



# MACRO Voices

*with hedge fund manager Erik Townsend*

## Art Berman: Expect oil prices to move down, then up, the WAY up

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**Erik:** Joining me now is petroleum geologist [Art Berman](#). Art, I am so looking forward to this one. We are overdue to have you on the program. Welcome back.

**Art:** Thanks, Erik. Good to be back.

**Erik:** I gotta tell you, Art. I have become convinced that most of the analysts in the oil and gas space are guys like me who are fascinated with oil and gas but have never been to an oil field in our lives.

And don't really know what the hell we're talking about when it comes to the actual mechanics of drilling oil wells and production and how all of this stuff really works at the physical level.

Now, what I can tell you, what I do feel very confident that I understand is, although I don't think it's going to happen as soon as a lot of people are assuming, at some point we're going to have a recovery. We're going to need to resume producing US oil as much as we can.

And I just get so many different analyst interpretations and i think some of them are very misinformed. Some poeple are saying, look, we were at 13.2 million barrels of US production. We have that capability. We've got to push a few buttons, throw a few switches. We can turn it right back on and we're right back there.

Other people are saying, no, there's aspects of the way this whole supply destruction event as a result of the coronavirus has gone down that it's going to be hard to ever get back to those levels.

And, frankly, I don't think that a lot of people who are outside of the physical oil patch really know what they're talking about.

Now, Art, as a petroleum geologist, you actually drill oil wells for a living. So what I'm hoping to get out of this conversation is a much better understanding of how much oil production was taken offline in the US, how much of it is really still offline. Because I'm hearing a lot of reports that a lot of it is getting turned back on already, despite the fact that we are, by some measures, running out of storage.

And I want to get to an understanding of are we really able to just ramp things back up to where they were? Or are there challenges that are going to make that really difficult?

You and I talked about this off the air. And in your usual form, because you're very good at doing this for your consulting clients, you pulled together a slide deck to address all of these issues.

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Art, let's go ahead and dive right in here. On Page 2 you're showing us what's going on with the OPEC+ production cut. And the spring rally. Talk us through the slide deck.

**Art:** Yeah, Erik.

The important thing about this slide deck is to understand that the price rally that we are, I think, pretty much done with is one of six price rallies that the market has been through since the middle of 2018.

And every one of them has failed for the same reason. And that is that there is fundamentally too much oil in the system. The only reason that the price ever goes up is because OPEC+ has been consistently cutting production since the end of 2016.

And so they're keeping it within some kind of artificially maintained limit at which price can rise. But the market really knows there is a ton of oil sitting out there.

So the latest rally was really just – when you're at zero, there is only one way to go.

And so basically everybody was short in the market. And it had to come back to some level that was much, much higher than zero, which it did.

And then the market realized, apparently late (like, late last week), oh my goodness, things are not really any different than they were before. We've got coronavirus, we've got too much oil. And so now prices are adjusting down.

That's the essence of Slide 2.

**Erik:** Art, I want to ask you about the time spreads on the WTI curve. We're looking here on Slide 2 at the flat price rally.

But the other thing that's not shown here is the time spreads, the difference between the July and the August contract. You know, when we were at the bottom there at \$37.63, the May-to-June contract expiration, we got to \$60 of price difference from one contract to the

next, which was an all-time record.

There were sustained periods of weeks at a time when we were at \$5 or \$6 of price difference between one contract and the very next contract one month later.

Now, that price differential is a proxy for the cost of storage.

The thing is, and it's inverse – as the time spread goes down, it means that the cost of storage is going up. Just as prices have rallied, time spreads have rallied to the point where right now, as we're speaking on Monday morning, the July-to-August WTI crude oil time spread is about 29 cents of contango.

That's typical of a fairly normal regular market as you come into expiry for one of these time spreads – 30 cents of contango. That is not an exceptional condition.

But, just last week, we had an EIA report that said we just hit an all-time record on US storage levels.

So if the time spread is a measure or a proxy for the cost of storage, how is it possible that we're seemingly using up more storage than we've ever used up before? The price was reflecting a huge premium for fear of running out.

It seems like, not only is there no fear of running out, but what the prices are telling us is the market is expecting that storage level to be drawn down dramatically very soon.

Am I interpreting that right? Is that what's happening? And why is it happening?

**Art:** It's a mystery, Erik. Because it is true that, now that we have avoided the tops crisis that many analysts thought was inevitable, I certainly didn't rule out that it could have happened.

But I was non-kind-of-a-pragmatist, and I say, well, has this ever happened before? The answer is, no. It never happened before.

Why didn't it happen before? Because market forces took care of it for us. I don't believe the market is always right, but the market is always ruthless. And negative \$37 on futures prices, I think, sent the signal home loud and clear.

And so production was cut; the crisis was averted temporarily.

Why does the market think that there is just no problem going forward? (Which is your point.)

And the answer is I think it has to do with the fact that Cushing inventories are going down, never mind the fact that the Gulf Coast is going up correspondingly.

But, to my way of thinking, there are two very important factors that are going on that nobody is talking about very much.

The first is strategic petroleum reserves.

So the federal government opened up certain volumes of the strategic petroleum reserve to people to lease and put their crude in. And there is no way to know this, but I think that a lot of the crude oil at Cushing is going into various salt caverns and whatnot of the strategic petroleum reserve. So that's bringing down Cushing's storage volumes.

Overall, we're at 80% of US capacity, which isn't great. But it's not terrible.

The other thing – and this is much more obscure I believe – and that is this whole business of unaccounted-for oil. And unaccounted-for oil is simply produced oil that isn't entering into the flow, isn't entering into pipelines, isn't entering into storage.

So where is it going? And the answer is no one knows for sure. But I'm pretty confident that it's being stored in tanks on leases, which are considerable. Those facilities have expanded tremendously since 2015, 2016.

So what we've been seeing consistently every week for the last seven weeks is negative unaccounted-for oil. Which means that oil is being produced but it's not going onto the market.

That is a complete reversal of the trend for basically almost the last three years, where every week about three 3-1/2 million barrels are entering the market that are supposedly unaccounted for, meaning they were produced in some previous period.

Now the opposite is happening.

So, between the volumes that are going into the SPR and the volumes that are produced but being withheld on leases (if that's the correct interpretation), we've got a fairly substantial volume.

So there is kind of a choke, if you will, on storage building up.

How far can that go? Well, the Department of Energy is going to at some point fairly soon, have to tell people, okay, we're going to make more space available in SPR. Or we might revisit the crisis.

Who knows?

*Erik:* Art, there is a really important issue that I want to make sure we really get into because, frankly, I'm convinced a lot of finance guys don't understand it.

The perception in a lot of finance circles about oil is this: Look, we had 13.2 million barrels of US production before the crisis started. Now we're down to 11 million barrels per day of total US output.

And the reason – or I should say the perceived reason on Wall Street – is because a bunch of these shale operators were forced to shut in wells. About 2 million barrels per day worth of production. They turned a bunch of switches off and left them off.

The perception is those oil wells that were shut in are still shut in, that's the reason that we're down to 11 or whatever-it-is million barrels per day.

And the assumption I think a lot of people are making is, well, those switches can be turned back on and we could be back up to 13 million barrels if we just turned those oil wells that were shut in and turned them back on.

Tell me what's wrong with that story.

**Art:** Well, like most stories, Erik, there is some truth to it or it wouldn't stick.

So here's the problem. Shale, tight oil, is a little bit more than 50% of US production. So what about the other 45%? Which is, obviously, nearly half. So we're ignoring whatever happens to the other half.

And that turns out to be important, because the other half are conventional wells. And all of the Wall Street assumptions about what does it take to kill – that's a very technical oil field term – to kill a conventional well are mostly true.

So it's not a trivial exercise.

It's easy enough to do, but you're doing something which can be reversed, but certainly not with the flip of a switch.

So the question then becomes how much of that production will come back on?

Let's just say for round numbers, let's say a million barrels or three quarters of a million barrels a day is what is called stripper production. Those are wells that produce very small volumes of oil every day and probably a lot of water.

And so the problem there is that, at current oil prices, even though they're way above zero, they're still not at \$35 or whatever we're at with WTI at the moment. Those wells are still not commercial.

And the little operators that play with those, they just don't have the deep pockets to be unplugging and plugging and going back and forth as the market goes up and down.

And so, initially, that's all EIA was measuring, stripper wells going offline. So that's one little parcel of reality.

The second is the shale wells. And the shale wells are different because they produce from fractures because they're more recently drilled, they are higher volume, they have higher pressure.

And the truth is that, for all of the potential problems that could have emerged from shutting them in and leaving them shut in for a long time, most of those wells are back online. So that shut-in for shale wells was maybe a week or two.

Prices came back up enough that the storage crisis apparently went away. Almost all of those shale wells are back online.

So what will be affected beyond production? Well, it's going to go back up. It's definitely going to go back up. I don't think it's going to go to 13 million barrels a day, but I think it's going to go north of 11 for sure. It's going to go up into the 11 to 12 range over probably June and July.

So we basically had one month of constraint in production that was really a matter of a couple of weeks.

*Erik:* Okay, but the point that I think is not so obvious to a lot of people is the shale wells that were turned off, there is not spare capacity to turn them back on because they've already been turned on. They're already running. And the stripper wells that were turned off are probably staying off. It sounds like it's not going to be economical any time soon to turn those things on.

So the ability of the industry to respond, hypothetically, if demand were to recover just suddenly overnight – which I do not predict – I don't think that's coming for at least six months longer than most people are assuming. But when it does happen, it's going to happen quickly.

The ability of the industry to just push a few buttons and re-amp back up to 13 million barrels, you're saying that ain't happening.

*Art:* That ain't happening.

So let's take a look quickly at Slide 6. Slide 6 shows horizontal tight-oil wells in the Permian Basin. And I could have bored everybody with three or four slides. But this is the biggest volume, so let's just look at it.

And what I'm showing here is by year of first production what the decline rates of each one of those in 2018, 2019, 2020 group of wells is. So this is what happens if you don't drill any more wells. And there is a table which people can refer to.

There are two key points I want everyone to take away.

The first is that these shale wells decline at about 30% per year on average. Permian 26, and Bakken and Eagle Ford are a little higher. So it averages out at about 30%. So if you don't drill any more wells, then tight oil goes down 30% in the first year.

And if you look at the second column, which is the annual decline rate, what you see is that, in general, the decline rates of the more recently drilled wells are higher than they were in the past. So, for instance, 2018, those wells are declining at almost 50% a year.

So what does that mean?

Well, that means that, for all the wonders of technology, and more profits and more frack stages and longer laterals and all of that, the wells are not finding bigger reserves.

They are producing them more quickly, so we get bigger rates and we're getting higher decline rates. So the good news is we have a lot of oil available. The bad news is it goes away quickly. That's a real important takeaway.

So that's the scenario if we don't drill any more wells.

*Erik:* Art, let me interrupt you there because I want to ask a question about these decline rates.

Clearly, these things if they're producing – okay, so you drill the well in 2016, after the first year at 21% or whatever the number is, the production has gone down. Let's suppose that I've got an expected decline rate of 30% per year.

Now, I shut the well in because of the coronavirus crisis and I leave it shut in for a year. When I turn it back on a year later, does that mean it's producing at 30% less because that annual decline rate is still happening because of some geological thing that's going on underneath the ground?

Or is that no-no-no, you paused it so you go right back to right where you were. You didn't lose anything because no oil was coming out of the ground during that period, so no decline occurred?

How does it work?

*Art:* It's the second one, Erik.

Now, we can argue about if you actually have it shut in for a year are there complications that could arise that would cause it not to come back right away or without some remediation?

If you park your car in the garage for a year and don't use it, and then you say, okay, let's go start it up, maybe it will start right up. Or you may actually have to replace the battery or you may even have to tow it into the shop because it needs something else.

So, to make it simple, the great likelihood is that most of those wells with some remediation, taking it in to the shop or getting a new battery as the analog goes, most of those wells can be recovered.

But the answer is that when you shut in any kind of well – it's not a shale well – it doesn't keep declining. The decline is depletion. It's the result of producing more oil and gas and reducing the pressure. It's a pressure phenomenon.

So if you shut the well in, you're not extracting any more oil. In fact, the pressure is going to build up because it's capped.

And so when you first unload or uncap that well, the initial production rate will be higher than it was when you shut it in because you've allowed the pressure to build up. That's the simple answer. There are complications, but that's the simple answer.

*Erik:* Thanks, Art. I wanted to clarify that. I apologize for sidetracking you there.

Let's go back to Slides 3 and 4 before I interrupted you and talk about this whole question of, okay, we're at 11 million barrels per day.

Can we go up from here? Are we going down from here? What comes next?

*Art:* Let's take a look at Slide 3. And what Slide 3 shows is the tight-oil rig count, which is a proxy for total production, future production. That's in blue.

And then lagged tight-oil production, which is in orange.

Now, this is a key point that, because of the advances in technology, mainly pad drilling, which is to say we can drill 7, 8, 9, 10, 11, 12 wells with the same rig on the same drilling pad – because of that, the delay between drilling a well – in other words, putting a rig on – and first production is much, much longer now because you need to drill all of those wells.

Let's just say it's 10. Ten wells per pad. You need to drill 10 wells before you bring the frack crews in to frack 10 wells, which also takes time. And when you're all done with that, then you can start producing oil.

And so the empirical fit of these curves, believe it or not, is about 12 months.

Now, I went back and did some fact checking and actually looked at the time from rig-on to first oil. And, in fact, it varies of course, with the length of the lateral, the number of wells on the

pad. But it does average something around 300-325 days.

So this is accurate.

So we talk a lot about, oh, isn't technology great? Yeah, it's great. But it has a cost, as I've always said. And here the cost may be in dollars. But it's time.

So what we see then – you see where it says "shut-in wells," just below the March 2020 production – that's what happened when there was a crisis with storage being filled.

And so we went from seven-and-a-little-bit of tight-oil production, which corresponded to 12-and-a-little-bit for US, down to six-and-a-little-bit for tight oil, which corresponded to 11. And now we're in that reactivation stage.

Okay. And it may be faster than I've shown it there. I don't know, but that's what I've shown.

And so what that means is that as those wells, shale wells, are reactivated in this month, next month, maybe the coming month, production is going to climb back up.

But the other very important thing that's going on is – if you look down at the bottom of the blue curve down on the right hand corner – we're at 165 tight-oil rigs right now. That's the average for June. We need about 500 rigs running to maintain production at 11 million barrels.

And we need 600 or so to maintain production that corresponded to [the] 1,300 [million] barrels a day that you've referred to.

So at 165 there is no way in the world that we can get back to 1,300 [million] barrels per day of US production for a long, long time. We have to build that rig count back to 500 or 600 from 165. And we've got to drill all of those wells, we've got to frack all of those wells before it finally comes back up.

So the presumption that you can just flip a switch there and we're back, we might get back short term to something approaching 12 million, but we are in deep doo-doo as far as a country trying to rebuild our production. And that began long before coronavirus.

I mean, that process was starting 18 months ago when the rig counts started to drop. So that is something that is just not appreciated.

*Erik:* Art, as I listen to you speak I'm kind of forming a price map or a road map in my mind of where this is going. It sounds to me like we do have the ability to punch a few buttons, get some production back online quickly, which I suspect is already happening because of the price rally.

I think we're going to find that the coronavirus crisis is not over after all and that this was all too

much too fast. And so I think that what's going to happen is we're going to find ourselves with too much oil again. And I won't be surprised if we have a Round Two of the fears about storage becoming a serious problem.

But it sounds like that could mean another wave lower of oil prices. Not to minus \$40, but maybe back down to \$20-\$25 sounds very realistic to me.

But sometime after that, when we really do need to go back to 13 million barrels in order to address a bona fide full recovery of demand after this health crisis really and truly is over, it sounds like we're basically screwed.

It ain't gonna happen.

**Art:** That's exactly right. And I am 100% with you, Erik.

I was on the show – I think it was in late January – the question then was is coronavirus a big deal or not? Because most of the world, at least outside of China, thought it was not. And, as I remember, you and I were in a frighteningly close agreement that it's a huge deal. And it's a huge deal for oil production, not just for public health.

And, unfortunately, we were right.

And so I'm agreeing with you again 100% that, just because people are out and driving around in their cars and going to restaurants without face masks – I was in that situation this weekend, kind of scary.

Some of the health experts – this fellow from the University of Minnesota, he says we're in the second inning of a nine-inning game. Maybe that's pessimistic. But it doesn't really matter if we're in the second or the fourth or the fifth inning. There is a whole lot more game to play. And no matter what the score is right now, it can change.

So we're screwed, Erik. We are screwed for being able to get back to levels that we have very recently thought were expected. And we've been screwed for a long time because of the declining rig count.

**Erik:** Moving on to Slide 4, which looks at some of the lag periods inherent to the rig count versus production.

Let's talk about how long we're screwed for. Let's imagine that you and I are right and what comes next is maybe another wave down in prices because we realize that we've gotten ahead of ourselves.

But let's suppose, just for the sake of round numbers, that about a year from now – June of 2021 – we get to the point where there is a viable vaccine for the virus that really allows the

economy to go back to full swing and we really need to get back to 13 million barrels or, by then, perhaps 14 million barrels a day of US production.

When we say “we’re screwed,” how screwed are we? How long would it take for the industry to react to that increased demand and really ramp up to meet that demand? And I particularly say how plausible is it?

Because I think the last time we went through this, when we got from whatever it was all the way up to 13 million, it was fueled by this massive investment in the shale patch, which, frankly, was driven by a whole lot of easy money from the Fed. I’m not sure that’s going to be there next time around.

**Art:** Before we leave Slide 3, I want to call attention to the table. In the table under the words “A Though Experiment” – and let me be really, really clear to you and to all of our listeners, that this chart and a couple of the others, don’t take this for the way it’s going to be. These are **thought experiments**. Nobody knows.

We’re in uncharted waters here. So I’m sticking my neck way out and saying this is what I think is going to happen, based on the way these curves have worked before. So, notionally, they are correct.

Just don’t hold me to the absolute numbers, because I’d be lying to you. And anybody would be who said they know what’s going to happen.

But if you look at the table, what I’ve shown there is, in the second column, tight-oil production and then US production. And so you can see what those numbers are.

And I’m saying that, based on all of this, by the middle of 2021, US production could very well be 7 to 8 million barrels a day. Way, way down.

Now, look at the far column. That’s what EIA thinks. And I’m not saying they’re wrong. I’m just saying that even EIA says we’re going to be down 3 million barrels from where we were.

So how long does it take to build rig count?

Let’s go to the next slide, Slide 4.

On Slide 4 we can go to about 3/4 of the way over to the left where it says May 2016. We got down to a rig count of 193 when oil prices bottomed out at \$30. And it took us until November 2018, which is to say 2-1/2 years, to build back from a little under 200 to a little over 600.

So that’s the kind of build that we need to get ourselves back to anything approaching 12 or 13 million barrels a day. And is there any reason to expect it would take less than 2-1/2 or 3 years? Especially with your comment about the investment capital not being available?

No. There is no way to believe that.

So the point of this chart is just that there is a lag also between changes in oil price and an oil company calling up a drilling company and saying, hey, we'd like to contract one of your rigs. And so that's about a 4-month lag.

And then you've got the 12-month lag added in to that between the time the rig shows up and first oil gets produced.

So those are very, very substantial lags. And so it's going to take a long time to get back to the levels that you say, and I agree, we may need. And that's not because of coronavirus.

Coronavirus has accelerated and accentuated trends that were already there. The decline in rig counts began way before anybody had ever heard of COVID-19.

**Erik:** So it sounds to me, from an investment and speculation standpoint in this market, we are probably peaking out right now on the top of a first wave up in price. There needs to be some kind of a pullback.

I don't know if that number is \$25, or higher or lower than that. But something less than the \$40 that we've almost touched. We actually were above \$40 briefly there. As we're speaking on Monday, we're back down to \$36 and change.

It sounds like we're headed down.

And that next down is going to be a buying opportunity. Because it sounds to me like maybe there's a few more waves up and down along the way, but eventually we get a moon shot when there is a full economic recovery from this crisis and the industry is just not able to respond quickly enough.

Am I right to think of it that way?

**Art:** You're totally right.

And the question is: What is the timing on that?

So let me just lay a couple of little pieces in place before I get to that. If we go to Slide 5, there is a perception that if oil prices \$35 or \$25, that that's what producers are getting. That's not right. Most of these producers are hedged.

And so in Slide 5 I'm just showing the forward curves from late December to early January of this year, when we had the Iranian general Soleimani assassinated. We had Iranian missiles attacking US bases in Iraq nearby. And so that was a great opportunity for oil companies to

hedge forward.

And this diagram simply shows where those price points were for December 20, 21, and 22. So the point is that the companies that hedged intelligently are getting \$55 a barrel for their oil right now, not \$35 or \$25. So that's why they turned them on.

They turned them off because – not because they weren't getting enough cash. They turned them off because there was no place to put the oil. That's Slide 5.

*Erik:* Hang on a second, Art, because I want to qualify something here. If you were telling me – and I don't think you are – that 100% of all of the shale producers in the United States were hedging 100% of all of their production, and that meant that they could sell all of their oil between \$52 and \$55, that would be a totally different equation. That's not the case.

So what percentage of the industry is hedged? And what percent of the overall production is hedges that's allowing those producers to sell at elevated prices?

*Art:* It's a complicated question that I'm not going to try to answer in detail. The simple answer is not everyone is hedged.

So, for instance, the big players, Exxon, Chevron, they don't hedge at all. It's mainly the small independents, the Conchos, the Diamondbacks, the Pioneers, etc – they are hedged. And what percentage of their production is actually hedged at, let's say, \$50 or \$55? I don't know. But I'm going to say maybe it's 30%. Maybe it's – it's less than half.

But a lot of the oil that they are producing at less was hedged at a different peak.

So to really understand that, you've got to go into their investor presentations or their 10K, 10Q, where they reveal all of that. But it's according to a schedule.

So you're 100% right. Not all of them are hedged. Those that are hedged, some of them are hedged better than others. Not all of their production is being sold for \$50. But some of it is.

*Erik:* We already talked about Slide 6, Art, so let's move on to Slide 7.

Now, when I hear the phrase "unaccounted-for oil" that sounds like one of those accounting footnote things where there is some tiny little amount that they couldn't account for, like a rounding error that they don't know what to do with and so they give it a name. "Unaccounted-for oil." And it doesn't really amount to very much.

That's not what we're talking about here. Look at this chart on Slide 7. This unaccounted-for oil is a lot of unaccounted-for oil.

How is it possible that so much oil is unaccounted for?

**Art:** It really is a lot. And this is something that very few people even pay attention to. It's a little bit like a production impairment. A lot of these companies say, okay, we're taking an impairment or a write-down on our reserves, our book reserves, but don't worry because it's not a cash item in this quarter.

Well, okay, fair enough. But it certainly was money that was paid cash for in some previous quarters, so it's not unimportant or trivial.

Unaccounted-for oil is simply the difference between production and disposition.

So I produce a barrel of oil. And if I go ahead and sell that barrel of oil within the week that it was produced, then it is a barrel produced and a barrel disposed. And unaccounted-for oil is zero.

If I produced the barrel and keep it in a tank battery on the lease and don't sell it in that week, then it's a barrel of unaccounted-for oil. Unaccounted-for simply means that it can go into the market, basically. It didn't go to sales. That's all it means.

So it's not a simple adjustment factor. It's a very real number. There's nothing – the only mysterious part about it is where this inventory is actually being held. I think the possibilities are quite limited, which is why I think it's on the lease.

The point of this chart is that, from the middle of July 2017 until the tank-top storage crisis reached a peak in mid-April of 2020, the average unaccounted-for oil was a positive 3.3 million barrels per week.

Since that tank-top crisis, the average has been minus 5.8 million barrels.

So this long-term trend has been reversed. And so 35 million barrels of produced oil has been withheld from the market since the middle of April.

And then if you go down to the bottom – the yellow or the orange – those are SPR releases, withdrawals, and additions. And what you can see is that something approaching 15 million barrels of oil have gone from somewhere – either the wellhead or storage – into strategic petroleum reserves.

Just in the last few weeks, you add the two numbers and you've got 15 million barrels. And that's a bunch of oil.

So this is a very critical thing for people to realize. And it's the reversal. A long-term secular trend of adding, adding, and more and more unaccounted-for oil, that's all gone the other way.

**Erik:** Art, let's move on to Slide 9.

What's going on with the Brent-WTI spread?

**Art:** Brent-WTI spread usually, or usually over the last couple of years – Brent is more than WTI. And that works great for US crude exporters because the difference is usually enough to pay for the transport of that oil to Europe or to Asia.

That premium actually went negative for a couple of weeks. And, as of last week, the premium was down to almost a dollar. So Brent is a little bit more than WTI.

The problem is that by the time you move the oil from Cushing to Huston, put it on a boat and send it, say, to Rotterdam, you need something closer to \$1.40 to pay for all of that.

So at \$1.05, export is not commercial.

If we go on to Slide 10, that just shows, again, a lagged relationship to US exports. And what you can see is that, as the Brent premium has gone down since the middle of , US exports have fallen 1 million barrels a day.

And that's exactly what I would expect. And I anticipate that trend is going to continue.

What that means is that less and less US production is going to move out of the US market. And it's going have to either be shut in or it's going to have to be put in storage.

**Erik:** Art, let's move on to Slide 11.

And I'm going to ask you to try to explain this slide in a specific context. Which is, right now, a lot of people in the market and certainly the price of WTI time spreads is saying, hey, baby, the whole think about the storage crisis and the tank tops, old story, it's over, there is no problem, everything is fine, we don't have any problem with storage.

Is that true?

**Art:** No. That's not true at all.

Slide 11 – this is a comparative inventory slide – we're not going to get into the details, you've said before people can check it out – but just think of the green as oversupply. That's supply that's going into storage.

This shows OECD oversupply. So that includes the United States. OECD, of course, is all of the advanced countries of Europe and North America and some other places.

And what you see is that our level of not just absolute inventory but comparative inventory is higher than it's ever been.

May's number is even higher than the peak levels that we got back in 2016. And the way we got there is an absolute vertical wall.

So if anybody thinks that the storage crisis is over, I'll argue with them a little bit about the United States. But the global problem is absolutely not over.

**Erik:** Let's put a little more context around this, Art, because the only think I can conclude here, at some point we had a panicking market where at the specific fear that drove contango to those crazy levels that we saw in the middle of April was a fear, not just of a lot of oil, but running out of storage so that there might be no place left to put the oil that was being produced.

That fear went to stark raging terror around the 20th of April when everybody just completely freaked out on that May contract expiration.

Since then, it seems like what's going on – at least what the prices in the market are telling us – is somehow analysts have concluded that we're not ever going to get to the point of running out of space. That, yes, okay, we've got a lot of storage and it's still building, but somehow the analysts have decided we're not at risk of running out of space.

Do you think that the analysts are right about that? Or do you think that that's maybe just a reverse of the pendulum swing, so to speak, from what we had at the end of April?

**Art:** Well, Erik, those same analysts were the same ones that were telling us in January that coronavirus wasn't a problem for the world economy or the oil market outside of China. So, obviously, I respect those analysts. They are smart guys. Men and women.

But, just because they say something, look at their track record. They've been dead wrong very recently. So I can't tell you why I come to a different conclusion. I'm looking at data. I don't know what they're looking at.

**Erik:** And, based on the data that you're looking at, what is the degree of risk in your mind of a situation where we get to a necessity to do another round of panic shut-ins because we're running out of storage capacity in the United States and we have to go through another panic drill of just shutting down oil wells because the production coming out of them there is no place to put it?

**Art:** I think the probability in the United States is relatively lower than it was two months ago because we've been through it once before. So producers are looking at it real carefully. They know they were able to do it once. They can do it again if they need to.

In the world, I have no way to answer the question.

That really comes down to what the big exporting nations decide to do. And we've seen that compliance inside of OPEC is questionable. Everybody is desperate. The Iraqi government can't pay half of its government employees, according to some people. So if oil goes up a little bit, their production is going to go up.

Bottom line, Erik, we are not out of the woods on any of the concerns that have arisen since the coronavirus became a crisis.

**Erik:** Art, let's move on to Slide 13.

Now, if I look at prices in both the stock market and the oil market, it kind of looks like, hey, you know, V-shaped recovery, baby. We're pretty much back.

Not quite. We're approaching \$40. We were above \$40 before this started, but we're almost back to where we were before the crisis started.

Does that mean that we're almost back to consumption that we had pre-crisis or anything close to it?

**Art:** No way, Erik.

That is the popular misconception, based on, I don't know, but I look at data. And what Slide 13 shows is data. And this is weekly EIA consumption data that I've averaged over two weeks because of a lot of reasons. But you've got to average it somehow.

And what it shows me is that the recovery, such as it is, is almost 100% gasoline. So gasoline consumption has gone up a little more than 2-1/2 million barrels a day from the low in mid-April. But everything else is still languishing at pitiful levels.

And the one that concerns me the most is distillate. Because distillate (in blue) that's diesel. And diesel is the barometer of economic activity. So if we're not using diesel, that means that there are no orders for heavy durable goods. That require ship, train or truck transport.

Diesel consumption is up a little bit. It's up 0.7 million barrels on average – 700,000 barrels a day from what it was at the low. But until diesel starts moving up, I say the recovery is superficial.

It's people driving around in their cars, either because they're bored or because they're afraid to take public transport. Or a little bit of both.

I mean, the real question you ask is how many of those people in cars are driving to work? Because, other than that, it's not economic activity that's productive.

So, again, glad to see it that's great. But, still, 20% overall consumption below the five-year average of 20 million barrels per day. We're at 16. So we've got a long way to go to get back to where we were.

**Erik:** Now, Art, you have become recognized in the industry perhaps, first and foremost, for your comparative inventory price modelling system, which has been just remarkable accurate at forecasting crude oil prices.

In the interest of time, listeners, what we had to do for this week's interview, I really wanted to focus the conversation on the developments that we've already discussed.

So, for those of you who were already expert on how the Art Berman comparative inventory system works, all of the data that you need for the update you were probably looking forward to getting from Art in the interview is in the slide deck, starting on Page 14.

For those of you who don't know what we're talking about, I encourage you to go back and listen to some of Art's earlier interviews.

For the first interviews that he did on MacroVoices, just go to our home page at [macrovoices.com](http://macrovoices.com) and type "Art Berman" into the search box. Look for some of those early interviews where we described and discussed how the comparative inventory system works.

Or, better yet, Art, in the beginning you just had this system that you used, you shared it with our listeners. It's gotten so popular (because it's been so accurate) that you've kind of productized it. And you're now offering a service.

Tell us briefly before we close about that service.

**Art:** Right, Erik. Well I offer a weekly US comparative inventory and oil storage report which is published every Wednesday right after, or as short after as possible, of the EIA storage report. And it gives you all the insight into comparative inventory, consumption, what's up, what's down.

And you can get that – if you get it for a year, it's \$10 a week. I don't see how that could be beyond anybody's budget that is serious about understanding oil markets. So [artberman.com](http://artberman.com). You can get the comparative inventory and the oil storage report.

**Erik:** In the interest of time, we're going to leave it there. But I strongly encourage our listeners to check out the rest of the slide deck, where you'll find an update on the comparative inventory price-modelling forecast.

Patrick Ceresna and I will be back as MacroVoices continues, right here at [macrovoices.com](http://macrovoices.com).