

# Evolving Opportunities in Global Energy Disruption Enterprise Products – Reimagining sustainability



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## **Matt Sallee:**

Hello, I'm Matt Sallee, president of Tortoise. I'm very excited today to be joined by the Enterprise Products team, including Jim Teague and Randy Fowler, co-CEOs, Graham Bacon, chief operating officer and Tony Chovanec, senior vice president of fundamentals and commodity risk assessment. Enterprise has been a holding for Tortoise going back to our inception and generally been one of our largest investments. Over the last two decades, it has generated annualized returns of 12.5%, nearly double that of the S&P 500.

Jim, Randy, Tony and Graham, welcome.

## **Jim Teague:**

Thank you.

## **Matt Sallee**

So before we jump into the real focus for today's call, which I really want to focus on the recent sustainability report that you did, does somebody want to provide maybe a little background and history on the company?

## **Jim Teague:**

When you understand Enterprise, I think it's important to understand who Dan Duncan was. The story goes, he started it with two trucks and a pocket full of change and built it back. I don't know if Dan was lucky or visionary or a little bit of both, but he took this position in Mont Belvieu early on and just plowed everything back into the business. I was his customer when I was at Dow Chemical for over 20 years and one of the things I learned about him is details mattered and he was deep into everything and he expected his people to be.

In 1998, he went public and I told him one time it was a lot more fun being his customer than being his employee. But I think I learned more from him in the 10 years before he died than I learned in the rest of my career put together. Randy was here shortly after the IPO and then I came over when we sold the Shell midstream assets to Dan. But what I think is kind of interesting is that our enterprise value back then was I think, \$1 billion all in.

## **Randy Fowler:**

Yeah. Jim, we started out as \$1 billion enterprise value and now today we're right at \$70 billion of enterprise value. Thinking about how we did this, Enterprise was always about providing critical energy infrastructure services, not only to producers of oil and gas, but also the largest consumers of oil and gas, which really is the petrochemical industry and the refining industry. The first seven or eight years, we mainly grew by acquisition. But really since then, we've grown by organic growth projects. Now, when you come back and look over our history, we've got 22 consecutive years of distribution growth, we're a Fortune 100 company and we also have one of the highest investment grade debt ratings in the midstream energy sector.

**Jim Teague:**

I think one of the things that's important to recognize about Enterprise is, Dan's DNA still resides in Enterprise. We get down in the weeds, we understand our businesses.

**Randy Fowler:**

Enterprise has always been a believer in sustainability, going back to when we were founded. I think Dan believed in a sustainable business model, it just wasn't called that in 1968. But what he was trying to build a company for the long term and whether that was doing win-win deals with customers, being a good corporate citizen in the community, and also coming in and being a good employer as well, and watching after the environment.

**Matt Sallee:**

Thanks guys. I always love the stories about how Dan started the business. Very much as a close observer of the company, you absolutely can see his DNA still operating in the business. You make a good point on sustainability before it was called that, we see that in terms of how you guys do business.

I know Enterprise is the largest transporter of natural gas liquids in the U.S. and the largest component of natural gas liquids is ethane. I think most people don't know what the heck ethane is, so it might be helpful, and you talk about this in the sustainability report, but what is ethane used for? What products, everyday products is ethane needed for? Because I don't think people appreciate how much it goes into.

**Jim Teague:**

The interesting thing about Enterprise is, we are literally pipeline connected for all NGLs, but also ethane to every ethylene plant in the United States. Ethane is used to produce ethylene and ethylene is the basic building block for a lot of plastics.

Ethylene plants have been running at a pretty high rate because of the need for single use plastics. I think, was it California that said, "We're only going to use plastic bags during this pandemic," but Bob Patel is the CEO of Lyondell and he said on the last earnings call that, the pandemic has made people appreciate chemicals a lot more and I think that's true. We also export ethane, we're exporting about 150,000 barrels a day. Then we're exporting it to South America, to Europe and Asia. Once again, it's going into ethylene plants in those locations.

**Matt Sallee:**

The other thing you talked about in the sustainability report is, some of the things that we do traditionally are widely viewed as sustainable in terms of renewable energy or making cars more fuel efficient by being lighter. I mean, how does it play into that?

**Randy Fowler:**

They are all coming really from natural gas liquids. When you get into the propylenes, you get into more usage as a raw material and manufacturing. So that's cars, planes, boats. With the butylene, you'll see some of that get into synthetic

rubber tires, fuel additives, insulation, paint. Back on some of the everyday goods, again from the ethylene chain, you've got food packaging, but you also have clothing, shoes, carpets, even pharmaceuticals. And what we saw during the pandemic and what was talked about more was personal protective equipment, the N95 masks, the face shields and even some of the Clorox wipes, those wipes are synthetic fibers as well. I think sometimes we don't think about just how prevalent chemicals and the synthetics are in our everyday life.

**Jim Teague:**

Oxy used to have a commercial, where they showed a guy in his apartment and everything made from hydrocarbon started disappearing. At the end of the commercial, he was outside in his underwear. It really is, this world doesn't live without what comes out of these ethylene plants.

**Graham Bacon:**

I think I'll add to that. Our modern medicine wouldn't exist without hydrocarbons and the benefit of hydrocarbons and plastics that are derived from those. Everything that you see in a hospital is almost exclusively derived from hydrocarbons.

**Matt Sallee:**

You've talked about propylene, but with propane, I know that's the second largest component in natural gas liquids. I know I use a lot in my barbecue grill. But Enterprise is exporting quite a bit of propane. Can you talk about that dynamic, where it's going and how those countries are consuming it? Why they have so much demand for U.S. propane?

**Jim Teague:**

It was July of 2009, that our phones started ringing off the wall, wanting to export. At the time we could load at 5,000 barrels an hour and it has not stopped. Originally it was going to South America and Europe. I guess, six, seven years ago, we had maybe 5% going to Asia. Today, we've had 55% of what we export goes to Asia.

What we're really proud of is a lot of this stuff goes to improve people's lives. If you look at India, they had a program that since 2015, they converted 100 million homes to LPG from wood, coal and animal waste and they're only 50% penetration. They've done conversions in Indonesia, conversions in Nigeria, 40 million homes in Nigeria. Hydrocarbons are doing a heck of a lot of good by improving the quality of life of people in other parts of the world.

The other places they go is PDH plants in China. They just built a tsunami of PDH plants in China, it goes to ethylene plants in Europe. But what we're seeing is more and more of what Tony calls, sticky demand. Frankly, during this pandemic, our LPG exports have not slowed down, we have been full throughout. When the hurricane went through Beaumont, there's an export facility over there that's not able to run, I asked our guys, "Can we get some of that business?" What I was told is, "NO, we are full in September."

**Graham Bacon:**

I think when we look at the bigger picture, I think we can say that the fossil fuels that we use really do help the environment by protecting our forests and keeping our forests from being used for fuel. That goes a long way in terms of helping to reduce CO<sub>2</sub> emissions or control CO<sub>2</sub>, because our forest is one of our natural controls of CO<sub>2</sub>.

**Randy Fowler:**

I think one area that's sort of overlooked when we talk about energy demand, is global population growth. When we came in and started looking at this, which was fascinating to me, today global population is about 7.8 billion people. Well, in 1975, it was only 4 billion people. We've added 3.8 billion, nearly half, since 1975. The world is adding a billion people every 12 years. A lot of those growth areas are in Asia. Also, what we're seeing now, I think when you look forward where the next billion is looking to come from, really China is not a part of that, it's more India, it's more Sub-Saharan Africa. What we're finding is those are the very places where we'll find the demand pull for the propane and for the, what we call LPG, which is again, a mix of propane and butane. That's for human need, mainly cooking, to come in and help the human need and those people in those areas.

**Tony Chovanec:**

They're all saying that U.S. propane changed their lives and these are professionals over in India.

**Randy Fowler:**

Matt, I really think two examples and again, this is UN data that came out, when you look at the progress focusing on China and India from 1990 to 2018, their energy use per capital went up and their quality of life there went up. But to me, quality of life, maybe understates it, because it's something much more tangible. When you look at the life expectancy in India from 1990 to 2018, life expectancy increased 11.5 years. In China over that same time period, life expectancy increased almost 7.5 years. So really, U.S. propane is really having a huge benefit to some of these countries with lower economic strata.

**Matt Sallee:**

I remember reading a report from the World Health Organization, referring to what Randy was talking about. I think they named solid fuel cooking, wood, coal, etc., inside the home as, it was either the number one, or it was one of the top few health risks to young children globally. The products you're supplying truly are making the world a better place. That's part of the message that we want to get across here.

I guess there's no debate or at least in our minds shifting gears a little bit that wind and solar are very helpful to providing clean, burning electricity. One question that we get as a firm and I'd be interested in your perspective is, in particular in these countries, why not just build all wind and solar and provide electricity to these homes to eliminate their need to have wood and coal inside their home for cooking purposes?

**Randy Fowler:**

When you come in and you look, one, wind is only prevalent in certain locales. Then you look at it from a solar standpoint, solar has to compete with agriculture, because you can only claim the sun rays for one purpose, you can't do solar and AG because it's going to be one of the other. When we come in and we look at that, especially when you start looking at Asia, that's where almost 50% of the globe's population is, and it's just not very conducive for solar and wind. And the other aspect of it, the areas where wind may have, or solar may have some potential, you really need for that to be close to population centers. Because, if now all of a sudden you're coming in and generating power and you've got to come in and transport that power over transmission lines, 500 to 1,000 miles, you're losing a lot of electricity in that line loss. So, there's really some limitations both with where wind and solar will work. How close it is to a population center and then also you just get into intermittency that wind and solar are not always there 24 hours a day.

**Tony Chovanec:**

I'll add to that. My in-laws have a cabin at 10,000 feet in Colorado and, there is no electricity and there's snow melt for water. You cannot always use a wood stove because of fire danger. So we bring propane in, in small tanks to be able to use propane to cook off of. I put myself in charge of the solar system at that cabin about 10 years ago. I'm going to tell you, out of the five months a year that you stay in that cabin, there are a lot of days that you have no lights, no solar lights, even though they are LEDs because you haven't had sunshine. It's the real thing.

**Matt Sallee:**

Yeah. That makes sense. I guess, in terms of renewable energy, have you integrated them? I mean, recognizing the challenges, but do you utilize renewable energy within your operations? I guess, the next question related to that is, do you see for your company, any commercial opportunities for these types of assets?

**Graham Bacon:**

Just to start off on where we do use solar today, in a lot of our field operations, remote areas, pipelines that are off the grid, and are not high demand users, we use solar and wind pretty extensively to operate our facilities. In terms of a lot of areas, it makes good sense for us to have solar. These aren't big applications, but when you combine them over tens of thousands of locations, they do become fairly significant. So we are a user of solar energy where we think it makes sense for our current operations and commercially.

**Tony Chovanec:**

Yeah. We do have an effort underway because we have a 24 hour load and there's so much wind in the State of Texas to participate in the renewable market as a purchaser of such. We will be in that market. It's green, yes, but there's a point where it makes sense for us economically, so we'll do both. But relative to a development standpoint and believe me, we've taken a close look at it and we don't see the payback.

**Matt Sallee:**

Okay. I guess related to that, correct me if I'm wrong, it seems like I saw in the sustainability report a percentage of your electricity consumption and speaking for the company that comes from renewable sources. Do I remember that correctly? If so, what was that number?

**Randy Fowler:**

Yeah. Matt, some of that is, when you come in and you look at what's behind Electric Reliability Council of Texas (ERCOT), call it between 15 and 20% wind and solar.

**Matt Sallee:**

Wow. That's quite a bit. I guess I'm going to shift gears now into the petrochemical business. Obviously, as a close follower of the company, we know that you are in the process of building a second propane dehydrogenation facility. What is that? How does it play into your strategy? Maybe comment on how big the petrochemical business is once that facility comes on. I think people think of Enterprise as an oil and gas company, which petrochemicals are related, I understand, but maybe just talk about that part of your business.

**Graham Bacon:**

Basically all a PDH facility is, is it takes propane, converts it to propylene, and also produces some hydrogen as a byproduct of that conversion from propane to propylene. It's the same thing, when we talk about iBDH. iBDH is basically taking isobutane and turning it into isobutylene, both of which then become intermediaries for further petrochemical development, polypropylene, and synthetic rubbers, and those types of facilities.

**Jim Teague:**

We like primary petrochemicals. We are the largest merchant producer of propylene in the U.S. and we're either first or second in the world. Once PDH 2 comes on, our gross operating margin out of petrochemicals will be north of \$1 billion. From a logistics perspective, we have a propylene marketing hub with a distribution system to all of the end users of polymer grade propylene. We're doing the same thing with ethylene and then we have added the capability to export both ethylene and propylene. Our ethylene export facility is sold out and propylene, whenever there's an arbitrage, we're loading it. We've done something unique here recently, we loaded a VLGC, a very large gas carrier.

We've loaded half propylene and half propane on that ship, which makes the freight cost a heck of a lot better for propylene that went to Asia. And then we did the same thing with ethane and ethylene, loaded a ship half ethylene and half ethane. So we liked the primary petrochemicals. I don't think you're going to see us in polyethylene or polypropylene, but isobutylene, propylene, ethylene, we like that business.

**Matt Sallee:**

When you were talking about the PDH, I'm not going to try and pronounce it again, you mentioned it brings hydrogen off. I mean, I just follow the Wall Street research and just internally for Tortoise we've been talking a lot about the potential for hydrogen as a dense fuel that's low carbon or I guess, no carbon, depending on how you create it. But can you talk about,

how's Enterprise involved today and then how do you see it evolving over time? Is there a role for it in the energy value chain in terms of de-carbonization?

**Graham Bacon:**

We have three operating dehydrogenation facilities now, and a fourth that's under way. If you look in the midstream space, Enterprise is the largest producer of hydrogen. We use it for other processes that we have. It's a raw material that we use. But we also use it for low carbon fuels. Some of it gets burned. We also have the ability to purify it and put into the purity pipelines that were connected to several purity hydrogen streams. So we really look at the hydrogen coming off of PDHs and how we optimize that both for our own internal use, and then what we can sell into market.

Most of the hydrogen created today really does come from hydrocarbons. Certainly there are processes that you can have other ways to make it, but those are energy intensive as well. If you're not making hydrogen from hydrocarbons, it's very energy intensive. So we've got to be careful when we look at hydrogen. There's some certainly when you burn it, that low carbon emissions, but how you get there, you've got to really look back at the whole value chain of how hydrogen is created to really understand the benefits.

**Jim Teague:**

I think that's our opportunity is that optimization, I'm not sure we're going to see a commercial opportunity for us in anytime soon. Chris, would you agree with that?

**Chris Nelly:**

Yes, Jim, I would. I think, it is getting a lot of attention these days. But I think what we're doing as far as trying to optimize around our dehydrogenation units and supply the market with the hydrogen that they're looking for, is the role that Enterprise is going to play.

**Matt Sallee:**

What are you doing in terms of emission reduction efforts? How do you measure this? How do you report it? Then what are your goals and progress towards those goals as we look out in the future?

**Graham Bacon:**

When you look at our overall emission reductions, we look at it in several different ways. We look at it at how we design our facilities and how we operate our facilities. If you look in our sustainability report that you can see that over the last 10 years, we've had 19% reduction on a barrel of oil equivalency. Some of that's how we design it. We design our facilities, our pipelines to be extremely efficient. We got very talented engineers that really work to use all of our fuel and consumption very efficiently. That's one big part of it.

The other is how we operate our assets. We've got a group of systems operations in our control center that look very closely at how we operate pipelines, how we operate facilities. We use a lot of analytics and data to support our operations and making sure we're squeezing every last bit out that we can out of the energy that we use. We think that's important.

Sustainability is not just renewables, for us it's just operating efficiently and effectively because that generates an economic return for our shareholders. So we look at it more beyond that we want to just be a good operator, it really is the key to sustainability.

**Randy Fowler:**

Matt, one thing that we did in 2019, when we thought about incentive compensation for our employees, historically we had the measures that really make sense and are shareholder friendly in our alignment with shareholders, whether it's cash flow per unit growth, whether it's return on invested capital, we added a couple of different additional measures into the consideration of that incentive comp. That was both as far as this emission intensity that Graham highlighted the progress that we've made on that front. But it's also our total incidents on our safety measures as well, that we also added in on some of the considerations for that. So, we're mindful of not only the financial objectives and targets, but also on the safety and emissions as well.

**Jim Teague:**

We have a meeting every Friday morning where Graham and Randy, myself, and a few others meet with our safety, our HS&E people and we go over every incident that's happened that week and what are the implications of that incident and what's been done and what lessons were learned from it. Every Friday we have that meeting.

**Matt Sallee:**

That's good. As a large investor, we would love to hear that, that's such a big focus and applaud and observed and appreciate directly tying compensation to some of these key metrics. That's been a big push for us as a firm and appreciate the progress that you all have made. That's kind of the main topics I had thought to cover. Is there anything else that I missed and you want to point out around these topics?

**Jim Teague:**

I've never been more bullish on Enterprise and things like whenever you have cycles like we had and the financial crisis and now a pandemic, which demand went off the side of a cliff, we are focused. I think before this is over, we're going to come out of this a heck of a lot stronger than we went into it. There's going to be fewer competitors, and we're going to do very well. We've got to slug it through first part of next year, but by the second half of next year, I think we're going to see price signals better that are pretty positive for Enterprise. I've been around a long time. I'm pretty excited about what we see in our future.



**Matt Sallee:**

Well, that's great to hear. You guys have been very generous with your time and the resources that you brought to bear here today was very much appreciated. It's been very enlightening just to get a little better understanding of your business and specifically around what Enterprise is doing globally to promote sustainability and then frankly, improve human lives. Right now, today, that's something that's affirming, that's a core value for us. So we love what you're doing there.

**Jim Teague:**

Thank you Matt.

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