe.

Speaking with communities, customers and partners is the best part of my job.

And these days, with energy at the forefront of public debate, it's one of the most important.

Thanks to the Chamber for the opportunity to do that here today.

North America's energy future

Think for a moment about the most interesting topics in our lives and areas of growth.

- Technology – systems design, the newest iPhone, AI;
- Health care, fin-tech;
- Transportation (air travel, Uber, electric and autonomous vehicles);
- Entertainment, sports and recreation;
- And 7 of the top 10 growth areas today are construction-related;

The one thing that underpins all of this growth – Energy. But, most people don't think of energy in the same way as those categories.

Energy is a given, it's always there.

We don't think about it, it's just not that exciting to most people. In fact, a lot of people see energy as a problem. It's ironic because energy pervades every aspect of our lives – and in a very positive way.

That reality gets lost in what's now a deeply polarized debate on energy. And it takes unfortunate tragedies like Harvey or Irma to make us think about what life would be like without it.

The Enbridge energy map behind me tells this story. I use it to remind our 16,000 people why what they do makes a difference when the energy debate gets heated and personal.

This live shot is the amount of energy we are moving on our system right now – oil, natural gas, renewable power. And it tells us why it matters to people and our economy.

At the end of today, we'll deliver:

- about 2.8 mmbpd of oil that ultimately fuels school buses, airplanes, millions of cars;
- 20 (and in the middle of winter, more than 30) Bcf of natural gas that powers industries, heats or cools homes, cooks meals;
- 2,700 MW of renewable energy.

This energy flow is the supply source for products – plastics for cell phones, car seats, kayaks; agriculture feedstock; asphalt for roads.

Here in Illinois, energy supports your ability to compete, attract new business, economic growth, jobs and tax revenue.

Our oil deliveries have helped make Midwest refineries among the most competitive in the world.

Natural gas supply has given manufacturers and petrochemical industries a competitive advantage on the world market.

Despite all that, the energy sector is under tremendous pressure – and often vilified as old economy.

But I'm not here to complain about that today, nor how difficult it is to get pipelines built.

In fact, in the big picture this scrutiny is a good thing because people are now thinking about the energy space.

What I will do today is paint a much broader canvas of how we see the future of energy.

Before I do that, it's helpful to see how we've evolved.

The future of energy

The focus of energy used to be on supply.

What was available was what we consumed – whether it was wood, coal – and over time, oil and gas. Our biggest concern was running out of energy.

But today energy is increasingly shaped by demand, consumption and end use. It's about getting the kind of energy we want, when we want it and how we get it.

There's no shortage of scenarios . . . if (or when) we'll hit "peak demand" for oil . . . the pace of carbon reduction, black swans that could change everything overnight.

We don't have a crystal ball to predict how the energy landscape will look 15 to 20 years from now.

But there's a lot on the line. So we need to make judgements today about how we allocate capital ... investments that will shape our energy future.

There are 5 things that will characterize our energy future. And as you'll see they all feed on each other to drive energy's competitive advantage in the future.

1. Permanent reduction in the cost of energy

First and foremost we'll enter a new phase of energy cost competitiveness.

Some believe that the cost reductions and supply growth we've seen are temporary. But I believe much of it may be permanent and there's opportunity for more

Technology is not just about iPhones, it will also continue to transform the energy business.

Technology has unleashed massive reserves – enabling US gas production to grow 50%; oil by 85% over the past decade.

Increased supply is putting permanent downward pressure on prices, changing the economics of our industry and forming a new energy paradigm

... from ever-increasing prices, to "lower for longer" and to "lower forever".

I think of this as a virtuous circle of cost efficiency where ... technology drives lower costs and pushes out higher cost supply ...

... which begets more intense competition for the marginal barrel to come on ...

... which in turn induces more innovative technology, and so on.

That circle has lowered the full cycle cost of crude production in North America has dropped from \$70 per barrel to \$56 over the past 5 years.

The Permian is likely heading to \$40 and the oil sands to \$50.

And producers are finding natural gas at below \$3. Industry is doing an incredible job leveraging technology – driving a step-change in efficiency.

That's the way we look at it in on the transportation side as well. We're adding timely, low cost capacity for customers through incremental expansions and extensions.

This applies equally to renewable energy, where we've seen exponential cost reductions. The levelized cost of wind and

solar is now on par with, or lower, than conventional power sources. We've grown our own investments in renewables over the past 15 years.

From our initial investment in a small prairie wind farm – to our recent expansion in European offshore wind (\$15B).

2. Greater Energy Efficiency

2, our future will be characterized by greater energy efficiency.

Energy demand growth is disconnecting from GDP growth.

That's because of more aggressive fuel standards, efficiency measures and behavioral changes at the consumer level. Here in the U.S., the greater use of natural gas has driven CO2 emissions below 1992 levels while the economy grew by 80%.

As one of North America's largest gas utilities, we've been part of the shift. Through our utility DSM programs, we've helped customers reduce the equivalent of 3.8 million cars off the road for a year.

3. A More Sustainable Energy Future

#3, we'll clearly see a more sustainable energy future.

Consumers have a big – and growing – voice when it comes to inspiring action and influencing political will. Public policy and businesses will increasingly drive lower energy intensity.

Nearly half of Fortune 500 companies have a sustainability target.

Governments are accelerating policy measures like renewable portfolio standards (like here in Illinois) and, emissions targets.

And there's growing momentum around renewables, batteries, storage and more fuel efficient engines.

In the US, 29 states (including Illinois) have renewable standards; another 8 have targets.

The Province of Alberta has implemented a climate policy creating more incentive to innovate. Industry has made a tremendous impact on sustainability already.

Since 1990, Canadian producers have reduced per barrel emissions by more than 30% – in some cases more than 50%.

The Canadian Oil Sands Innovation Alliance (or COSIA) is focused on R&D to find new ways to reduce intensity, minimize water use and reduce impacts to land.

They've invested \$1.3 billion to develop and share more than 900 technologies and innovations.

4. All sources of energy supply

4, it's very clear that we're going to need all sources of energy supply in the future – here's why.

There's no debate that global energy demand will grow 30 to 40% by 2040, even after accounting for greater energy efficiency.

This will be driven by population growth, continued urbanization and improving standards of living in emerging economies. Renewables will grow at the fastest rate (as it makes up only 3% of today's energy supply).

Natural gas will see the highest absolute growth given its low cost, efficiency, existing infrastructure, high reliability and lower emissions.

While Boeing and United are looking at fuel efficiency and sustainable biofuels, there's no immediate zero carbon solutions for air travel, shipping or heavy freight.

Nor are there any easy replacements for hydrocarbons that provide the intensity of heat and energy required for heavy industry (steel, cement, chemical processes).

That's why conventional fuels will still account for three-quarters of our global energy requirements.

5. Greater global energy connectivity

5 is the one that truly brings this all together.

Our energy future will be characterized by much greater global connectivity of lower and lower cost supply with ever growing demand.

2 undeniable facts will drive a huge opportunity for North America, so let me spend a minute on this.

The bulk of energy demand growth will come from developing economies (China and India together will make up the bulk of energy growth) . . . OECD demand growth will be much lower or flat in some cases.

At the same time, North America is developing an unparalleled competitive advantage in providing low-cost energy, with huge supply growth potential.

Put those things together, the future is one where this continent becomes a leading global exporter of energy.

We're just now starting to realize our export potential and by 2030 we could see North America exporting:

- 2 million Bpd of oil and products (4 x that of today),
- 2 million Bpd of NGL (150% growth)
- 16 Bcf/d of LNG (largest LNG market share)

This North American energy advantage I'm talking about is dependent on the connectivity of the Canadian and US energy market.

And it depends on continuation of the largest and most integrated energy system in the world.

The Canadian-US energy relationship has delivered value making us more competitive, stronger together and essential to our energy independence and security.

When it comes to energy, there really is no border.

What has the potential to hold us back

I hope we agree that this vision of a more affordable, abundant, efficient, sustainable, and globally connected energy future is attractive.

But there are roadblocks to achieving that vision. The biggest is building the infrastructure to meet energy requirements and achieve global connectivity.

Over the last decade we've made progress re-plumbing infrastructure to maintain a reliable source of energy to existing markets in the Great Lakes region . . . while also connecting inland supplies to coastal markets for exports.

But to realize our competitive advantage, we need new and timely infrastructure.

Opposition to energy development – and to pipelines in particular – is making that difficult. It's resulting in major permitting delays – what used to take 2 years now takes 4 or more.

More important, there's less predictability in process and timelines.

At a minimum that drives higher costs and increases the cost of capital . . . at worst it locks out capital needed to unleash the competitive advantage.

So let me close by talking about how we enable our energy future.

Reframing how we engage / building trust

I think it comes down to building public trust in what the energy sector does.

Pushing ourselves to be truly world class on safety and environmental protection; and, upping our game in how we engage landowners, communities, indigenous peoples, environmental groups and governments.

In our business that means investing more time on the ground with communities.

Listening to concerns and acting on the advice and input we receive. In the case of our Line 3 Replacement project, that's meant the most extensive community engagement program ever.

And in response to community input, 50 changes to our route (and that's just one example).

We're working with landowner groups to enhance safety and environmental protection . . . building relationships with Indigenous communities.

While the images you see in the news are often ones of conflict, on our Line 3 Replacement project . . . we've signed more than 70 agreements with Indigenous communities.

At a recent Board meeting, we brought Directors together with Indigenous Chiefs from communities long our pipelines.

It reflects the level of commitment to find solutions that respect Indigenous peoples' strong ties to the land and water . . . and that comes with economic growth.

Building trust is not something we can do on our own.

It's business leaders like you that need to get in front of your staff, communities and public policy makers to help tell the energy story.

We're building what I call coalitions of support – union leaders, suppliers, educators, municipal leaders . . . credible, trusted voices who can speak firsthand about the importance of energy.

Most important is this . . . today it's about more than telling people “the facts”.

It's about creating an emotional connection to the energy that's essential to our lives. In the past energy companies thought of themselves as providing a commodity that people needed.

Today, we need to understand how our customers are thinking about energy . . . which is to illustrate not the commodity, but the value we provide.

We need to demonstrate why the energy we deliver is important to them - what it enables them to do – how it fuels quality of life.

And we need to prove we deliver it safely and responsibly, in world-class fashion.

(I'll share an example in a few minutes of how we're telling our story.)

Technology

Technology will continue to be a game changer.

We're seeing digital innovation enhance production, optimize asset management and manage complex systems and services.

There's a lot more potential – and we can learn from other industrial and technological players – airlines, aerospace, automotive.

Human Capital

Finally none of this happens without people – our human capital.

Our future competitive advantage will come from having strong leaders at all levels.

From having a diverse and inclusive workforce that reflects our communities and helps us understand our stakeholders.

And as an energy sector, we need to attract new generations to our business to challenge our thinking, drive change and sustain our competitiveness.

Conclusion – a sustainable energy future

I think we are on our way to achieving this energy vision of the future.

By making an emotional connection, I believe we can make the energy system the sector people want to be part of.

- Lower costs and getting more and more efficient.
- Becoming more sustainable and showing how energy development can go hand in hand with protecting the environment.

It's about building trust and it's about advocating for infrastructure that benefits our customers, communities and our economy.

And that enables North America to fully realize our energy advantage.

As I remind our staff – think about what the world would look like without the energy we deliver.

And that's where I look to you in this room to continue to tell the story of the importance of energy . . .

. . . how it matters to our day to day lives . . .

. . . how it drives our economy and our competitiveness . . .

. . . how all sources of energy fit in the transition to a lower carbon future.

I'll close by sharing a short video clip that helps tell that story.

Remember, it's not about facts and data . . . it's about people – and what energy enables.