

# **Imperial Oil Investor Day 2019**

Tuesday, November 12, 2019

## **Welcome**

Dave Hughes

*VP, Investor Relations, Imperial Oil Limited*

Good morning everybody. For those of you I have not met yet, I am Dave Hughes, I am with the Investor Relations Group at Imperial. Just before we get going, I would first of all like to thank all of you for being here and would also like to thank those of you who are joining us via the webcast for your time this morning.

You will find the cautionary statement in its entirety at the end of the presentation. Obviously it contains some pretty important information on forward-looking statements, reserves, resources, risks and uncertainties, so I would encourage you to read that when you have a moment.

The agenda for the day: I will introduce the speakers as I go through the agenda. Rich Kruger, chairman and CEO, is going to provide an overview and then John Whelan, the Senior Vice President of Upstream, is going to come up and give us an upstream update. Dan Lyons, our Chief Financial Officer is going to provide an overview of the downstream. Then Rich is going to come back up and offer some comments on the financials. Then, finally, Brad Corson, currently President, is going to come up and offer some closing remarks. I would also like to point out that we have Theresa Redburn, who is Senior Vice President of Commercial and Corporate Development as well.

Q&A: you folks have all been through it, we will have mics coming around the room and we just ask that you identify yourself and who you are with. Then we will follow that up with a lunch in the room across the foyer from us. All of the management team will be available to you then to have further discussion with.

Alright, with that, I will turn it over to Rich.

## **Overview**

Rich Kruger

*Chairman and CEO, Imperial Oil Limited*

Good morning. I appreciate seeing you and those of you that traveled to get here, even more so. When we landed yesterday, after enough years in the business we are in, when you live on airplanes, your secretary hands you a package, you get shuttled to a plane, you jump off. When we got off the plane I said, 'Dave I thought we were holding this in Toronto, not Edmonton,' so for those of you that arrived in the last 24 hours or so, I appreciate seeing you.

So, for the next 20 minutes, what am I going to do? I am going to give you a bit of a global energy outlook. I want to talk about oil and gas, how it fits in. I will talk about Canada's relevance. Then I will give a bit of an overview of Imperial, which will be a set up for the rest of the morning, particularly who we are, what we are all about and then turn it over to my colleagues here, so I will get started on that.

## **Energy and society**

I want to start very briefly with energy and society. The subtitle says it all: access to safe, affordable, reliable and abundant energy is critical to human development. What you are looking at here is the Human Development Index, developed by the United Nations. It is fundamentally an assessment of people's overall wellbeing.

Three main parameters go into this: the income per capita, which is considered a proxy for standard of living; longevity -or life expectancy, a proxy for health, and education, a proxy for the potential for growth through skill development.

There is a clear correlation that as living standards rise, so does energy consumption. If you look at the upper right, you see where the United States and Canada are - very high standards of living. As you look to the left side of the chart, 50% of the world's population, some 3.7 billion people, have what is considered a medium-to-low standard of living. This subset of the population has, on average, a ten-year lower life expectancy, 35% less years of education and 25% of that population does not have access to electricity. So it is a bit of an understatement to say that energy is required to advance or support human development.

## **Global energy demand**

Continuing, total energy is expected to continue to grow over time: grow as the population of our planet grows, grow as our prosperity, or economic development continues, and as our middle class around the globe increases in size dramatically. Electricity is the largest, or fastest-growing demand sector. Industrial growth, construction, manufacturing to meet the needs of a growing population will also increase significantly, as will commercial transport - energy required for commercial transport, expanding economy, movement of goods around the globe.

Energy consumption continues to shift from the [developed] economies to the non-OECD, led by India and China. You can see on the chart on the right OECD energy demand, as a percentage, declining over time, although absolute energy will increase in the OECD but efficiency gains are expected to outpace the economic growth in the more developed countries.

## **Global energy mix**

Global energy mix: I think the message here is there is there is no single silver bullet in terms of energy supplies. Oil - the number-one source of energy today, is expected to continue to be the largest source of energy, led by commercial transportation, chemical feedstock growth; more on this in a moment. Natural gas, overtaking coal as I speak, has the most absolute level of growth - about 25% of total energy by 2040, the period shown on the chart here. Coal, although still significant, particularly in the developing world, we would expect to see its share of global energy mix to decline over time.

On the bottom: nuclear, wind, solar, other renewables. Strong growth, approaching 40% of incremental or new energy demand over the next 20 years or so, together, will make up about 23–24% of total global energy by about 2040.

Fossil fuels, you can see on the chart declining in total terms, percentage terms, led by coal, with natural gas and oil expected to hold their share of energy mix over time.

### **Global liquids outlook**

Liquids, as I commented, are expected to remain the largest source of energy over a wide range of scenarios. It is interesting to note that the first time the world started using oil was sometime, arguably, in the 1870s in any material way for an energy source. It took 100 years, to the 1970s, before oil was the largest energy source in the world, ultimately displacing coal. The point is our energy system is vast. It requires time and money to evolve, given its size, complexity and today's reliance, particularly on liquid hydrocarbons. We see an energy transition occurring over many, many decades but during that time oil and liquids will continue to be a large part of our energy equation.

In terms of future liquids, the growth, we see it in non-OECD in particular, and I commented on the importance of our growth in commercial transportation and chemicals use.

I want to comment on light-duty transportation fuels: passenger vehicles, SUVs, things we move around in each and every day. Round numbers today, light-duty transportation fuels are about 25% of the total liquids demand, one out of four barrels. Our outlook here assumes that light-duty transportation fuels peak and then slightly decline over time, despite a growing vehicle count globally.

If we hypothetically said that electric vehicles would displace all light-duty transportation fuels by 2040, hypothetically, you see the dashed line there, which would be that sensitivity. Now, on our globe today, there are about 5 million electric vehicles. In this outlook we would assume that by 2040 there will be around 1.8 billion passenger vehicles of some sort. So, to achieve a sensitivity where the entire light-duty transportation fleet is replaced by electric vehicles, we would have to see electric vehicle sales of 100 million, 110 million, 120 million vehicles a year starting as soon as four, five, six years from now to be able to achieve that point in 2040. We would need to see sales that are more than 100 times, on an annual basis, what they are today and then ongoing over time.

If this were to happen, total liquids demand, as shown by the dashed white line, would be roughly at about the 2013 level of 93–94 million barrels a day. So there is a lot written about electric vehicles and when you read it you can infer what it would mean on overall oil or liquids demand but I think it is important to note that that is just one component of overall demand.

Continuing on liquids, liquids scenarios. If you accept that oil will be a big part of our future over a range of scenarios, what you would conclude is that significant ongoing investment will be required to meet demand given decline through depletion. This investment will be required in almost any of the reasonable scenarios that are out there. The chart shows demand in 2040 for a number of forecasts, including forecasts of IEA, others and then an average of outlooks associated with 2°C scenarios. In all cases, they point to the need for continued investment, ranging from a lower end of about \$13 trillion US between now and 2040 for the IEA Sustainable Development [Scenario], this is somewhat similar to the average of the 2°C scenarios shown by the diamond, to a higher number of about \$21 trillion US between now and 2040 for the IEA New Policies Scenario, similar to the ExxonMobil Outlook, shown by the dashed line.

### **Global oil reserves**

So the question is: where will the future supplies come from? Ten countries hold more than 80% of the remaining liquid reserves on our planet. Canada is the third largest, as shown in the table. There are many other producers around the world today but if you look to the future,

the household names in the oil and gas industry in the decades to come are shown on this chart with these top ten. Canada is at number three, the US is at number nine, five of the other countries are in the Middle East and then rounding out the ten are Venezuela, Russia and Libya. I would ask you to just take a look at that list for a moment and soak on it.

Over the next several pages I will provide some comparisons that continue to reference these top ten reserve-holding countries.

### **Environmental ranking**

I will start with environmental ranking. What the chart graphs is relative environmental performance. It is a report produced by Yale and Columbia universities: 180 countries, 24 discrete performance parameters. These are parameters such as air quality, water and sanitation, heavy metals, biodiversity, forests, fisheries, climate policies, pollution, agriculture, you get the point, and on and on. The index weights these parameters, includes both performance-related and policy-related. It has been developed and improved over the past 20 years.

The bottom line: of the top ten oil reserve holders in the world, Canada ranks number one in environmental performance.

### **Social responsibility ranking**

Social responsibility: what you are seeing here are graphs that show relative social progress developed by the Social Progress Imperative. This is a global non-profit based in Washington, DC. 149 countries are included, 51 parameters, parameters such as nutrition, basic medical care, shelter, personal safety, access to education, health and wellbeing, environmental quality, personal rights, personal freedom, inclusiveness and so on. The index attempts to exclude a country's macroeconomic indicators to get at what it is like for a true, or an individual citizen in the particular country.

The bottom line here: of the top ten oil reserve holders, Canada ranks number one in social progress and social responsibility. Note that four of the ten could not even be ranked.

### **Governance ranking**

Governance ranking: the graph shows relative governance performance, developed by the World Bank, specifically Aart Kraay in collaboration with the Brookings Institution's Daniel Kaufmann. There are more than 200 countries in this assessment, six dimensions: citizens' voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, control of corruption. This particular index has been developed and reported for more than 20 years now.

The bottom line, you have probably heard this now a couple of times: of the top ten oil reserve holders in the world, Canada ranks number one in governance.

To summarize: number one in environmental, number one in social responsibility and number one in governance.

### **Environmental progress**

However, let me bring it a little bit closer, right to the point of today's issue, the most publicly-discussed and debated issue: carbon emissions and their effect on the climate.

What the chart shows here is a wells-to-wheels, or lifecycle greenhouse gas emissions intensity for oil sands over time. In the 1960s and the 1970s we had the pioneers in the oil sands of cyclic steam stimulation, [and] mining with upgraders. Moving on over time, in the 1990s and 2000s, the introduction of SAGD operations, PFT mining such as at our Kearl operation. Then, more recently, discussions and testing, piloting, on new solvent technologies.

The dashed line represents the average barrel refined in the US. The message here is new developments in Canada have no more greenhouse gas emissions intensity than the broad suite of global crudes. So to call Canadian crudes the dirtiest oil in the world is simply not true.

I think the better news here is with new technologies, technologies we will highlight and talk about today, particularly in situ related and solvent-related, we see driving greenhouse gas emissions intensity lower than the average of global crudes.

### **Summary**

A summary here of what I just went through: I will let you glance at that while I just comment that I think the question should not be: why Canada? I think the question should be: why not more Canada?

In 38.5 years in this industry, working in more than 20 countries on six continents, in my humble opinion, I can raise my hand and say I believe that the world is a better place if the incremental barrel of oil is produced and comes from Canada than the vast majority of those other nine countries that I showed on the earlier charts that hold the vast majority of the oil and gas resources on our planet.

### **Imperial's operations**

Okay, let us shift topics. We have discussed why oil and gas, why Canada, now let us start talking about why Imperial. Broadly, the scope of our operations, many of you are quite familiar with this, we have a high-quality set of assets. We are, of course, integrated and we are very balanced across the bottom, balanced being, roughly, a 400,000 barrel a day equity crude producer, roughly a 400,000 barrel a day petroleum refiner and roughly 500,000 barrels a day of petroleum product sales of all types.

We are coast to coast in our asset base and we will highlight these through the subsequent presentations today.

### **Imperial's strategy to win**

Strategy to win: we showed this to you a year ago; it is unchanged. It is all about increasing our cash flow and delivering industry-leading returns throughout the business cycle. The components here are where we strive for industry leadership in reliability, safety and integrity. We are leveraging technology and integration in our relationship with ExxonMobil to differentiate ourselves from our peers. We are continuing to achieve improvements in organizational efficiency and effectiveness, being the most valued partner with key stakeholders within our industry. Then, of course, we are aggressively capturing new opportunities and managing our existing portfolio to maximize value. We will highlight each of these throughout the presentations this morning.

### **Integration benefits**

Integration benefits: this, again, will largely serve as an outline for the way we will go through the discussion today. Equity crude - placing it in the highest netback markets; cost-advantaged

feedstocks for both our refineries and our chemical plant; highest-value sales channels for our petroleum products; multiple and optimized transportation networks, both for feedstock supply as well as equity crude disposition. Then I have commented on the access to industry-leading technologies and know-how. There is more to come.

### **Safety performance**

Let me talk about a couple of performance parameters and I will start with safety. Safety, in our mind, is a bellwether. It gives you an insight into the overall quality of an operation in the broadest sense. From a safety standpoint, we feel we have a moral obligation to provide a safe workplace and it is also good for business. Safety incidents disrupt operations, add cost, and slow down progress. So there is no conflict whatsoever in our unwavering commitment to achieve a workplace where nobody gets hurt.

If you look at our company over time, any period of time, one year, five years, ten years, what you see is industry-leading performance and continued improvement. I have happened to show this as TRIR: total recordable. A recordable is any form of an injury where an individual needed some form of medical attention, albeit from a cut that needed a stitch to something more serious. You can see our performance versus our peers and then our year to date through the first nine months of the year, which is on pace for continued improvement and what would be another year of best-ever performance.

### **Environmental performance**

Environmental performance: we have a history of technology and innovation. 100 years of commitment to R&D in Canada - the longest of anyone in the oil and gas industry, or if you take it over a shorter period of time, we have invested more than \$2 billion over the last 20 years. Current rates are about \$150-200 million a year in R&D.

We continue to reduce the greenhouse gas intensity of our operation. Over the prior five years, that intensity was brought down some 20%.

In August 2018, we announced plans to further reduce the carbon intensity of our oil sands operations by another 10%. I am pleased to say that about a year and a half into that commitment, we are more than half way toward achieving it. New technologies offer the potential to further improve our environmental performance, as measured by greenhouse gas emissions intensity, through use of solvents in oil sands operations.

### **Social performance**

Social performance: we strive to add value by our very presence, above and beyond the value we add to shareholders explicitly. This particular page highlights one aspect of that, the value we strive to add in Indigenous communities around our operation through collaboration. It starts with investing in the model shown on the left for consultation, business development, workforce development and broader community relations.

A few fun facts: we have spent \$2.6 billion with Indigenous suppliers over the last ten years. We have a long-running recruitment and training program. There are more than 1,000 self-identified Indigenous workers in our employee and contractor workforce. We continue to strive for new ways of working together, whether that is promoting the business, workforce development, enhancing the dialogue in environmental stewardship, or looking for and achieving agreements that can provide benefits to our Indigenous partners.

It is very much a lifecycle, how we approach it. The consultations and community relations are fundamental to it. I commented that this Indigenous [engagement] is one aspect of our social performance. Other areas: we paid nearly \$5.7 billion in taxes and royalties to jurisdictions across the country in 2018, our corporate donations, [through] our employee matching programs and then support for programs such as SAIT's most recent global water diploma program. We take our social responsibility very seriously, as we do corporate governance.

### **Corporate governance**

We have a diverse, independent board of directors, five independent directors, two of which are female, including Miranda Hubbs, who has joined us here today. Good to see you, Miranda. They have very diverse backgrounds and experience.

We have five committees highlighted here, chaired by the independent directors responsible for identifying and overseeing principal enterprise risk for our business. I highlighted one here, Public Policy and Corporate Responsibility. This is a committee that we expanded and broadened recently, with oversight for environmental health and safety compliance and assessing the potential impacts of public policy on our performance, including the risk over time of climate change.

### **Overall ESG rankings**

So, when you put all that together, where does it position us? This chart plots environmental performance on the X-axis versus social and governance performance on the Y-axis. It was put together by BMO Capital Markets in cooperation with Bloomberg Corporate Social Responsibility Hub. It is based on performance, disclosure, transparency, policies and then relative ranking: nearly 18,000 companies were a part of this. 140 countries, [and] 650 data sources were included. Imperial is displayed here versus both Canadian peers and international oil and gas companies. I am quite pleased and proud, in terms of our relative position but I would also say and I hope you got this sense in my earlier comments, that we are committed not only to continued leadership but continued improvement in each of these areas.

So, with that serving as an introduction, I will turn it over to John Whelan, who will now review our upstream.

## **Upstream Overview**

John Whelan

*Senior Vice President, Upstream, Imperial Oil Limited*

### **Upstream at a glance**

Thank you Rich, and good morning everybody. I thought I would start with a very high-level overview of our upstream business. As you know, we have a large, long-life, predominantly oil sands portfolio. We have our Cold Lake in situ asset: a cornerstone asset for us and a leading industry asset in many, many ways.

We have Kearl: our next-generation Paraffinic Froth Treatment oil sands mining asset. An asset, where, because of that proprietary technology, we are able to go straight to market without an upgrader.

Syncrude, with an upgrader is an oil sands mining pioneer in many ways and an asset where we have been an owner from the very beginning.

Then we have what I have called our remaining portfolio. We have our conventional later-life assets, the largest of which is Norman Wells in the Northwest Territories. You will recall we restarted production late last year as the Enbridge pipeline repairs were completed.

We also have a liquids-rich unconventional position in the Duvernay and the Montney. Of course we also have an outstanding portfolio of future in situ opportunities that I will talk more about.

Collectively, we hold some 6.5 billion oil-equivalent barrels of proved and probable reserves and in terms of production, we are basically a 400 KOEBD producer, Imperial's share.

I will talk a little bit more about our current performance, as well as growth opportunities as we go forward.

### **Upstream assets**

Before discussing our assets in turn, I would like to touch on the upstream overall. I mentioned our 2P reserves. I would also highlight that we have a very high quality resource base and nearly 30 years of proved reserve life. That excludes, of course, our probable reserves and our contingent resource.

The next thing I would highlight on this chart is how much our business has changed over the last 20 years. If you look at the plot and you go back 20 years to 1999, a large portion of our production came from unconventional assets. 50% was oil sands and the rest from a broad range of unconventional assets producing roughly 50/50 oil and gas.

If you fast-forward ten years to 2009, you will see where two-thirds of our production was coming from oil sands and move forward another ten years, to today, we are 90% plus oil sands. We have three core assets, as you can see on the left: Kearl, Syncrude and Cold Lake.

That was a deliberate move, that was a choice we made in increasing our concentration on long-life, high-quality oil sands assets. However, with that heavy oil concentration, two things are really important: reliability is critical because we have 90% of our volumes coming from three assets, versus a range of conventional assets and we need deep oil sands knowledge and operating expertise. We have laser-like focus on those two things in our business.

### **Upstream overview**

Continuing with the upstream overview, on this chart I would like to provide a view of our production and cash from operations. As you know, our focus is on growing profitable volumes and cash generation.

In the plot on the left you will see our production over the last nine years: 2011–2019. You will notice significant growth in that volume post-2014, when we were producing about 300 KOEBD to where we are today, at 400 KOEBD. That growth was largely driven by Kearl, partially offset by conventional decline and asset sales.

If you look at the plot on the right, looking at cash from operations, the years and the time periods are the same and you will see, a \$2.5 billion annual average cash from operations in the 2011–2014 timeframe. WTI, at that point, averaged \$95 a barrel and cash generation was really coming from Cold Lake and Syncrude.

As you move into the 2015–2018 timeframe, there was a big drop in WTI and WCS. While our production was up in those years, our cash gen was down to about \$700 million per year, driven by price.

I am now very happy to say, as you look forward and look at 2019, we see our cash from operations at \$1.3 billion year to date and nearly double what we were seeing in the 2015–2018 timeframe.

We are seeing a couple of things at play here: we are seeing the response to price. There is no question. WCS is up about \$9 versus the 2015–2018 period. However, we are also seeing the benefit of higher volumes and improved underlying asset performance.

### **Cold Lake**

Starting with Cold Lake, I will now discuss each of our assets in turn. Our large-scale Cold Lake in situ operation has been the cornerstone of our upstream business for many years. When you look at the 2P reserves on this chart, it will remain a core asset for many years to come.

2019 production, through Q3, is at 141 KBD. That is a little lower than we have seen in recent years and I will come back and discuss that a little further.

There are a few highlights I would like to make on Cold Lake specifically. We continue to leverage our extensive, four-plus decades of experience and the asset continues to evolve and improve.

The application of new technology has always been and remains to be a key to Cold Lake's success. Part of that technology is the use of solvent recovery techniques to lower costs, to improve environmental performance and maximize recovery.

I would also highlight that we restarted our drilling program in 2018 after a couple of years' break, and steam in from the first pads was the first quarter of this year. We are now starting to see volumes uplift from that program.

### **Cold Lake performance**

Looking a little closer at Cold Lake performance, our focus has remained on lifecycle optimization and cash generation; that has not changed. This is an asset that has performed extremely well for us and we continue to see strong base operating performance. However, we are having some challenges with Nabiye that will see our overall production in the range of 140KBD for the next two or three years.

As mentioned, our focus is on maximizing lifecycle return and recovery and we have three key focus areas in that regard.

The first is on optimizing steam distribution. Steam is critical for bitumen recovery, it needs to be available and it needs to be deployed to the right part of the reservoir to improve and maximize recovery. Our team does a really good job of doing that.

Fully utilizing our existing well bores: we have 5,000 well bores at Cold Lake and they need to be taken care of to make sure we can maximize recovery. We have a very active well work program looking at the integrity and the reliability of those wells. That is the most profitable work we do.

Then, near-term capital-efficient opportunities. I will come back and talk about the Grand Rapids development in more detail; that is a key part of it. Another key part of it is the

drilling program that we restarted in 2018. That is contributing about 2 KBD in volumes this year; 5 KBD next year and we see ourselves continuing with that drilling line for the foreseeable future.

Looking at the plot, you can see the 140 KBD range in the 2020–2022 period and then rebounding to 150 KBD when we get into 2023. In terms of unit cash, what that is going to mean is we are probably going to be in the \$14–15 a barrel unit cash cost, 2020–2022, until we get the volumes back up and get the asset back to the \$12–13 a barrel range. However, at the end of the day Cold Lake remains positioned for strong cash generation in all business cycles.

### **Nabiye performance**

In discussing Cold Lake's forward development plan, I want to acknowledge Nabiye's performance. Very careful analysis of Nabiye's results has been applied to all of our go-forward development plans and I will talk about that. However, we have had some issues with Nabiye reservoir performance. I would like to describe those.

You can see where Nabiye is on this chart and it is quite a distance from the heartland of Cold Lake, which is around Maskwa, Leming, Makheses and Mahihkan. As we moved out into that area, we moved into a thinner reservoir. We knew that, we knew it was going to be thinner. Our expectations were tempered appropriately for going into that thinner reservoir. That said, our pads have not always been able to produce what we had predicted and that thinner reservoir is behaving a little differently than we had expected as well.

In addition to that, the wells have required very careful steam management, due to the potential for steam excursions into a shallower reservoir. These two things have resulted in reduced steam injection volumes and shorter steaming cycles to manage the reservoir and to manage the cap rock integrity.

There is not an integrity issue here. The team is managing that very well so there is no integrity issue per se. However, the net result is lower production and more well interventions than we had expected. The production is about 10–15 KBD below our original expectations at this point in time of the lifecycle.

Stepping back from that, though, despite the challenges at Nabiye, it is still adding value to the assets. For example, our year-to-date cash generation from Nabiye alone is about \$100 million. The steam plant facilities are efficient and they are high-performing and we have now internalized all of that learning and applied it to our future development plan. I will explain a little bit of what that means.

I would say we have learned a great deal as we have gone through the Nabiye experience, including more about the different relative geologies across the field. A couple of things that we have changed is our well spacing. We have reduced our well spacing at Nabiye and at Mahihkan and we have continued to optimize our horizontal well designs. We drilled the first horizontal well in 1979 and we continue to improve on that.

Those two things are critical, those learnings have applied and we are seeing positive results from those. However, the team has also stepped back and we looked at the complete overall development plan for Cold Lake and retested what is the highest and best use of steam capacity.

Going through that, an opportunity has come to the fore, an opportunity where we can use the excess available steam at the Nabiye plant to develop the Grand Rapids reservoir.

We will use steam from Nabiye to develop that reservoir in a very capittally-efficient manner. If you look at the chart here, I have highlighted the locations of the Grand Rapids reservoir. This is a shallower reservoir. What you can see in yellow is the first phase of that development. The green outlines are the future developments, so it is a sizeable resource and a sizeable reservoir for us.

### **Grand Rapids development**

If I talk a little bit about that Grand Rapids, what it is going to be, it is going to be the industry's first solvent-assisted, steam-assisted gravity drainage, SA-SAGD, commercial development. If you look at the chart you can see what that is. Wells are going to be developed in horizontal pairs, with solvent and steam injected into the injector well. Bitumen viscosity is lowered and heated and the bitumen flows back through the production wells.

In addition to being a highly attractive project, SA-SAGD is also an environmental improvement over the base CSS pads, providing a 40% reduction in greenhouse gas intensity.

As I stated earlier, this is first development in the Grand Rapids reservoir. Cold Lake has historically produced from the Clearwater reservoir, which you can see on this chart. The Grand Rapids is the shallower of the two reservoirs.

We are planning to develop this in three or four phases over a fairly long time horizon. What that is going to enable us to do is use existing facilities, de-risk future phases - capturing and applying lessons learned and optimizing, across all of Cold Lake, the best use of our available steam.

The first phase will start drilling in the second quarter of next year and we plan to start up in late 2021. Average production from this very first phase is 15 KBD, at a cost of \$450 million.

On a really positive note, a regulatory approval is in place and the project is ready to proceed.

### **Grand Rapids reservoir and technology**

Let me talk a little bit about our confidence, what supports our investment confidence in this Grand Rapids development. As we move into this, we are going to be drawing on a very deep bank of knowledge and experience. That supports our investment confidence.

The Grand Rapids reservoir has been characterized through 2D and 3D seismic, through delineation drilling and well data like cores and logs and pressures and so on. We have collected that over time as we have developed the Clearwater reservoir and as we had an eye to developing this Grand Rapids potential as well.

We then have a comprehensive reservoir simulation model that integrates all of that data: surface data, laboratory tests, analogue studies, field trials and so on. What we have been doing is studying other in situ operations, including two directly in the Grand Rapids, coupled with our own reservoir engineering understanding to forecast the performance outcomes for Grand Rapids.

The simulation and analogue work that we do and the studies, that is done in an iterative loop. That enables us to hone in on the best well designs, the best spacing, and the best solvent concentrations and so on.

Imperial is a leader in laboratory testing. We have our own lab, our own research facility and our physical model experiments have allowed us recreate a representation of the Grand Rapids reservoir. That is what you see on the top-left of this chart. Those are our physical models in our lab in Calgary. We use those to put that representation of the reservoir together.

We can change factors like bitumen saturation, pressures and solvents, in there and get results in a matter of weeks and months, versus doing it real time over years.

Then we have our multi-year pilot. We have had an SA-SAGD pilot at Cold Lake since 2009 and that gives us direct operational experience in terms of the technology.

So we take all of that, the 3D seismic, our delineation drilling, our analogue analysis, lab testing, pilot testing, put it into our simulation models. That work is what is giving us high confidence in this investment opportunity.

### **Cold Lake value maximization**

I think you probably picked up from all that the Grand Rapids reservoir is a really key part of our Cold Lake development strategy. It has been; we knew this day was coming for a long time. However, building on that, I tell you I am really excited on how it improves upon our previous development plans and how the project fits on the strategy of maximizing asset value.

The development plan for this resource, which we talked about at the investor day last year, was originally planned through our Cold Lake expansion project. That would have required construction of an additional Nabiye-scale steam plant and a significant upfront cost of about \$2.4 billion. That development would have ultimately delivered about 50,000 barrels a day, nominally starting up in the 2030 timeframe and running for 30 years.

This new approach that we have taken, the Grand Rapids phased development will capture the same resource through smaller, phase developments. The individual phases will use the steam from Nabiye and then other Cold Lake plants as it becomes available. It is more capital efficient in terms of the savings are \$1 billion plus of lower capital costs.

It depends a lot on your timeframe because of this phased approach. However, if we look out 20 years, if we look out to 2040 and we look at the cost of this versus the Cold Lake expansion, the savings at that point in time would be about \$2 billion less capital spend over the next 20 years.

Capital efficiency for the Cold Lake expansion project was about \$40,000 per flowing barrel. This one we see as being something less than \$30,000 per flowing barrel.

### **Cold Lake outlook**

To conclude on Cold Lake, if you look at the chart at the top left, Cold Lake has been in operation for four-plus decades. We have only produced about the same amount as we currently have remaining in terms of proved and probable resources, so clearly Cold Lake is going to be a big part of our portfolio for many years and decades to come.

Due to the challenges that I mentioned at Nabiye, though, we will be currently producing about 140 KBD. We see that being the case for the next two or three years. However, through the development off this Grand Rapids reservoir, the maintenance of our drilling and well work programs and applying the right technology, we see it returning to 150 KBD, and we are relentlessly focused on that and doing that by 2023.

The table at the bottom left really shows how these new technologies in the asset have evolved. If you go back to 2000, it was 100% cyclic steam stimulation. That was how we developed Cold Lake. Look at it today: slightly less than 50% of our volumes are from CSS, slightly less comes from steam flood and you can start to see a small wedge of solvent recovery at the top of that bar. That is our LASER development that we have kicked off.

If we look out another ten years or so, we see a much more balanced input from CSS, steam flood and our solvent recovery technologies.

Overall, our objective remains the same: maximizing long-term cash generation.

### **Syncrude**

Syncrude is a true pioneer in the oil sands mining business. First production was in 1978, over 40 years ago. Just recently, on October 18<sup>th</sup>, the asset produced its three billionth barrel. That is gross, so for our share, 750 million barrels Imperial's share. Again, if you look at the 2P reserves, we have about 700 million barrels of 2P reserves remaining.

We are really part to have been part of Syncrude from the very beginning. We are the only original remaining owner and feel very positive about the future that Syncrude has in front of it.

A few aspects around this asset: the upgrader produces a high-value synthetic crude that has historically traded within a few dollars of WTI. Reliability continues to be key in improving overall performance and that is getting the full attention of Syncrude leadership and the Syncrude owners.

We are starting to see some encouraging results. If you look at the year-to-date production through Q3, at 76 KBD, then you may recall last year, for 2018, it was 62 KBD, so we are starting to see some improvements there.

Overall, though, what I will outline in the next page is our focus is still on further improving reliability, developing additional resources and leveraging the owners' strengths to make this asset the best it can be.

### **Syncrude reliability**

As I mentioned, we are seeing some encouraging results as we have continued to focus on sustaining our reliability improvements through our multi-year plan and all of the hard work that has gone on over a number of years.

I would say we continue to have high confidence in the reliability improvement plan and the progress we are making. It is meeting our expectations.

Our focus remains on eliminating one-time events. We spoke a fair bit about that last year and how that was limiting the potential of the asset. If you look at the chart on the left, I will highlight a few things.

First, we remain committed to an annual production target that is 75–80 KBD, our share. You can see that by the grey band. Second, if you look at the prior four years, you can see the impact of these one-time events, a significant event each year over those four years. That is the dashed white box on the top of the bar there. You can see, without those one-time events, we would have been at our target production. However, they did occur, they are part of our reality and we are focused on learning from those.

Ongoing reliability improvement is focused on a few key things: mechanical integrity, like piping upgrades, turnaround planning and execution - optimizing our tankage, for example, and then leadership and workforce development and collective competency.

We have had a very collaborative approach with all of the owners and have been sharing best practices, allowing us to learn from each other and improve Syncrude.

If you look at positive performance trends, how things are going, I think we have had a number of them. Obviously the volumes year to date is the key piece of it. However, our last 12 months through Q3 of 2019 has been the best 12 month production in the asset's history. It has been at 80,000 barrels a day, the top of our range and we have had four monthly records in that period as well.

Going forward, we look to eliminate one-time events, get the utilization of our upgrader up in the 90% range and achieve best-in-class performance.

Our goal remains to get the asset to \$30 per barrel US, all in, on a cash OPEX basis.

### **Mildred Lake mine extension**

Consistent with our view of Syncrude's future potential, I would like to talk a little bit about the Mildred Lake mine extension, which will sustain 40-plus KBD of production for Syncrude.

As you can see on the map on the left-hand side of the screen, the project is really a natural extension of the existing Mildred Lake North Mine, as the North Mine is going to be depleted in the 2027 timeframe. We will extensively leverage existing mine infrastructure and support an additional ten-plus years of mining operations. Gross project cost is \$1.5 billion, going to be spent in the timeframe between 2020 and 2024, more back-end loaded into 2023–2024 timeframe. It captures some 540 million barrels of resource, with a very attractive development cost of about \$3 a barrel at first ore in 2024.

So, extension really enables capturing this reliable, low-cost source of bitumen to maintain our current rates. Regulatory approvals are in hand and the work has already started to support 2024 first oil.

If we look out to 2027, the Mildred Lake expansion will support about 50% of Syncrude's total production.

### **Collaboration**

Our goal through collaboration is to leverage all of the owner's strengths and continue to accelerate performance improvement at Syncrude. Over the past few years we have seen ownership consolidation at Syncrude. Today, 80% of the ownership is held by companies that have oil sands mining experience, namely ourselves and Suncor. All of the owners have oil and gas industry experience.

That really offers Syncrude the opportunity to draw upon the expertise, the services and the personnel from owners.

If you look at this chart, in the very background of this, you will see the proximity to Suncor's base mine. You can see it in the background there. That opens up the opportunity for regional sharing of services, like warehousing and camps. Those items are being worked very hard and some of them are already in place today.

The other thing is, of course, owners can provide business services in IT, procurement, financial services and so on. These are things that we have been providing over the last decade through the Management Services Agreement.

However, as we have looked at this and collaborate with Suncor, given their larger ownership position in the 60% range, we are going to be starting to transition those services to Suncor-provided. That just makes sense given their ownership and given their proximity to the asset. At the end of the day, we are just continuing to work with the owners to find a way to make Syncrude as good as it can be.

We will continue to provide significant technical support in terms of reliability improvement support, upgrade our technology and expertise and best practice sharing. So we continue to be very heavily involved in this asset.

Beyond that, I think there is a lot more opportunity out there in terms of the performance. An example of that is two interconnecting pipeline that are going to carry bitumen and sour synthetic between Syncrude and Suncor. They have been approved, commercial agreements are in place, and construction has started already. That is going to allow the movement of intermediate streams between the Syncrude and the Suncor upgrader and allow bitumen to move back and forth between the two upgraders to maximize upgrader utilization. It adds value for both ventures and will start up at the end of next year.

I would say that is an opportunity that we just cut our teeth on. We see a lot of opportunities when we look at how we work together and collaborate to drive performance improvement overall at Syncrude. We are very positive about Syncrude's future.

### **Kearl**

I am really excited today to talk to you today about Kearl. I have been working on Kearl in a pretty significant way for the past seven years. While I have always been super confident that this asset and our team would deliver on expectations, I probably was not always excited to talk about it. There were some challenging times, but we have come a long way.

We refer to Kearl as our next-generation oil sands mining operations. That refers to our Paraffinic Froth Treatment technology. As a result of that technology, as I mentioned earlier, we are the first oil sands mine able to sell our product directly to market, without upgrading.

It reduced our capital investment and it places our wells-to-wheels greenhouse gas intensity of Kearl on par with the average barrel refined in the US today.

PFT essentially strips out the heaviest, lower-value parts of the barrel, the barrel that would have the highest greenhouse gas intensity to process and we put it right back in the ground at Kearl.

With Kearl we also have Mother Nature on our side. We have a large, high-quality resource that will produce for decades to come. We are focused on continuing to improve Kearl's performance, meeting our production commitments and our near-term production growth.

We looked at Kearl as an organization and saw this as our single, biggest challenge, a corporate-defining opportunity. The whole organization has been seizing this opportunity.

We have started to demonstrate what Kearl is capable of, with 206 KBD last year and 204 KBD through the third quarter of this year, in line with our commitments.

We see significant profitability opportunities as we look forward.

### **Kearl performance**

When it comes to Kearl, we are focused on each and every element that drives asset performance, most notably profitable production growth, cost structure and realizations.

In our drive to make Kearl all it can be, we have leveraged our full organization. That focus has really focused on improving Kearl performance, growing cash generation capacity and delivering on our production commitments. We have done that and we have a further broad range of opportunities to increase the value of the asset.

A large mining operation like Kearl does need some care and feeding. In that regard, we see sustaining CAPEX to be in the range of \$5 per barrel CAD. In terms of unit cash OPEX, our target remains unchanged. We are looking to drive our all-in unit cash OPEX to \$20 a barrel.

Unit cash OPEX can be represented in many different ways, so to clarify what I mean when I say all-in, I mean it is fully burdened with overhead and corporate costs, controllers, research, IT, HR, parts of my salary and that of my colleagues here today, so fully-loaded cost.

On the chart to the left you can see what we are trying to do with the asset and what we have been doing. If you look at 2015–2017, the asset was producing about 165 KBD; 2018 and 2019 were just north of 200 KBD. When we go to next year and the year after, the asset is at 240 KBD; I will talk a little bit more about that. We are then ramping up from there till we get into the 2024-plus timeframe at 280 KBD. Over that period we will also be improving our base cost structure; all of that is what gets us to \$20 a barrel.

### **Kearl unit cost reduction**

Let us look at the pathway now to achieving that cash cost of \$20 a barrel. I will discuss each of these things in detail but before doing that I wanted to highlight and illustrate the major components that lead us to that goal. Starting on the left of this chart, the unit cash you see represents Kearl's unit cash in 2018 and 2019, when we were producing around 200,000 barrels a day. As you are well aware, we have our supplemental crusher project ongoing for start up late this year. That project will allow Kearl to produce 240 KBD. With the crushers online, you can see the reduction in unit cash, as represented here in the waterfall.

The next is a series of mine and plant improvements to allow us to further unlock production volumes, as well as cost reductions, through a variety of small and mid-sized projects. That will contribute an additional unit cost reduction, as you can see.

Another key component is moving to autonomous haul trucks. We have shared this in the past. I will talk a little bit more about it again today. The opportunity continues to progress and we are seeing a unit cost reduction from staffing and productivity improvements.

Digital remains as a transformational program for our operations: finding ways through digital to complete work and optimize operations to reduce costs and enhance volumes. We are taking action to be a leader in digital and artificial intelligence and we also see that as a contribution to getting to \$20 a barrel for Kearl.

You put these four things together, that is the pathway that we are following. I would say, from a cash generation perspective, when we look at this it will improve our asset's cash from operations something north of \$0.5 billion a year.

### **Supplemental crushers**

Let us start with the supplemental crushers. I am really excited about this capital-efficient addition of 40 KBD annual average production in 2020. The investment involves adding supplemental crushing capacity, surge bin feed conveyors and installing hydrotransport line interconnections.

If I draw your attention to the chart, you can see the project is adding an extra crusher at each existing plant, as well as associated feed conveyor system. You see that in blue.

Then, in terms of the hydrotransport interconnect, it adds equipment that connects four slurry lines. This allows combinations of lines to feed either plant. These will allow planned maintenance to occur in this part of our facility without any impact to volumes and it will mitigate the effects of unplanned reliability events.

This project is going to provide a step change in reliability for us, cutting our current scheduled and unscheduled downtime in half.

In terms of cost, it is \$600 million gross investment and from a capital intensity perspective, a very attractive \$15,000 per flowing barrel. It truly is foundational to improving Kearn's profitability and on target to start up at the end of this year.

On this chart, the photo you see in the background is the K1 supplemental crusher. It is in the foreground of the picture and it is going off to the right, up what we call a ski slope, into our surge bin. Then, on the very back on the right, is the existing crusher.

So, as you can see, things are progressing. We are going to show a video over the break where you will see a little more detail of this and some drone-captured views. That is worth a look.

Overall, the project is nearing completion. The project group is deep into commissioning and hand over to operations for start up. Our operations readiness team has been diligently working on operations and maintenance plans, start-up sequencing, staff preparedness and so on, to make sure that when this starts up we have our people, our processes and our equipment ready from day one to meet our goal of 240,000 barrels a day.

As we look at 2020, we expect a seasonal production profile similar to what we have traditionally seen at Kearn. If you look at the chart here on the left, the first quarter is expected to be in the range of 200,000 barrels a day, as winter operations traditionally are lower production periods and the project is ramping up to full rates. In the second quarter, we see production about 240,000 barrels a day: better operating conditions, lower downtime, somewhat offset by the start of our turnarounds and at this stage the crushers are fully ramped-up. Third quarter, traditionally our highest production months: we are anticipating new high-water marks for Kearn as we come into the summer well north of 240 KBD. Fourth quarter: we do have some turnaround impacts again coming in there but we see the asset producing above 240 KBD in the fourth quarter and net-net that gives us our 240 KBD annual average for the year.

### **Mine and plant improvements**

This is the next step that I talked about on the waterfall. We are looking, of course, beyond 240 KBD and we have a series of targeted mine and plant improvements. We see a pathway to 280,000 barrels a day and nominally thinking, as I mentioned, 2024-plus, with a ramp-up occurring in 2022 and 2023.

If you look down this list of opportunities here, what I would point out is that we have opportunities that span all of Kearn, from the resource through mining or preparation extraction, froth treatment and on to market.

I will start with enhanced mine planning. There are many aspects of this but what it is really all about is resource selectivity. The benefit of that is feed stability and overall bitumen recovery improvements. A small example of that is we moved to using more hydraulic shovels, versus the electric shovels. They are smaller, they can be more selective and they can dispose of thin layers of waste. We put them in our overburdened disposal areas, versus running them through the plant and reducing our recovery. That was one example. I will share an even more material example on the next page.

Primary separation cell upgrades: we are basically enhancing the materials, enhancing the design, so that we can lower our SDT. Right now each of our plants are down for a major turnaround each year, so we have two major turnarounds each year. This work is going to get us to where we have just one major turnaround each year. That adds about 8,000 barrels a day in terms of our production.

Secondary bitumen recovery enhancements around our floatation cells, enhancing bitumen recovery there and reducing maintenance costs. We have froth treatment enhancements, where we can make connections between our froth plants to improve on our reliability, improve volumes and reduce cost as well.

Diluent and solvent utilization: an example of that is we are now moving to a supply of solvent from our Sarnia refinery. We have typically bought our solvent from third parties on the Gulf Coast. That provides us integrative value as well as security of supply.

Diluent: that is a cost for us, when we had to put diluent in to create dilbit and we are looking at reducing the amount of diluent we need to use through trim blending and shipping a higher-viscosity product. Some of those projects are underway already.

When I look across this full slate of opportunities and our path to do 280 KBD I feel very good about the opportunities we have. We are progressing them all. They are in various stages of maturity but at the end of the day, the capital intensity of this is similar to the crusher project that I mentioned earlier.

### **Enhanced mine planning.**

Let me provide a little more material example of what enhanced mine planning is all about.

On this page, the photograph you see here is our K1 ore preparation plant, or OPP. As you can see, it is an extensive facility. The components include the crusher, which is off to the far left. You can see a yellowish-orange color there. That is where the trucks load the crusher. Then you run through a series of conveyors up to a surge bin, that ten-storey structure that you see and a slurry prep plant. All of this is spread over some 750 meters. So this is a very large, complex facility.

There is oil sands resource below this ore preparation plant. Our initial plan, based on the regulations, was that we would build a new ore preparation plant, we would remove this one and then we would mine underneath it. The cost to build that new one and remove it is somewhere between \$1.5–2 billion.

We ran all this through our mine plan value model. That takes into account infrastructure, the amount of resource and everything else. The result of that is the most optimal thing to do is actually leave this OPP in place and not mine the resource that is underneath it. We worked with the regulator, a very constructive engagement with the regulator and received approval in April of this year not to build a new OPP and remove this one.

The cost, overall, of this would have started in 2025. We have to do a few new things: we are going to leave this OPP in place, we have to build a couple of new conveyors and things. However, overall, this is going to reduce our capital by about \$1 billion. There are 100 MOEBs or so we will not get. However, when you look at it, that is a value-accretive decision.

Mining is a long-term business and we needed to make a choice like this now so we can plan and execute our mine advances in the most cost-effective. I tell you, we are continuing to look for more opportunities like this.

### **Autonomous haul trucks**

Autonomous haul trucks: as you know, we are partnering with Caterpillar and Finning and we have an autonomous haul truck pilot ongoing. Our ultimate goal is to convert our fleet to autonomous to improve profitability and improve safety. We have been working on this for about four years; we have had autonomous trucks in service since 2017. We currently have nine trucks in service, planned to be at 12 by the end of the year. They are in productive service. I mean they are doing real work. They are not just in a ring-fenced area, moving product from one place to another. They are actually in our service. We have about 65 trucks and we cannot afford to have ten of them just doing this without being productive - and they are.

We are continuing to look at a range of conditions: soft underground conditions, temperatures and things. The advancements have been very positive on the technical side. We have made software improvements that improve the operability of the autonomous trucks on the operational side as the team builds skill and confidence to get the most out of the system. We have moved this now, where the trucks are actually dumping ore into the crusher and offloading.

If we look forward the next couple of years, we see ramping up to 20 trucks, upgrading to a new mine operating system that will support an autonomous fleet and post-2021 be in a position to make a final investment decision.

In terms of the reduction here, it is between \$0.50 and a \$1. That comes from increased truck utilization, productivity improvements and reducing staff. We need about five FTEs per truck today and this is going to bring it down somewhere between 1–2 per truck.

I say all that in terms of we are contractor leveraged right now, so that we can do this without layoffs in our workforce. It is just going to be new and different career paths for our team and we are working very closely with the team. They are quite excited about this and they have been heavily involved in the training and the technology proving that we are doing today. We target full conversion by 2023.

### **Kearl outlook**

Kearl outlook: it has been a tremendous journey in recent years. I am very excited about enthusiastic about improving financial and operating performance that we have seen in recent

years and about the future. Last year's production commitment, 200 KBD, we exceeded and so for this year above 200 KBD as well. That is really showing a new baseline for Kearn. Next year, with the supplemental crushers, we are getting to 240 KBD and then through this series of mine and plant improvements to 280,000 barrels a day. All of that is driving towards a unit cash goal of \$20 a barrel and to make Kearn the safest, most reliable, profitable oil sands operation in the business. All of that is in terms of maximizing long-term cash generation, of course.

### **Unconventional optionality**

I am going to move a little bit away from oil sands for a moment and talk about our Unconventional business. When we think about the Unconventional portfolio we have, we think about the optionality it provides us. It offers us a liquid-rich opportunity but we are taking a very paced development approach.

We are 50/50 owners in this with ExxonMobil and we hold acreage in the Montney and the Duvernay. When we look at this against US unconventional plays, it looks quite competitive. That said, we need to learn more about the opportunities and how it fits into our portfolio.

The other thing I would mention is we are leveraging everything ExxonMobil has in this space and their unconventional knowledge and their practices. We are not reinventing the wheel in any way and we have a relatively small team working on this optionality.

Our initial development into Duvernay is now complete and it is kind of in a sustainment mode. That initial development was largely designed to maximize the processing capacity of our existing gas plant, you can see that in the picture here, it is an expanded compressor facility, develop the highest-quality resource, about 100 MOEBs and about half of the acreage position that we have and overall develop and deliver 25 KOEBD of gross volumes.

In terms of the Montney, we are not so far along. We are focused on the very, very best liquids resource areas and retaining just the highest-quality resource base. Investment-wise, we see about \$100 million a year of investment. That is going to drive our volumes to 20 KOEBD in 2020, versus 13 KOEBD in 2018.

So a very paced approach provides significant long-term optionality but we are going to need to learn more to where this all fits in our portfolio.

### **In situ growth portfolio**

What we are pretty clear does fit well into our portfolio is our large inventory of top-tier opportunities. We believe very strongly that in situ is our future and we believe that we have what it takes to win, when we look at the resource quality, the technology and the experience we have in this space.

We have been in the in situ game for many years with Cold Lake and through our research. That depth of experience and technology will be applied and fully leveraged.

We plan to use, which we have talked about before, a design-one, build-many approach which will allow us to apply lessons learned in both project development and operations. The table at the bottom right highlights our in situ portfolio and current progression towards development.

We have high-quality projects in all stages of development, from assessing the resource all the way through to regulatory approval. I have talked about Grand Rapids phase one already. Of

course we have Aspen, which I will cover on the next page and then we continue to actively gather data and advance this portfolio to make sure we have flexibility and develop these in the right sequence to maximize value. An example of that is we are going to be doing a seismic program at Clarke Creek this winter.

Beyond the volumes potential in these in situ, coupled with our technology they offer lower development cost, lower unit cost and lower greenhouse gas intensity compared to currently producing in situ.

To give you a feel for that, to really bring it to life, I will just compare Aspen to Cold Lake. We know how strong Cold Lake is and the cash that it generates. It is an asset that is very important to us.

However, if I look at Cold Lake, when it is at 150,000 barrels a day and Aspen produces 75,000 barrels a day, so about half the size, Cold Lake has a workforce - a direct staff of about 400. Aspen will only need 70. Cold Lake has 5,000 wells. Aspen will have 84. Cold Lake's unit cost, at 150KBD, \$12 a barrel; Aspen's, \$6 a barrel and greenhouse gas intensity 60% less than Cold Lake.

So, for as much as we love Cold Lake and how important it is to our business, this in situ portfolio can be even better, significantly better.

I would just say right now, though, the timing is uncertain. I will cover that a little bit on the next page.

### **Aspen project update**

You are all very familiar with our Aspen opportunity and development, where we will use SA-SAGD to provide economic and environmental benefits. You will recall the initial capital was \$2.6 billion, delivering the 75 KBD as I just talked about. To me, it still remains a cornerstone of our future in situ plans. The question is not if, but rather when will the Aspen project move forward?

As communicated before, we have slowed the Aspen development as we evaluate the investment environment in Alberta and in Canada. You can see here on the page the considerations that we are looking at in terms of when we return to planned activities.

Curtailed in Alberta remains in place and to invest in new developments like Aspen, we require curtailment to be eliminated, providing confidence and being able to full operate and produce the asset.

In hand with curtailment being eliminated, we need to see positive economics in crude by rail. They are important to our future development and our long-term economic health.

You are aware of the market access situation and constraints and we will need to see some progress in terms of pipeline egress options. Finally, we are going to need to see confidence in general market conditions. We are seeing some positive things, provincially, in Alberta, for sure, in that regard but overall, more is required.

So we continue to watch those signposts closely and watch the progress and the status. That will determine when we return to planned activities.

Overall, though, we remain committed to Aspen, to the in situ portfolio. We have a great resource, strong economics and we have the right technology to unlock the full potential. There

is no doubt in my mind that Aspen is going to be a key 75 KBD tranche of our production when the timing is right.

### **Technology and innovation**

Let me talk a little bit about technology and innovation. It links closely to everything we have talked about up to now and together with our people, it underpins all we do and is key to our future success.

We have demonstrated an unparalleled commitment to technology and innovation and achievement through our 139-year history. Looking back at the past 20 years, we have invested more than \$2 billion in technology in good times and not so good times. Imperial is one of corporate Canada's largest investors in R&D.

If you look at the timeline here, you will see a series of key accomplishments: Canada's first petroleum research department in 1924, almost 100 years ago; CSS patent in 1966; SAGD patent in 1979; Paraffinic Froth Treatment patent in 2015. In fact, we hold active patents in many in situ technologies including LASER, EBRT and CSP. We hold about 1,000 patents right now.

We have upstream and downstream research centers: Calgary, with our focus on upstream oil sands, environmental technologies, then at Sarnia with our focus on downstream petroleum products research.

You can see a picture here, towards the bottom-right of the page, of our upstream research facility. It is a 4,000-square-foot facility with 45 researchers, half of them with PhDs, focused on the next frontier of oil sands technology and performance to lower costs, improve performance, reduce environmental footprint and unlock resources. We get the full advantage of ExxonMobil's research as well. They are doing extensive research in refining, fuels, reservoir modeling and of course things like carbon sequestration and biofuels.

At the end of the day, I would just say technology is in our DNA.

### **Advanced in situ recovery**

Moving specifically to our in situ recovery technology, these technologies drive economic and environmental performance improvement. If you look at the chart on the left, you can see our full suite of technologies. There, really, what we use will depend on what the asset needs, the depth of resource, the quality of resource, the stage of life and so on. You can see our cyclic technologies for deeper pressures, like in Clearwater or at Cold Lake. Then, at the lower part of the plot, you can see lower-pressure continuous applications for things like Grand Rapids and the Athabasca, like Aspen and the in situ portfolio that I just spoke about. You can see a range of applications from 100% steam to basically 100% solvent.

Moving to the plot on the right, we have, in house, developed all of these technologies that you see on here with the exception of SA-SAGD, which we developed in a consortium and we continue to advance these. I talked about the SA-SAGD pilot at Cold Lake. We have been running a CSP pilot at Cold Lake since 2014 and we just received regulatory approval for our EBRT, our enhanced bitumen recovery technology, to start a pilot on that technology as well.

Standing back, if you look at these technologies, they will deliver a reduction in capital intensity and lower greenhouse gas intensity, well below today's industry average for in situ. Technologies are going to enable us to keep Cold Lake profitable for decades to come and

enhance the profitability of our in situ portfolio, all while lowering water and greenhouse gas intensity.

### **Digital transformation**

I wanted to round out the discussion on technology and innovation talking about digital transformation.

You have seen several examples today on the size, the scale and the scope of our operations. Some of them I have laid out and you can see them on the chart here. Those attributes provide an ideal platform for digital technologies. As mentioned last year, we see a huge opportunity to reduce costs, optimize production recovery and improve reliability, with a value potential greater than \$500 million per year.

As such, we are taking actions to be a leader in digital and artificial intelligence. We have a collaborative cross-functional team, business and IT resources, led by our Digital Transformation Manager, together with our head of data science and we are making digital projects a reality today.

In September, we announced we are partnering with the Alberta Machine Intelligence Institute, a research institute that provides advanced research in fields of artificial intelligence and machine learning. They are called AMII; AMII will help us enhance our capabilities in this space as well.

An important part of digital, is realizing the value, creating the foundation. That connects equipment, assets and people. This allows remote teams to support the assets and it allows our operators to be digitally connected when they are in the field. On the top right are the examples of the foundational projects that we have already completed.

Then we are leveraging digital for safety benefits. I have talked about autonomous haul trucks and another example is the use of drones, where geologists can access mine data and visualization without actually being in the mine. We will have a video in the break on that as well and the work we are doing with SAIT and the University of Alberta's Institute for Oil Sands Technology.

The next series of projects we have underway is around production and cost optimization. These include steam flood optimization at Cold Lake utilization and advanced analytics; predictive maintenance using analytics to predict failures and know when is the right time to do our maintenance and then workforce deployment through real-time data. You look at this at Kearl. We have a large workforce, a large volume of work. It helps us schedule some 50,000 weekly tasks and thousands of people to maximize time on tools.

Like our other research, we are fully leveraging our relationship with ExxonMobil and technology partnerships they have with Microsoft and others. In digital, there is a broad range of opportunities, projects being progressed, value potential greater than \$500 million per year.

### **Equity crude value**

Let me come back to how we come back to how we get all our product to market. Market access is clearly a challenge for the industry and when it comes to placing equity crude, our focus is on providing flexibility to place crude in markets that maximize realizations. As the head of upstream, I do not worry about where the value is realized; it is in the upstream or the

downstream. It is only how we maximize Imperial value overall for the shareholder and get full advantage of our integration. This chart describes how we do that.

If you start at the top, we are, again, a 400 KOEBD producer. We have about 25 KOEBD from conventional and unconventional business, a mix of natural gas and light liquids, and a variety of disposal points. Then we have Syncrude at 75 KBD. A vast majority of that gets consumed in our own system, primarily at Strathcona. Then we are left with 300 KBD between Cold Lake and Kearl. That equates to about 400 KBD of dilbit, when we add the diluent to lighten it up.

We utilize four different clearing mechanisms to get that dilbit to market. They can vary over time. In the past they have been roughly equally weighted. When we talked about it last year, they were about 100 KBD each. However, curtailment has caused this to move around a fair bit. It has been dynamic and the chart now describes where we see our placement. 60–100 KBD to Imperial refineries, 100 KBD on contracted pipe to the gulf coast and then the remaining 200 KBD split between rail and head of pipe. The ranges in blue really show the flexibility that exists within our logistics systems and in particular our ability in terms of the amount of heavy crude we put into our refineries. We can dial that up and down and then leverage our rail terminal to maximize value.

Clearing mechanisms: they are, generally speaking, shown from left to right starting with the highest value on the left and moving to progressively lower-value options. The highest-value barrels are the ones we run through our own refineries, where the light-heavy differential is captured by the downstream. Next we maximize what is transported on contracted pipe to the gulf coast, where it captures US gulf coast heavy, adjusted for quality less the transportation cost. Finally, the remainder is either sold via rail to the US gulf coast or at head of pipe.

The current environment has been very dynamic. We constantly assess the market conditions and we have had a range of everywhere between 0 KBD to 90 KBD going through our rail terminal on a monthly basis this year. The year-to-date average is about 50,000 barrels a day through the rail terminal.

I would say, when we step back from all this, we look at the optionality, we are happy with the integrated position, the choices we have made. Mandated curtailment has changed the economics around crude by rail and we do want to see an environment where rail is back in business and curtailment ceases. However, despite all that, these choices were made looking at our business growth, our market growth, our transportation risk and we are happy with the choices we made. We ultimately have a lot of options and we do not have any issue getting our product to market.

### **Near-term production outlook**

To wrap things up for the upstream, let us take a look at the near-term production outlook for 2020.

As discussed earlier, our growth is underpinned by capital-efficient projects and reliability improvements. We expect to see volumes increase by about 6% from 2019 to 2020, with a forecast in 2020 of about 420,000 barrels a day. I described Cold Lake as flat in 2020 versus 2019, at about 140 KBD, improved reliability we have seen at Syncrude this year we expect to continue into next year. Then, of course, Kearl, with the supplemental crusher, moving to 240 KBD or 170 KBD IOL share.

That really brings me to the end of the upstream material. I would just say we are excited about the upstream business, the opportunities we are progressing, and the value for cash that this part of the business generates. I hope this provides you with some insight into our upstream business, our strategy, our approach and the growth we see going forward. Thank you.

## **Downstream and Chemical Overview**

Dan Lyons

*Chief Financial Officer, Imperial Oil Limited*

### **Downstream at a glance**

Alright, I am going to spend the next 30 minutes or so talking about Downstream and Chemical.

I think, as you well know, we have a highly-integrated downstream from refining through distribution on through to marketing. We have crude runs of about 400,000 barrels a day at our three refineries. We sell about 500,000 barrels a day in petroleum products through both our Commercial and Retail sales channels. That includes selling product through nearly 2,300 branded service stations. We have the largest overall market sales in Canada and we have the number-one share in Retail.

### **Downstream assets**

Looking at our throughput and sales over time, you can see we optimized our refining network in late 2013, when we converted our Dartmouth refinery out east into a terminal. Now we have three strategically-located and competitive refineries. You see them listed down the side: Strathcona in Alberta and Sarnia and Nanticoke in Ontario, as well as coast-to-coast fuels marketing.

Despite our lower crude runs from the Dartmouth terminal conversion, we still have higher sales and we made a conscious decision to oversell to continue to pursue high-value sales and keep our refineries full.

### **Downstream overview**

Looking at this chart, you can see we have had strong and resilient cash flow over time. You can see one of the advantages we have in Canada, as I think you are all very well aware, is we get discounted crude. I have put the Brent and MSW prices down along the bottom. Our product prices are generally driven off of Brent and we generally buy local crude, MSW or heavies. You can see, back when that spread was \$14/bbl in the 2011–2017 timeframe, our downstream was generating over \$1.5 billion of cash a year, about \$1.6 billion. 2018 was a unique year, that spread widened out. There were some other events that we all remember and we were actually closer to \$3 billion.

However, looking to this year, when the spread is back to about \$13/bbl, we are generating a strong cash flow year to date. There are some working capital effects in there but still a strong cash flow in our downstream business.

What we are trying to do, as the subheading says, is we are trying to strengthen over time the capacity of this business to generate cash over a range of market conditions. I will talk more about some of those but we are focused on enhancing our slate of crude going in, enhancing the yield going out and making sure we have the logistics to support our growing high-value sales.

### **Refining performance**

Looking at our refinery operations, this is an area where we benefit tremendously from being part of the global ExxonMobil network. ExxonMobil has 20-odd refineries around the world. At our three refineries we have a coker, we have a hydrocracker, a number of cat crackers. They have dozens of these pieces of equipment around the world and there are networks tied to each piece of equipment, how to optimize that, the best way to do maintenance, what are the best practices. So we punch above our weight in this space, leveraging that broader network.

You can see it in the chart here, which shows the Solomon benchmarking data. This is roughly 100 North American refineries and this shows the Canadian-based ones. You can see the average Canadian refinery is in the first quartile in net cash margin in North America, given those locational advantages I talked about. However, looking across the other attributes, you can see we're well ahead of our Canadian peers.

We are relatively weaker in energy. Obviously energy is relatively cheap natural gas in Canada, so it is not as much of a competitive issue as it might be in a place like Europe. Nonetheless, we have been progressing, as you know, our Strathcona co-generation project, which will come on about a year from now, which will increase our energy efficiency, reduce our OPEX there and obviously lower our GHG emissions. It will move us up, if not into that first quartile, in that direction.

### **Refining footprint**

Looking at our refinery footprint, I will just take a minute to orient you to this chart. We have west Canada and east Canada in those two sets of bars. West Canada is our Strathcona refinery, just under 200,000 barrels a day. East Canada, on the right, is both Sarnia and Nanticoke, which are quite integrated and we run together. For the west and the east there are two sets of bars. The left set of bars, in the bluish colours, are our typical crude runs and the right bar, next to that, is the product output of the refineries in the west and in the east, our refineries specifically.

Starting on the west side, with Strathcona, clearly it is well located. Alberta is a very good place to find advantaged and discounted crudes. You can see what we run. We run Cold Lake, which is our own equity Cold Lake crude. It is a very good crude for asphalt and that is what we do with it at Strathcona. We then run about 50% Canadian lights - MSW and the remainder is synthetic crude from the Syncrude asset that John talked about.

We are continuously upgrading our capability at Strathcona. We are just in the process, this month, of completing an expansion of our asphalt production by about 25%. We are also looking at finer cut points in our units to produce relatively more diesel and jet. We are looking at crude flexibility projects as we bring crude in - the ability to shift it between our two pipe sales, and of course the co-generation project to increase the capability of this asset to generate cash.

When you look at the products produced there in the west, a lot of them go to the prairies. We have very good infrastructure, the Enbridge system out through Saskatchewan and Manitoba. We are pipeline-connected from Edmonton down to Calgary with the Alberta products pipeline, which we are in the process of upgrading. That new pipe should start up here in the first quarter.

Also, about 15–20% of the product that is produced at Strathcona actually goes out to BC. We send a lot of mogas out on TMX, we send a lot of jet out to Vancouver airport and we also move heavy fuel oil to support our bunker business out in Vancouver.

So moving to the east, clearly, we are connected to the Enbridge Systems through lines 5 and line 78. We can also get Bakken crudes into that come into the Enbridge main line through line 81, so we have accessed again very well located relative to advantaged crudes.

I'll walk you up to crude side on the east, we run Cold Lake crude again for making asphalt - that is our equity crude - we do that at Nanticoke. We run other heavies, and those can be Kearl equity or non-equity crudes. It depends on the economics, and as John noted, we run between the two refineries between 60KBD and 100 KDBD of heavies really driven by those spreads, but typically, the wedge here is about what we run.

Another 50% of our Ontario throughput is Canadian lights, and then the rest of that we bring in Bakken, some synthetic crude depending on the economics. Now we have half the capacity roughly in Ontario on a refining basis, and clearly, we are very well located right next to a large and growing Toronto market. And we are well positioned logistically to move fuels there to the airport, to our Finch terminal in Toronto. We are upgrading, spending about \$385 million to upgrade the Sarnia Products Pipeline, which runs from Sarnia to our Finch terminal in Toronto.

So very well positioned, discounted crude, access to a large and growing market. We are also continuing to enhance our capability to generate cash in Ontario from our refineries at Nanticoke. We are also expanding our asphalt production in 2020. We are looking to add a couple of KBD, mainly from running more constantly through the year, and storing a bit in the winter for sales.

In the summer, coming out of our Sarnia turnaround, earlier this year, we replaced our catalyst in the hydrocracker, we are seeing higher distillate yields. We are looking at the metallurgy. We are always looking at that to see if we can take higher acid crudes in so-called high TAN crudes. We are also, at Sarnia, looking at our tank configuration, adding some crude tanks to give us more crude flexibility.

So in summary, we have well located refining assets in terms of access to advantaged crude, in terms of great connectivity to growing markets, and we are continuously working to improve their ability to generate cash. And a lot of this, we leverage ExxonMobil as I said with all their global expertise, and we could punch above our weight and really tweak, tweak, tweak, and get the most out of these facilities.

### **Sales strategy**

Looking at our sales, overall, and talking about our strategy, you can see, hopefully, some household names there on the left. Our sales strategy is really to build strategic relationships and grow profitable term sales, ratable sales. And we not only our term sales are more

profitable for us, but they allow us to run our network more consistently and keep our refineries full. And clearly, it is about capturing brand value particularly on the retail side.

Among the folks that you see on the left, you have to Couche-Tard, Parkland, 7-Eleven, those are major brands and wholesalers who do Retail on our behalf, and I will talk a little bit more about that. But clearly, it is about optimizing the integrated profit, keeping the refineries full, getting high value term sales. We are just not about growing sales, it is about growing the quality of the sales. Term, higher profitable sales, reducing spot sales and growing sales to strategic customers on a term basis.

### **Sales and market position**

And you can see some of the numerics around our position in the marketplace. We are the number one marketer in the country. We are the market leader in most segments as you can see. Mogas 30% - number one, Jet 26% - number one, Asphalt - about a third of the market, and quite a strong position in diesel as well. And as I said these, we not only make profit on our own right with these sales, but we get the integrated profit of keeping our refineries full. I will try and stop hitting the mic.

### **Aviation**

Moving to a good example, it is a growing segment, the aviation segment. And it is a good example of high value, ratable sales, we leverage our production capability, our logistics, and our strategic relationships to win in this business. You can see the demand growth is plotted there for the industry, historically and going forward, strong growth, and expect to continue.

In recent years, we have grown at a pace higher than the industry. We have over 50% of the Ontario market. We are growing our share in Vancouver. We are sending those Strathcona barrels out to Vancouver as I mentioned earlier. Also, our relationship with ExxonMobil gives us advantaged access to global airlines. And the bottom line, this is attracted business for us on integrated earnings basis. We are participating in this growing market, and again, this is building our ability over time to generate a strong cash flow in the downstream part of our business.

### **Asphalt**

Another good example of a commercial sale that we do in a term basis is asphalt. Asphalt is a growing market. It goes into roads and roofing. You can see the trend there in our production, matching the growing demand. We make asphalt as I mentioned at Nanticoke and at Strathcona. In Nanticoke, it is really a local market. We truck it to the local area.

But in Strathcona with our advantaged Cold Lake blend in our strong rail logistics and strong connectivity to CN and CP, we are actually competitively pushing asphalt throughout the US. A lot of it goes to the Pacific Northwest and the west Coast, but we sell in the plains, the Midwest, down into Texas.

And as I noted earlier, we are growing our volumes here both at Nanticoke by a couple of KBD and about 25% at [Strathcona], and again, strong growing business. We are growing our market share, have strong logistics, advantaged feedstock, growing our capacity to generate cash over time.

**Retail**

Moving to retail, which is our highest value channel, we continue to see strong growth. I really like the slope of this chart. It is very pleasing at least to my eye. We have maintained our number one market share, which we talked about a year ago. We have actually widened that a bit in Retail, and you can see that the strong volume growth in the bars. It is over 10% a year over the period shown.

We have also grown our number of service stations. As I mentioned earlier, we have nearly 2,300 service stations as we speak. So, the question is how do we get to this spot? How we can continue growing? Part of it is leveraging the broader ExxonMobil technology network. ExxonMobil has some 20,000 branded sites worldwide, so we leveraged the strong brands Esso and Mobil.

We leverage the Synergy Fuel Technology. We rolled that out a few years ago. It is a very high-quality add-pack that gives better mileage, lower emissions as well as increased engine responsiveness - that was developed by ExxonMobil globally. Again, leveraging that kind of thing allows us to punch above our weight.

We also have convenience. We have our Speedpass+ app, I hope you have all downloaded. If you do not, we can help you just after this. But this app on your phone, you can put your credit card in there, you can put your loyalty and you do not have to get out of your car and, fumble with your credit card. I have heard it gets kind of cold in Canada in the winter, so it is really a good feature. I encourage you all to leverage that.

I do not want to comment on our competitors' products, just buy ours, it is safer, that is all I am saying. Another great example that ExxonMobil developed that we get to leverage it. Now, another really important part of retailing is loyalty, and loyalty is more local. About half of our Retail sales have a loyalty component, and the bulk of those is the PC Optimum program.

It is a very large loyalty program in Canada. We joined it about a year ago. 70% of Canadian households have a PC Optimum card, and it has really been a key part of our offer, and we have seen that has been part of our growth. So, we have a strong offer. We have high-quality products, the Synergy Technology, strong brand, strong loyalty, and with this obviously does attract the consumer.

All of you guys will buy gas at our stations. And when you have a strong offer then that attracts strong branded wholesalers, strategic partners like Couche-Tard, 7-Eleven, Parkland. It attracts them to want to work with us, to put our flag on their sites. And over the course of this year, we have added nearly 100 sites. Our branded wholesalers have paid for and built almost 100 sites so that is what the model is all about.

You have to have the strong offer to attract the branded wholesaler to grow this business. And as you can see it is - we have run a really quite a strong growth trajectory consistent with our sales strategy. We are building these future relationships, growing ratable sales - Retail sales are generally quite ratable. We are capturing the value of the brand and the offer and optimizing that integrated profit from the refinery on through.

And over time, as I have said this is part of strengthening the fundamental ability of our business to generate cash over a range of economic sets of conditions.

**IMO 2020**

So next, I will shift gears just a little bit and talk about IMO 2020. I always have to say IMO is not Imperial's ticker here, but the International Maritime Organization. We have talked a lot about this. We talked about it last year. It is almost upon us, right? January 1st. The world has not ended, best I can tell. I do not expect it will on January 1 either - that we have seen heavy crude differentials and a lot of noise, and obviously with Venezuela and with the recent Keystone outage, which thankfully is back on.

But clearly, they are widening out a little bit in reaction to the IMO 2020 as folks expected. Distillate cracks have also strengthened recently. Those cracks on a seasonal basis have been above their five-year averages. So, we are seeing the effects we thought about. And clearly, as an integrated entity reduces the impacts on Imperial. We may see some pressure in the upstream, but some benefits in the downstream so for us, not a significant issue.

And one of the things we are doing - it is going to be a multi-product world in marine. It is not just going to the 0.5% [sulfur]. Obviously as folks know, a lot of people are installing scrubbers, so there is still demand for 3.5% [sulfur] as well as 0.5% [sulfur]. We are going to actually offer four grades at our IOCO terminal in Vancouver. The 3.5% for the folks with scrubbers. The 0.5% - the new compliance standard, 0.1% - which many of you know within a couple hundred miles of the coast, you need to have an even a lower standard that has been in place since 2015, so-called ECA Emission Control Area. And a fourth, we'll sell a blend stock to shippers, so they can blend to their own particular desired sulfur spec.

So, we are taking advantage of the opportunity. So, there is adaptation in the market. I talked about the scrubbers. Refiners will adapt as you well know in ways big and small. They could do small stuff - cut points and small optimizations to make less heavy fuel oil or bigger things like resid destruction through cokers and the like. So, we do not see this as a major issue for Imperial, and we think the industry, as some of you have written about, will adapt successfully over the next year or so.

**Downstream summary**

So, summarizing the downstream, we have high performing refineries, they benefit tremendously from leveraging the broader ExxonMobil network of best practices, skill, and technology. We are well located. As I said - near advantaged crudes, near large and growing markets, well connected too. We have market leading scale and integration.

We have strong brands and loyalty; we are using to really build up our Retail business. We are pursuing high-value sales growth, Retail, term sales, commercial sales on a term basis with key customers, and we have had robust cash flow, and expect that to continue going forward as we continue to look at slate, projects that give us more flexible, cheaper crude slates, higher yields. We are going to continue to focus on growing higher-value sales, making sure we have logistic to support that growth, and making our business stronger and increasing its capacity to generate cash over time

**Chemical at a glance**

Now, I will talk about the Chemical business. We are well located. Our chemical manufacturing facility at Sarnia, which is integrated with our refining facility, so again not only does it get the operational integration, which is valuable, but it gives us access to refinery off gas, which is a very, very, very cheap source of feedstock. We are near the Marcellus. We have access to the

Marcellus ethane. We are also near our customers, with a bulk of customers within a day's drive.

And lastly, again we have ExxonMobil has a huge chemical business, a huge polyethylene business. And we have access to their best practices, their technology, and their technical support to run those plants well and to provide the sort of products our customers want. Polyethylene that we produce is a specialty product tailored to individual customer needs. It is not entirely a commodity.

You can see the numerics there. We make about 800 KT of product, about half of that is polyethylene, and that is where we make the bulk of our money.

### **High-value products**

Our customers make all kinds of cool things with the stuff we sell them - that we use in everyday life. And I just want to note, again, that all polyethylene it is not the same. We work with our customers, they have different requirements for ability to resist temperature change, UV resistance, for flexibility or plasticity, what kind of dye the plastic can absorb? And we tailor that to their specific needs, which leveraging ExxonMobil's network and our Sarnia folks are really well known for their technology support, their customer support. While we are still subject to global polyethylene margins, we have an advantage in this area.

### **Integrated petrochemical site**

And you can see here graphically, we have shown that the feed, refinery off gas and the advantaged Marcellus ethane as well. You can see our cash flows over time, going back to the down years. We were still making, we show 2009 through 2012 here, we were still making \$80 million-ish of cash flow in this business on average. Then we had the really good years, where we were making almost on average about \$270 million, so pushing \$300 million, very strong for a number of years.

Now it is coming down a bit, still quite strong this year. But as all the capacity in the Gulf Coast has come on, we are definitely seeing weaker polyethylene margins, and we expect that to continue for some time. But given our synergies with the refinery, our advantaged feed, our specialty products, we see this continuing to be a profitable business even through a chemical down cycle.

### **Value chain**

If we bring it all together and just talking about the value chain, from crude, the things that John talked about all the way through logistics, refining, all the way through to the final customer, we are integrated across that value chain, and that gives us the opportunity to leverage opportunities all along that value chain. It also gives us financial resilience as we can see IMO 2020 is a great example.

It may hurt the upstream, but we win in the downstream. The crude disconnects we saw last year were another great example. The Chemical cycles, another example that could be a little bit countercyclical. So, we have a resiliency that comes with that integration. And we have the balance sheet strength, so we have optionality to invest all along that value chain. And

almost at each point, if we choose to invest, we can punch above our weight because we have ExxonMobil's global expertise and scale and technology and best practices, etc. behind us.

So, with that, let me turn it back to Rich. Do not hit the mic, Rich?

## **Delivering value**

Rich Kruger

*Chairman and CEO, Imperial Oil*

### **Cash flow**

Okay, what does it all mean - delivering value? We have shown you business line by business line, the cash flow contributions over time. Thought I put it all here together. This is the corporate, the last nine full years and then through the third quarter of this year.

What you see as you look at it, you see the split upstream and downstream, which over a 10-year period is essentially 50/50 right down the middle in terms of the contribution to our operation. It is about \$33 billion over this time period. And over this time period, you can see we have had high annual years of about \$4.5 billion, lows of about \$2.5 billion. We have seen oil prices over this as high as \$95 to approaching \$100 a barrel WTI, and we have seen lows in the mid to high \$40 a barrel WTI.

My message here is that we are designed and built to generate cash and deliver value through upstream/downstream balance and integration in most any business environment - designed and built for it.

### **Growing value**

I want to take a step further and give you a little bit more of an analysis over this. If you look at the periods here, each of these bars are annual cash flow from operation for discrete periods of time. The first period - 2012 through 2014, we had WTI that averaged \$95 a barrel during those three years. WCS at \$73/bbl. We then went into a downturn 2015 through 2017 where WTI essentially fell in half averaging \$48 a barrel, WCS more than half at \$34 a barrel, and you can see our corresponding reduction in cash then.

But I really want to draw your attention to 2018 and 2019. We have had WTI at \$61 a barrel more than \$30 off that earlier peak period, and we have had WCS at \$42, again more than \$30 a barrel off that earlier period. But look at the cash gen, 2018 and 2019, we are not quite done on 2019. So, I have projected here a bit. We have an average about \$4 billion each of the last two years in a price environment that is \$30 a barrel lower than we have delivered \$4 billion each year in the past.

So how are we doing that? Well you heard the story today in the upstream, it is about growth, growth at Kearl. It is also about reliability, reliability at Syncrude, in the oil sands size matters, so that scale at Kearl is continuing to drive down unit cost.

John Whalen outlined how we are going to continue to do that in the years ahead starting in 2020 with the supplemental crusher. And in the downstream, Dan highlighted how on the refinery side, we made a strategic decision six or seven years ago to sell beyond our manufacturing capacity even as we shut down our Dartmouth refinery. And he went brand by

brand, product by product and talked about how when we have a branded sale and it is a ratable sale to strategic customers that we get more value for those sales.

So, the refining operation side of it, the marketing aspect of it, in a much lower environment we are generating cash that would have previously taken price environment some \$30 a barrel higher than we are in today. These are all actions from within, not actions that rely on or require oil price growth, but things we keep doing internally whether that is application of technologies, whether that is application of digital initiatives, whether that is just the hard core base running of our operations, our facilities to generate more and more cash without a major growth initiative and major capital spending.

I think this analysis is something that we will continue to help the market understand what are we doing to help ourselves no matter what environment we find ourselves in.

### **Financial strength**

Okay, a few things I want to run through a few slides here pretty quickly. Financial strength, you have seen this before. What is shown is debt to capital - us versus our peers. Capital allocation priorities maintain a strong balance sheet. We have talked about this in the past with a debt to capital ratio of about 17%. We are doing that.

Reliable and growing dividend, invest in high-value projects, and then, if and when we have surplus cash returning it to shareholders via buybacks - give us a lot of flexibility, a lot of optionality. Several of the companies that you represent here in this room, I get regular phone calls [from] asking if we are interested in borrowing money; that is not our issue.

### **Dividends**

Dividends, longstanding priority, reliable and growing. Reliable - what that means is more than a 100 years of consecutive dividend payments. This year now marks the 25th year of year-on-year growth. A 10.3% five-year compounded rate, we have increased it earlier this year. And as I have told Brad, Lord help any future CEOs who would break this trend.

### **Share buybacks**

Share buybacks - history, returning surplus cash to shareholders. If I charted this back to 1995, we have bought back more than half of our shares over that period. We went through a major upstream growth period with Kearn and Nabiye earlier in the decade, where we largely suspended buybacks. We reinstated those buybacks in 2017 as we said we would. Since then we bought back nearly a 100 million shares, about \$3.7 billion - and consistent with our priority on shareholder value, shareholder returns. And you have seen it, here I showed 2017, 2018 and 2019 from a share basis, the number of shares we have bought back each year.

I have said in the past that we would not have reinstated this buyback program if we did not think we would be able to sustain it for some period of time, and I stand by that comment today.

### **Shareholder distributions**

Shareholder distributions, we have added up both dividends and buybacks over the period relative to the peers, and this is in terms of a payout ratio - the dividends and buybacks divided by the cash flow. And you can see over this period year-in, year-out, over the course, we have averaged just shy of above 30% in terms of our payouts to shareholders.

**Volumes outlook**

Okay, near term outlook. Giving you more than we typically have, a five-year outlook including this year on the upstream and on the refinery throughput. Indicative at this stage as we get a little longer out there, 2019 - both on our third quarter earnings call and then through discussion today, we have largely focused in on what we expect in terms of volumes in the upstream and our refining throughput. 2020, John gave a bit of an outline and wrapped it up with what we expect on the upstream side.

In the refining side, we are still refining the estimate on it. We have commented how we will have fewer turnarounds next year. This year was a particularly heavy year on turnarounds, so you would expect refined volumes to be higher. And then as you look beyond that, we will see continued upstream growth, largely due to continued efforts to increase Kearl from the 240,000 barrels a day to the 280,000 that John detailed.

And then over the next few years, we would expect a comparable level of volumes through on the refinery throughput again, dependent any particular year based on turnaround activity.

**Capital expenditures**

The five-year outlook shown here is consistent with our previous communications to you. We have sustaining capital requirements that, on average are about a \$1 billion to \$1.1 billion a year. Some year is a little higher, some year is a little lower. That is the range we have talked about in the past that has not changed. Roughly 70% of that - or about \$5 a barrel, are associated with our upstream assets, again a little bit of a variation from asset to asset, but on average about \$5 a barrel.

For this period, we have growth capital between \$700-\$800 million a year. It will be focused in areas that were highlighted today. Cold Lake, Grand Rapids, the conversion from the Cold Lake Expansion Project to the Grand Rapids development, and monies associated with a Kearl pathway to 280,000 barrels a day. In the downstream, we are making some logistical investments in strengthening terminals and pipeline operations, refining efficiency. What I should note in these is just for clarity, we do not have Aspen expenditures detailed in these bars because as John outlined, Aspen timing is to be determined.

You will recall in the past, I have talked about when we are executing Aspen, we will have peak expenditures in the \$700-\$800 million a year range for about a three-year period. So, when folks can help, tell me when curtailment will be eliminated, when rail will be back in the money, when we will see progress on pipeline egress, I can plop Aspen on this chart and you will see those kind of expenditures. So, we have taken it out just to help you see.

A little bit of early guidance, 2019, we have said throughout the year, we expect somewhere between \$1.8 billion and \$1.9 billion capital expenditures. We are rapidly closing out the year. That range is where we will end up. 2020, we typically give guidance in the late January time period. You are getting a bonus today. So, we look at it somewhere between \$1.6 billion and \$1.7 billion. That is lower for 2020 than we would have shown a year ago, primarily, due to Aspen. That is the biggest difference if you pulled out last year's package and compare the two years.

Year-on-year when I say consistent with - the biggest difference is the timing on Aspen, the substitution of Cold Lake Grand Rapids for what was previously the expansion project at Cold

Lake, and then just some of the timing and magnitude of downstream logistics. Those are the primary differences, but no real material change year-on-year.

### **Financial strength**

Let us put it all together and look at it, what it says about financial strength. On the left, the left bar is cash flow from operations at a range of prices. Prices are shown in the middle. We have used WTI as indicative. And then on the right are our uses of cash, and they are also summarized in the table to the right where dividend at current rate is [in] round numbers about \$600 million a year.

I have commented on the sustaining capital and the growth capital. The subtotal there \$2.3-\$2.5 billion in terms of their priority needs. In a \$40 a barrel price world, we can generate the cash to meet those priority needs. This, if you go back and you hold us accountable for the last several years and you have looked at this deck, what you have seen is that breakeven drop-down year-on-year, driven by those things I have just articulated a moment ago on what has increased our cash level as we strengthened the business from within, providing a level of resiliency and flexibility in whatever world we happen to live in.

Beyond that \$40 a barrel, that is where there is that surplus cash, whether that will be to support the buyback program that I have talked about, or to invest in high quality projects or whatever opportunities we see for continued growth. Resiliency and strength over a wide range of prices. Right now I am going to it over to Brad who will offer a few closing comments before we continue into the Q&A.

## **Introduction**

Brad Corson

*President, Imperial Oil*

### **Why Imperial**

Good morning everyone. It is certainly great to be here today and have the opportunity to speak to each of you. I have had the chance to introduce myself personally to many of you, but I hope before we finish up today that I have the chance to meet all of you. I think having an ongoing dialogue between us is very important as we go forward and I am committed to that.

As you know I am the new guy here. I am new to Imperial. Having said that, I have a long career in the industry. I spent 36 years with ExxonMobil in a wide range of assignments, including production assignments, commercial assignments, major project assignments, also worked in the downstream in supply and trading. I also spent a little bit of time in human resources in career design, career modeling, so a very wide range of experiences both in the US, but also living overseas - in Hong Kong and in the UK, and I have done business in probably 30 or so countries around the world.

Having said that, I am a bit of a novice to Canada, and I will be the first to admit that. But I am super excited about immersing myself in this country, immersing myself in the business that is Imperial. And I have already started that, and I am super excited about what I see.

Imperial is a great company. Has a great future, has a great brand, a great image and I am just proud to be a part of it.

So, I am already spending time with Rich and the leadership team, learning more and more about this great company, the strategies that are in place, the business plans, many of which you have heard about today. Rich and I have known each other for almost 30 years now, and certainly, that is an enabler for the transition. Not only are we colleagues in the business, but we are personal friends, and certainly that helps as you are trying to transition a very key role like the CEO role.

And so, over the past few weeks, I have spent a lot of time in Calgary, but also starting to visit some of the operating sites around the country. Super, super excited about meeting the many people of Imperial. The experience I have had engaging them, their enthusiasm of about the business, their commitment about the business, their mindset around innovation and entrepreneurial approaches is just truly inspiring to me, and it gives me a lot of pride to know that I am going to be leading an organization that has such a bright future ahead of us.

So as we close out the session, I have got just one slide that is going to really just summarize what we have been talking about so far this morning - that started with Rich, really talking about the importance of our industry in society today, the role we play in meeting the global energy demand and improving the quality of life of people around the world, and then talking about the advantages that Canada brings to helping meet those needs. And then obviously, a lot of time about the role Imperial plays in that equation as well.

And so, I have summarized here what I consider seven key attributes that distinguish Imperial, help drive us to why Imperial is so important. And it starts with this long history in Canada. And many of you that are from here, you may know this and appreciate this better than me. But it is been really, like I said before it is been inspiring to learn about the long history that Imperial has - that dates back to 1880 in this country, when Imperial was formed by 16 oil refiners in Ontario - close to here, and that started the journey that brings us to where we are today.

So that history, think about it, this company is almost as old as the country Canada. And so, through that long history together, Imperial has become, if you will, integral to society here. We are part of the fabric that is Canada today. Imperial has had so much impact on people in this country that, again, it just makes me very proud as it does, I know, our employees.

We have a long history of firsts. Some of those have already been mentioned, but we talk about the first research center for the industry in the country. We talk about the first service station in the country - in Vancouver. We talk about the discovery of oil in Alberta with the Leduc well. And those firsts just go on and on, and we continue to contribute to those today.

We have nearly 6,000 employees that work for Imperial, and many more contractors, many more business partners, and they are all working to meet society's needs for energy, and in Canada obviously, contributing quite significantly to the economy here. And when I step back and I just think about how many people rely on Imperial. Dan talked about our Retail brand and the market share we have. Every day, people are being impacted by Imperial whether it is through filling up their car with gasoline, whether it is driving on roads that were paved with asphalt from our refineries, whether it is flying around the country, around the world with aviation fuel.

All of those are impacting society. We talked about the specialty polyethylene products that we use in everyday life. And then beyond that, things like hockey and the history that we have in supporting hockey in this country. No matter where you look, we are a part of that fabric, and that is pretty exciting. Now, obviously, we talked a lot about the asset portfolio, and that is key to generating cash and profitability. John talked about the three core assets we have with Cold Lake and Syncrude and Kearl, and there is a positive story and a positive path for each of those.

They are all very long-life, low-decline and they are going to be here for decades to come, and we are going to continue to apply technology to make them better, make them more profitable, more efficient, and also reduce the environmental footprint. Kearl is just a great story, and I get more and more enthused every time I hear about the journey we have been on, where we are today delivering on commitments, currently producing approximately 200,000 barrels a day this year.

The work we have done with the supplemental crushers that will begin starting up the end of this year to bring us to 240 KBD, and then a pathway to 280 KBD as John described. And all of that is going to allow us to drive down those unit operating costs to \$20 a barrel. And this continues to be a very, very large cash generator for us going forward.

And then of course, we have other opportunities within our portfolio. A deep inventory of in situ opportunities that John described including, Aspen. And as we discussed, although, today is not the right time to progress those opportunities, that time will come and we will be ready for that. We have got the financial strength. We have got the technical capabilities that we can move those forward when it makes sense for us as a company.

We talked a lot about the advantaged downstream assets and the strong ongoing performance of those facilities. Really world-class performance as Dan illustrated in one of his charts. And what is really exciting there is just how well integrated we are with three top refineries, an integrated chemical plant with one of those. A great slate of products that we are supplying coast to coast, and then overlay on that, the Chemical business. So really a strong portfolio that is going to continue to generate significant cash for us.

And then we increase even greater value through the synergies of having the upstream assets to downstream assets, the Retail network, a strong logistics network to support all of that, integrated transportation, and that just allows us to create even more value from the totality of that portfolio than we could from any individual asset. And then we overlay on that the additional capabilities and strengths that we can draw on from our majority shareholder ExxonMobil, and that just makes us a powerhouse that is able to compete in a wide range of price environments, makes us very resilient, and allows us to consistently deliver very strong cash flows.

We have got this unparalleled history of creating value through technology and innovation as well. We talked about that in both segments of our business. And those technologies have not only enabled greater efficiency and production rates, but they also have allowed us to improve our environmental footprint, which is hugely important as we go forward.

We have industry-leading ESG performance. Rich spent some time talking about that, and rightly so given its priority to society today. Imperial has delivered very strong results in that area, and we are committed to even further progress and results in those areas.

And so lastly what does all that mean? Collectively to bring all these attributes together and it has allowed us to consistently generate strong and resilient cash flows, allows us to invest in good opportunities, while maintaining a very strong balance sheet, and at the same time return cash to our shareholders through a reliable and growing dividend as well as share buybacks. As Rich said, over a 100 years of dividend payments by this company with 25 years of year-on-year growth as well.

So that is a very strong track record of delivering shareholder value. And I can say we as Imperial are working hard every day to continue on that path, that track record. And I personally am committed to it as well. So, as I bring this to a close, I hope our presentation today has given you good insights into our assets, our strategic objectives, our business plans and excites you as much as it does me about the future for Imperial. So, thank you for your attention and we will turn it over to Rich for the Q&A session.

## Q&A

**Rich Kruger:** Now it is your turn. We will take your take your questions so we will look at all those hands. That was the first one here so we will go back there and then we will come to you Mike. Yeah, go ahead.

**Rich Kruger:** I think you may not need the mic in the room, but I think it will help for the people that are on the phone.

**Dennis Fong (Canaccord Genuity):** All right, thanks. Dennis Fong over at Canaccord Genuity. I've just got two quick questions here. So, the first is just around capital spending and the methodology of how you think about spending it over the next few years. Obviously, you have outlined a kind of mid to low twos range without the Aspen project therein. How should we be thinking about your allocation of that excess free cash flow with respect to capital projects versus returning that cash back to shareholders? And I have a follow-up.

**Rich Kruger:** Okay. I think that first and foremost the comment on the sustaining level of capital that is a high priority. We have got to take care of the care and feed for the kids we have, and those are the assets in the upstream side and that on any given year is that \$1 billion to \$1.1 billion and stuff. So that is kind of a foundational layer. And above and beyond that, it is about value.

And it will be value if - in the upstream, it can be continued to enhance what we have sustaining Cold Lake. It can be incrementally improving Kearn. The upstream will vary a bit more on market conditions for further growth, the Aspen things. So that will be a bit more judicious and will depend on some things that are outside our control market access some of the other things.

And the downstream, it is about spending monies to continue to strengthen and solidify what we already believe is a strong position in the refining and marketing sectors. Those things are not as, they do not generate as much headlines. They may be improving refining efficiency, certainly adding co-gen at Strathcona, strengthening or replacing a pipeline that is near the end of its useful life - things like this, but those will be the priorities in the near term.

When there is anything big, restarting Aspen things like that, those would be the headlines. And so I think taking care what we have, some selective high quality growth until we determine the time bigger more material, particularly, upstream growth investments occur.

**Dennis Fong:** Great, thanks. And then my second question here is just on the Kearl project. So obviously being able to showcase over 200 KBD or getting close to 280 KBD in Q3 of potentially 2020 on a go-forward basis, how should I be thinking about the – we will call it how conservative you believe 240,000 barrels a day for a full year average happens to be? And what do you think the achievability of getting somewhere higher than 240,000 - maybe not necessarily hitting 280,000 on an annual average basis happens to be as well?

**Rich Kruger:** I got to tell you, I have had nearly seven years of standing up here and talking about Kearl in a whole bunch of meetings with you, and here we are near the end, and John gets to come up here and tell the good story about how we are resolving things and we are on a confident track. I am being facetious. It is been, you know, we have had many long days, late hours work, and working hard to get Kearl where it is.

And I think the John's description was quite accurate delivering on commitments, and that is exactly what we have been doing now since November of 2017 when we had our conference call. And we said here is what we are doing, here is what we are going to deliver in 2018, what we are going to deliver, in 2019 for funding supplemental crusher, here is what we are going to deliver in 2020/2021. And if you go back to that date in November of 2017, we have done exactly everything we have said we are going to do, and that gives me a real sense of confidence and pride going forward.

So, the 240KBD next year, we based it on we have been advertising 240 KBD since November of 2017 based on the enhancements we were making, and what we expected to add. A lot of confidence in the 240 KBD. Are we willing to say numbers above that yet? I do not know, but it – we are very confident that the added reliability and the ability of the organization to learn so that as we have either scheduled or unscheduled maintenance that we can use the facilities to the best would, do I expect that we will be able to achieve better than 240 KBD over the next few years? I think so. I do not know that it is time to make a commitment on that yet. I want to get the crushers up and running, and see how they do, but I know we have an organization that when you give them good, strong, reliable facilities they find ways to operate them better and better. And I think that is exactly what we are going to do.

Dennis, you made the comment about third quarter next year 280 KBD. Really 240 KBD for next year, and then and largely 2021, and that pathway to 240 KBD to 280 KBD will be a several year journey that I had really, probably put it a few years out beyond that. And that will come in smaller increments not like the 40 KBD with the supplemental crusher that will come in fives and tens over a several year period.

Let us go to Mike and then we have got, we will come back over on each side here to over here, one of here.

**Mike Dunn (GMP FirstEnergy):** Thanks. Mike Dunn with GMP FirstEnergy.

**Rich Kruger:** Hi Mike. I know who you are. I know, there are people on the phone.

**Mike Dunn:** Rich, I have asked about this I think in the past Investor Days, but –

**Rich Kruger:** Does that mean I did not answer in the past?

**Mike Dunn:** It means you have given more detail this year. The Mildred Lake extension - if you have a cost estimate of \$1.5 billion for that gross. The last reference I had seen going back to one of the partners five years ago from one of the annual disclosures was a \$3 billion

gross estimate. And I think the scope of that \$3 billion included a west and an east pit extension. Is this just the west pit extension, and if so, how many years does that give you? I was of the understanding that both of those extensions were needed in order to extend the mine life by ten-plus years.

**Rich Kruger:** John, you want to comment on Mildred Lake.

**John Whelan:** Yeah, I can yeah. Mike, so the data I did provide was just for the west, and we are looking at the – and the previous data was probably included the east portion of that as well. So, this was just the west. What this will give us is ten-plus years of additional life, and basically as the north mine drops off in 2027, it fills about 50% of the total capacity of Syncrude.

And then what we are doing is we are going back and relooking at the east, compared to the other alternatives we have in lease 29 and lease 30 and so on to see what is the next best option. It may not be the next best. We have regulatory approval for, but we are focused on the west right now, and then we are looking at the east compared to all the other alternatives we have.

**Mike Dunn:** Okay so, just so that I am clear on this without the east pit that extends the mine life by ten years just by doing the west pit?

**John Whelan:** That is correct.

**Mike Dunn:** Okay.

**Rich Kruger:** Yeah. And if there are other resources on the Syncrude lease that better than going to the east, we will look at that. If not, it will be back to more consistent with the plan you have talked about.

**John Whelan:** Maybe just to clarify, it keeps the plant full for the next ten years because a portion of the production is also coming from the Aurora North mine, but it keeps the Mildred Lake - about 50% of the volumes full for an additional ten years.

**Rich Kruger:** Jason, Geoff I am with hands and stuff. I am going to have you guys keep us honest on where they go. Well we will go over here and then we will come back on this side of the room.

**Manav Gupta (Credit Suisse):** Manav Gupta, Credit Suisse. I have a quick question. Slide 35, for all other projects, you actually have given a longer-term guidance, for Syncrude, it kind of ends at 2020. I understand it is a partnership project, but trying to understand once your Syncrude connect does come up in late 2020, how do you envision the guidance and out years beyond 2020 for of Syncrude?

**Rich Kruger:** Yeah, I think you can take that where what we referred to as target production, and you can extend that beyond that. That is getting it into our share 75,000 to 80,000 barrels a day. Part of that comes with the base reliability of the asset mix, but also part of it will be the optimization of the fluids back and forth that go with the interconnect pipeline. So that just may mean you are a little bit higher at the – toward the higher end of that target range, but I would not think of that as a step function outside or above that range.

It is within the same range, and it just literally, and until or unless there is anything that is done at Syncrude to fundamentally change that capacity, it will be about keeping upgraders full and that would get you now 75-80 KBD our share.

I like them all. Jason, it is hard to pick, so you guys are going to be the bad guys there, but then we are going to go back over on this side of the room.

**Prashant Rao (Citigroup):** Thanks. Hi Rich, Prashant Rao from Citigroup. How are you?

**Rich Kruger:** Good to see you.

**Prashant Rao:** Good to see you. I had a couple of questions, clarifications on Cold Lake and Grand Rapids. And I apologize John, if you gave some of these details before maybe just to put it together and want to answer here.

**Rich Kruger:** We will see if he gives the same answer in the second time.

**Prashant Rao:** So, when I look at the cost savings here, you talk about an initial development cost of \$450 million, and then I think you mentioned it removes \$1 billion capital, but \$2 billion over the next 20 years. I just wanted to get a sense of the initial capital outlay, how does that progress as we go towards 2021? Is there anything before 2021 and then if I think about the cadence of those opex savings? If I look at the project profile so to speak, how does that kind of look and what is the shape of that curve? And if there is one big driver that gives variability of it upside or downside that you monitor on that, what would that be?

**Rich Kruger:** Maybe, I will just make the comment, but I will turn it over to John. The difference between the Cold Lake Expansion Project, it was like so many of the earlier phases that Cold Lake, where it had a new, dedicated, standalone steam facility, and then all of the associated wells and well pads over time. So, this, of course, one of the reasons you see is so much lower upfront is it is utilizing surplus steam, Nabiye making the best of a bad situation as well as throughout the Cold Lake asset.

So, you will see that initial capital down materially and then it will be a well pads going on, but John maybe you can comment a little further.

**John Whelan:** Yeah, a little bit on the cost side of it, you know the \$450 million that was for phase one. And the way that generally streams, it will be about \$40-\$50 million this year, a couple of \$100 million the next two years, basically to 2021. And then –

**Rich Kruger:** That the capital what I talked about \$1.6 billion to \$1.7 billion next year, that includes these Grand Rapids monies.

**John Whelan:** And then what that really does is uses this Nabiye steam. And then as steam becomes available in the other plants, the other phases will come out. But have that spend in 2020/2021. Then we will have very little spend for a few years, and then around 2025 start to come up and look at phase two and so on. So it flows at a much lower level than you would see with a major project, and you get a very, sure, you get 30 year at 50 KBD.

This has a bit of a ramp up. Then you get into that 40-50 KBD range, and then you have a ramp down. So that is the spend profile.

**Rich Kruger:** Neil?

**Neil Mehta (Goldman Sachs):** Rich, Neil Mehta here from Goldman Sachs. The first question just to clarify on Aspen, it looks like the Alberta government has taken incremental steps to relieve congestion getting out of the province, but is your message that Imperial would not move forward on Aspen until curtailments are eliminated altogether?

**Rich Kruger:** I think that is fair. Just to look at over the course of this year, the current government, they have indeed reduced curtailed volumes, almost month-by-month where they started out 325,000 barrels a day across industry. Now it is about 80,000 barrels a day. Yeah, I think it is important to note originally, there were 29 parties subject to the curtailment. Now, there are 16. So, we are in a very select group. It is a group I would prefer to not be a part of.

And so, the uncertainty that that creates, it certainly affected rail economics. We went from a terminal that this time last year was very profitable and in very high demand. And in the stroke of a pen, it made it uneconomic, and then we could not ramp it down fast enough in the new year. So, the whole idea of a curtailment policy in a government - getting month-by-month literally production orders. That is, we get in the middle of one month, the production order for the next month. It is just not any way to run a business, and certainly to plan long-term large-scale capital investment. So, we want to see a free market fully restored. We believe in that restoration, that rail will be a valuable market-clearing mechanism for the incremental barrel. We have the largest rail terminal in the province. So we think that in a restoration, free markets, you will get rail back in the business.

And I have added to the Christmas list on John's, we would love to see continued progress on pipelines. I think Line 3 will be the first component with that. Enbridge is talking about the Canadian portion of line three putting in place some approaching 100,000 barrels a day of additional pipeline capacity by the end of this year. That is a good step.

We think that should also give the government more confidence in alleviating curtailment further. But we need to be out of this world, where it is just a free market, and competitors, we all compete on a level playing field, and we are not vulnerable to government actions that can materially affect the economics and incentive of spending money. It is a long answer, but I think the shorter answer is yes.

**Neil Mehta:** Yeah, I appreciate that. And the follow-up is one of the critiques we hear about Imperial from investors who are evaluating your security relative to other global integrated oils is the lower dividend yield. And while you have an attractive dividend growth strategy that is been delivered over a long period of time, there is an argument to step change the dividend to be more competitive, especially given the robust free cash flow outlook. So, I am curious on your thoughts there, as you think between the flywheel of share buy backs versus taking a more aggressive strategy around the dividend.

**Rich Kruger:** Okay. I should have mentioned, of course you have the management team here and I mentioned Miranda Hubbs from our board is here, but Jack Mintz also joined us. So, you not only have the senior management team, but you literally have half of Imperial's board here with Jack, Miranda, Brad and I. When look at this quarterly, we look at, but we don't fuss ourselves with yield as much. If I had a higher share price and a lower yield, I would smile and answer that question, you know repeatedly. But we do pay attention to it. We recognize where we are. I think if you go back, Neil - and you're well aware of this, when we're spending large amounts of money on Kearl, we were borrowing in the market to finance that upstream growth. Well, as you rightfully point out, we're not there now.

With a dividend of about \$600 million a year and a confidently increasing cashflow. I would just say without prejudicing the future, as a soon to be a fixed income guy, I pay very close attention to dividends and dividend yields. And I think the company has significant capacity,

and we can handle a continued growing dividend. Again, I'm not trying to predict the future or what the board and Brad may do in the future, but I'm with you. We've got a lot of capacity there and we've come out of the investment. We've generated that capacity largely from things we've done internally. And our philosophy has always been that shareholders should benefit from the actions we've done and that applies to both dividend and buybacks.

**Dennis Fong:** Sorry, I have a follow up there. So, you set a 2023 GHG target of a pretty decent reduction from 2017 levels. I wanted to try and understand how potentially the Grand Rapids project utilizing existing steam to produce incremental barrels, as well as improvements in reliability at Syncrude, and finally, the progression towards 280 KBD at Kearl could potentially impact or accelerate the timing of achieving those goals? And how that looks, on a 2024 through to 2030?

**Rich Kruger:** Now, the numerics and the commitments there, those are our operated oil sands portfolio. So, I'll take Syncrude and set it aside, in terms of what those commitments relate to. But you're on the right path. With Kearl and Paraffinic Froth Treatment, its carbon intensity is essentially the average barrel refined in North America today. That's well below the Canadian average. So, more barrels from Kearl help lower that intensity. And similarly, at Cold Lake, we fully utilize steam at Cold Lake. But as we introduce solvents into the mix, you have less energy or steam needed for a given barrel of production. That lowers the carbon intensity. So, the progress at Kearl, I would say that 10% reduction is consistent with our plans through that 2023 time-period. As you would go beyond 2023 and that pathway from 240 KBD to 280 KBD, you would see further improvements in it. But through 2023, that ties with the 240,000 barrel a day at Kearl.

And then I think the point you're making on Grand Rapids, this is a bit earlier than our original plan where it was Cold Lake expansion. But you won't see big volumes in that short time. Grand Rapids will accelerate further reduction. It's those two things combined: the introduction of the use of solvents in the in situ, and then the expansion at Kearl. Those two things will continue to drive down our carbon intensity. I would expect that as we look at that and as we get closer and strive to achieve this target, we will be forthcoming with what further targets for continued reduction are.

As I said, if I go back to the very beginning of my comments, the industry overall, but us in particular, Canadian heavy oil can and should compete globally on all of our performance: environmental, social responsibility and governance. And I think what you can expect from this company, we will continue to communicate our performance in each of those areas, but also advocate on behalf of the industry because the world's a better place with more Canadian oil.

**David Samra:** I want to go back on that dividend question for a second because it brings up the totality of capital allocation where you clearly have a return-oriented process to look at the projects that you put up to generate more capacity. And so, when you look at your other tools of capital allocation, whether that be dividends or share buy backs, notwithstanding your own need for fixed income, but does the board have a process at looking at that balance between dividend and share buyback to look at what creates more value? And what provides you with more capital flexibility going forward in the case where the world would align and you wanted to put a lot more money toward new projects, rather than err on the whim of whatever investors want today, which is dividend yield. Does the board have an embedded process where they look at those value calculations?

**Rich Kruger:** Yeah, we do look at it. I think David, you'd agree that we look at it quarterly as we make decisions, but then we step back and look at our finance plan on a couple times a year basis and go through that. I would say maybe the science or the mystique behind whether it's buybacks or things, they are not exact science. We do look at the stickiness of the dividend. What I mean by that is the belief that we like the concept of not only reliable but growing. And we've got a history there that it doesn't yo-yo up and down. We value that. What we hear is we value that as an enterprise, but we also hear our shareholders value that from a bit of a predictability standpoint. With the dividend as a percent of our cashflow, as I said to Neil, we think we have more room for continued growth.

So, I don't think we're at risk in the near future at all of continuing to talk about reliable and growing. You can get to the point where, I think this may be a little bit of what you're hitting at, if you get to where that dividend burden, not yield, but the dividend burden on an annual basis is a bigger and bigger share of your cash flow, where it can perhaps handicap you. I don't think we're anywhere close to that right now. And I don't see that for the foreseeable future. With the strength of our balance sheet, a little bit of the halo effect that comes from ExxonMobil. ExxonMobil has been historically willing, as we've grown, lend to us at very competitive terms in support of its ownership interest in Imperial.

I think we've got a great deal of flexibility. But the board, going back to the core of your question. The board looks at it, we reflect on it. In fact, just in the meeting a couple of weeks ago, we looked at our annual finance plan. And when I say annual, we actually go out several years. We look under a range of scenarios and it is all about what do we think can deliver the most value to shareholders. I would say that as we talk to major shareholders, there is no one consistent feedback in terms of what parties like. But I think the dividend is a key part of it. Quality, selective growth - not growth for growth's sake, but growth that we're confident can withstand the inevitable swings in the commodity markets up and down. We have a practice - we don't hold surplus cash. And that's where the buybacks come in. Did I get at your question, David? Thank you.

**Adnan Dhanani (RBC):** Thanks Adnan Dhanani, RBC. You mentioned a \$30 per barrel US target for opex at Syncrude. Suncor's been indicating a \$30 Canadian target once the bi-directional pipeline's up. Just wondering how that contrasts to your own number?

**Rich Kruger:** You know, we have the same objectives, the same numbers. I will tell you in terms of how we capitalize certain things versus expense certain things, there are some differences there. The other thing I would say is the devil's always in the details. We're quite aligned with Suncor on what we expect to achieve at Syncrude. John commented on it at one point that we put it 'all-in'. And when we look at asset performance, we literally burden it with every cost incurred in the corporation. Someone receives an allocation on it. And I don't know to speak on Suncor's behalf on this, but at times we see some of our partners and others talk at an operating cost level. Well, we'll put an allocation on top of that - now in Syncrude's position - it wouldn't be a big number, obviously. But when you take the all in, whether it's operating overall corporate, there can be some differences there. But we don't have any difference in what we expect the ultimate performance of Syncrude will be versus what Suncor would. John, do you have anything you'd add to that?

**John Whelan:** No, that's exactly right. I mean those two things. And when we look at the plans for Syncrude – us, Suncor and the other owners – we are 100% aligned on where we're driving the asset.

**Jon Morrison (CIBC Capital Markets):** Jon Morrison with CIBC Capital Markets. Rich, any sort of an update philosophically how you're thinking about taking advantage of the rail-above curtailment program that's in place? Obviously, when it was announced and you were going through your Q3, it was pretty fresh. But you've had a little bit more time to digest it. So, any update on how you're thinking about taking advantage of the intertwined economics of the upstream net back that you wouldn't be able to take advantage of along with rail would be kind of helpful.

**Rich Kruger:** I think there's two aspects of it for us. Using incremental rail to move equity crude that we might not otherwise be able to move or using capacity at a rail terminal as a service provider for others who may want to move equity crude. And for the second one, I'll take that first. We've had a terminal. It's there and it's available. At times we've moved other's crude, whether that's downstream, a refiner, a purchaser of the crude or equity producer on it. So that's still available there and folks can come and talk to us about commercial terms for moving it. On the equity side of it, probably my favorite chart in the deck is that flexibility and whether it's using our own refineries, whether it's contracted pipe to the gulf coast, the rail terminal, or an Edmonton based head of pipe sale with the curtailment policy that's put in place, we've received quotas on an operator basis.

So, for us, you take Cold Lake and Kearl and we get one number each month for those two assets. We've worked long and hard to optimize our assets and have the minimal impact of curtailment on our production levels. So that can be the timing of major maintenance. Fortunately, or unfortunately, Kearl has two major turnarounds a year. This year we had one at Cold Lake - that's typically what we have with the five big steam plants. So, we've moved the chess pieces we have so that on any given month we're able to produce the maximum allowable.

Now going forward, we'll have growth at Kearl, 40,000 barrels a day the gross share. Our share is about 24,000 to 25,000 barrels a day. So, we'll have that to contend with in the new year. And I think this is where rail comes in. It'll be our flexibility that on any given period as we can look ahead a month or months. If we have concerns about getting all of our crude into the preferred pathway, whether it's contracted pipe or other pipe, we've got the ability to ramp up rail to cover it. So, we're going through that seasonal effect now and it is a bit seasonal as John described. As you get into the winter, the mining volumes are typically a little bit lower in the first quarter - as they always are. So, we're determining with the added capacity at Kearl, what are we going to need to get it to market? And if we use that special allowance that's provided, it'll probably be to ensure that we can get the added growth at Kearl to market in the most effective way.

**Jon Morrison (CIBC Capital Markets):** Is it fair to assume that the 420 KBD number that you gave on slide 80 implies some use of the rail-above curtailment?

**Rich Kruger:** Yeah. When we put our outlook together, that's probably a step further than we do in terms of what the asset would be. But I think as I sit here today, you have to answer that question, I kind of have to project will curtailment be in place and how long and what

impact would it be? I hope that's not the case, but I would expect that at that 420 KBD, there'll be some use of rail facilities throughout the year 2020. And if for no other reason, we've talked in the past, we sell a crude to some 30-plus refiners in the US and there are times where we can maximize value by moving it to rail to a refiner that wants that heavy crude for a period of time because of something else going on.

So, I think we will be using rail, certainly ramping up at this point in time. Since the third quarter call there was the Keystone leak, provincial inventories went up, differentials widened, rail is back in the money. We're ramping up accordingly. And I think what I said on the call, I said, the fourth quarter is to be determined. Well, whatever number I had in mind then, it's going to be higher than that number because of events that have occurred. So, the flexibility we have to respond to whatever the market conditions are, that rail asset is very to provide that flexibility.

**Jon Morrison (CIBC Capital Markets):** And maybe just a second one for Brad. Brad, coming in as an outsider, so to speak. Can you give any sort of a color around how you believe that Imperial is viewed within the broader Exxon network? How it's evolved over time? And what are the biggest surprises that you've had since you've come in here and spent more time getting to know the assets and the people over this last little while?

**Brad Corson:** Well let me come at that from a couple perspectives. You know, one is I think as evidenced by the presentations today, there's a very solid foundation of performance and value creation from the Imperial organization, both in terms of its upstream assets as well as its downstream assets. So, there is a constant sharing that takes place between the Imperial team and the ExxonMobil team to continue to look for how can we enhance the value of our assets. Imperial's assets as well as ExxonMobil's looking for are there synergies and moving products or best practices to their assets as well. So that's an ongoing dialogue. I think these assets, this organization is viewed very favourably. When you look at the skillset of the individuals, we have many people from Imperial that are, if you will, on loan, or seconded to ExxonMobil to help fill key jobs, not just in Houston, but around the world. I think that's a demonstration that ExxonMobil places high value on this organization, the people's capabilities. So, I think that's how I would characterize a very positive relationship in that regard.

**Rich Kruger:** Anything surprise you since you got here, Brad?

**Brad Corson:** Well I mean several things. I talked a little bit about the history. I mean, it is such a rich history that I wouldn't have been aware of. I think that's very positive. Certainly, the significance of the downstream and the penetration of the Retail sales and the majority position we have in the marketplace. That was something I wasn't exposed to before. It is critical to Imperial's financial strength when you look at the resilience that that provides by having a pretty balanced upstream and downstream.

I think Rich showed a chart that shows the cash generated from the upstream and downstream are about 50/50, over a long period of time. I would not have guessed that coming here. So those are things that surprised me. What doesn't surprise me is the quality of the assets, the quality of the people. I was quite pleased to see that, but it was no surprise to me because I've worked with many Imperial folks over my career at ExxonMobil, including some on the management team. They're a very good representation of the quality of people here.

**Mike Dunn:** Just with reference to Grand Rapids, and maybe it's a question for John, but can you just give us a sense for where you're expecting the steam oil ratio of Grand Rapids with the solvents and maybe without? If it was plain vanilla SAGD, is it a low threes type of reservoir that's going to be low twos-ish?

**John Whelan:** I think Mike asked me this last year. The Cold Lake Clearwater SOR, I mean there's a big range there, but you know, kind of three and a half to five, something like that. The Grand Rapids about two and a half. And to give you a sense Aspen – less than two. So that's where we are with SOR. Two and a half. Yeah.

**Rich Kruger:** Very good. Others? Very good. Well, we have lunch out there for folks and we want to thank you for your attendance, your time and energy. And on a personal level, as this will be the last chance I'll get in front of a big group of you. I know I'm going to see a few of you over the next several weeks in smaller groups. But I just want to thank you. You're a no-nonsense lot. You demand clarity and you have high expectations and that's consistent with what we expect at our company. And I've learned a lot from this group. And I'd like to thank you for that. So, we'll get a chance to mingle a little bit more, but we'll call it a wrap right there and can continue the conversation over lunch. Thank you very much.

[END OF TRANSCRIPT]