Chris Skrebowski on alarming new peak oil report (transcript)

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Transcribed by Katherine Baldwin

Julian Darley: This is Julian Darley for Global Public Media on Monday, the 22nd of October, 2007, and I'm talking to Chris Skrebowski, editor of UK Petroleum Review. Today's subject is the report and the press conference which has just occurred to launch the report by The Energy Watch Group, which is called Crude Oil Supply Outlook. It has some fairly stark findings, and given that this has, to some extent, the imprimatur of the German government, it seems quite an important and possibly landmark moment. So that's what we're going to discuss. Chris, can you first give us a brief outline of what was in the report.

Chris Skrebowski: Certainly. The report was-- effectively what's been happening is Hans-Josef Fell, a member of the German Parliament since 1998, and speaker of the Energy and Technology Policy for the Parliamentary Party Alliance. He was very involved in things like feed-in tariffs. He's involved in making sure that the world of the Budenstag, in this case, knows what it's talking about; and various reports have been commissioned, the latest of which is this one on the crude supply, crude oil supply outlook. The rather stark message that came from this, was that oil production has probably peaked now, and will decline steadily from here on out at about 3% a year, which then means that we have, looking forward, some pretty dramatic declines. If you think that in 2006, crude and liquid production was about 81 million barrels a day, what the report is projecting is that it will fall to about 58 by 2020. Now this contrasts with the IEA's hope that it'll be at 105 at that point. So that's a spectacular difference; even more spectacular by 2030 when the IEA was hoping the world would be fueled with 116 million barrels a day, the report sees the production down to 39 million barrels a day. It's therefore not difficult to see the sort of economic stresses and strains that this will produce in the world economy.

Julian Darley: This is at least a dramatic a report as has been released, I think, by any official or semi-official organ. Why should people take this seriously?

Chris Skrebowski: I think when you look at it and it's publically available through the energywatchgroup.org website, you will see that it's a very carefully done piece of work, for they've developed a methodology that's basically a production based methodology. But they've also looked at the sort of underlying reserves, and they've come up with figures. They've contrasted these with the sort of industry data-base figures from IHS Energy. It's a pretty solid piece of work. There's a mildly amusing piece of circumstantial confirmation, which is that the legendary Texan oil man, T. Boone Pickens has made not millions, but billions betting against the oil industry conventional wisdom, has just announced that he thinks we have hit peak oil and that it will go down pretty rapidly from here on in. So, I wouldn't wish to bet against Mr. Pickens. He's got a good track record for actually getting it right, and we have a very careful report, very thorough report, which seems to be saying the same thing. So, yes, it's fairly unnerving that this may be the start of a very major social and economic upheaval.

Julian Darley: In fact, if anybody listening to Global Public Media wants to go and hear Mr. Pickens go and make that pronouncement, I was actually two feet from him when I asked him the very question, when he thought oil was going to peak. That's available in audio/video on Global Public Media later on today, the 22nd of October, 2007. Looking at the report, they aren't all pessimistic compared to the sort of conventional wisdom. There are a few nations, a few oil provinces, where they actually think that matters are going to go better, certain one can give sort of a balanced view of this. Can you mention where those might be?

Chris Skrebowski: Yes, certainly. This is where they compare their review on remaining reserves with the view of what is often referred to as the industry database, the IHS database. Now, the first point here is on the Middle East, they have, in effect, removed all the uplift that we saw in the 1980s after the nationalizations, when literally all the Middle East countries revised their reserves upwards. Many people felt it was just a sort of internal OPEC competition, and these revisions didn't necessarily have much underlying them in the way of oil. So, certainly in that area they've taken it down by a rather spectacular 300 billion barrels. About 300 billion barrels is basically five North Seas, five North Seas gone missing, if you like. In contrast, when they look at the African countries, they are somewhat more optimistic on Angola and Libya and Nigeria, and just slightly more optimistic on Algiers. So they've certainly worked their numbers carefully all the way through, and come to their own conclusions.

Julian Darley: Another place where they seem to be, possibly unduly optimistic, is in the tar sands, which they show as reaching on the order of 4 million barrels a day by 2030 and no sign of any decline in that either, beyond that, but you get the feeling that there doesn't seem to be a shoulder in there. What do you make of that given that we know there are, in fact, manifest problems in the Athabasca region, which is where the concentration of tar sands is?

Chris Skrebowski: Yes, this does seem a fairly optimistic construction because, if you like, there are two or three challenges in the tar sands, which may or may not be soluble and one which I regard as much more fundamental. The ones that may be soluble are the availability of water, the availability of gas or alternative means of heating the tar sands to make them mobile; and finally the, how rigorously or otherwise you enforce

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environmental controls on the tar sands operation. At least in theory, those three could be brought into line. The one that's much more difficult to cope with is the idea that the tar sands are variable in the richness, the bitumen, and basically they vary from the sort of 12% bitumen in the central area, which is where most of the activity is going on at the moment, and then as you get further out in all directions, the quality of the oil, if you like, falls off. There's a sort of step change where it drops down to about sort of 8%. Very roughly speaking, current expectations are that by about 2015, you will have worked out the richer areas, and you'll be moving into these lower, poor grade. Now the challenge here, of course, is whether you can still get the whole processing to add up, given that energy and energy out equation isn't terribly good, even at 12% oil. So whether it will add up at 8% oil is a mute point, so they are taking the fairly optimistic view that all these standard challenges can be solved, and that the economics of working a leaner ore can also be overcome.

Julian Darley: Are you foreseeing, in fact, an earlier peak for tar sands' output?

Chris Skrebowski: I think, I think at this stage it is just too early to tell; but, it is a plausible and ultimately a respectable argument to say that if you can't get the economics to add up well as the ores become leaner, you probably would have a tar sands peak, and that it would decline.

Julian Darley: And the tar sands peak, not in 50 years' time, but rather sooner?

Chris Skrebowski: Yes, it would be in the 2015, 2020 era.

Julian Darley: Which is dramatically earlier than almost anybody puts it at.

Chris Skrebowski: Again, what you see is that we do know, in general terms, that we always will get leaner. We have some idea of when the might start having a discontinuity; but, we can't actually put our hands on our heart and say we definitely know that, because we will learn more about the tar sand as it's exploited, as it's dug up or processed by the processes such as the SAGD.

Julian Darley: Yes. Taken together with the beginning precipitate declines in Mexico, this seems to pose possibly more dramatic problems even sooner for North America than even some of the most, say, realistic or pessimistic analysts have suggested.

Chris Skrebowski: Yes, I think that's true. I mean, America is now importing 60, nearly 60% of its requirement, and its very dependant for that supply on three key suppliers, all of whom have questions round them. Venezuela's becoming a questionable supplier as its production drifts down. Mexico is becoming a questionable as its production goes into a quite rapid decline phase about the immediate ability to turn that round. Even Canada, which has been, if you like, the most reliable supplier, has some questions as you go further out and wonder whether the tar sands will ramp up in the way people hope, fully offsetting the declines in Canadian conventional production and advancing over-all Canadian production.

Julian Darley: One of the other interesting graphs that they show in their executive summary and in the full report is the situation for, what I call, the international oil companies, the IOCs. The outlook is not looking terribly healthy for them in general.

Chris Skrebowski: No, no. This is a graph that, I think, will come as an unpleasant surprise to a large number of people because what this very clearly demonstrates is that by the first quarter of this year the big international oil companies were actually producing little more than they had been producing ten years earlier, in the first quarter of 1997. They did improve the production in intervening periods, and very roughly it looks as though they got to their highest level, maybe their peak, in the first quarter of 2004. The other thing that's very clear from this graph is that the mergers between the various companies have not led to any great synergies in terms of expanding production. If you merge Chevron's production and Texaco's production, then it goes into Chevron-Texaco production, it's basically the sum of the two earlier bids. Similarly with Total Fina and Elf; BP and Amoco and ARCO, and Mobile and Exxon. Quite remarkable.

Julian Darley: Have you heard of any reaction from the large oil companies to this yet?

Chris Skrebowski: Not so far, but then, literally, the report has only been sort of publicly launched today, and I'm not sure whether the companies would seek to comment on it or whether they would do one of those, 'I think we'll ignore this' type of approaches.

Julian Darley: Were they present at the press conference, and what kind of turn-out was there?

Chris Skrebowski: There was quite a good turn-out, but it was mainly the specialist's magazines and some of the sort of interest groups, like Greenpeace, and people like the ecologists. Nothing wrong with that, but a bit disappointing that some of the main-stream media, and some of the more tightly focused and informed oil commentators weren't there.

Julian Darley: What was the reaction? Was there any questioning of the report?

Chris Skrebowski: Yes, indeed, there was. As was perhaps predictable, there was some question as to whether this report was in fact being alarmist, whether it was being unnecessarily stark; because, of course, it's a tough message to take on board, and people don't like sort of tough messages that are going to quite clearly change their whole way of life. So I think there was a reluctance to accept that it could be as stark as that.

Julian Darley: One of the main underlying points is that the decline rate for oil provinces, or regions, is, in their estimations, showing signs of and going to be rather faster, I think, than has generally been assumed.

Chris Skrebowski: Yes. They have a number of graphs in which they contrast their projections with the IA projections, and you see, even where the IA is accepting that the province is in decline - say in Europe - the Energy Watch Group is predicting rather steeper declines than the IA is.

Julian Darley: It's certainly suggesting that Europe's going to have even deeper problems round oil, as if they don't have enough with gas.

Chris Skrebowski: Yes. Absolutely no doubt about that.

Relocalization
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Julian Darley: It may be one of the reasons why Germany has been the country, in this case, to have sponsored this report; since it is the highest importer, if I'm not mistaken, of both oil and gas, and is heavily dependent on a large country to the east.

Chris Skrebowski: Oh yes, Russia's role as a key supplier into Germany does, I think, make the Germans feel somewhat nervous; but then the Germans have been taking action in a way that most other European countries haven't. They've successfully raised, for example, the amount of renewable energy in their generating mix very spectacularly from 6.8% in 2002; I think it was, to right up to 14% in 2007. So they're rather pleased with the way their feed-in tariffs have actually worked, and they have really achieved at least some of their goals in moving away from traditional hydro-carbon generation.

Julian Darley: Was there any discussion of a sentence near the end of the summary report, which says, ' the world is at the beginning of a structural change of its economic system.' Now, as a former economic student, and also just returned from the ASPO Houston Conference, where there was some mention by some very strong and established figures that there may be a few economic difficulties down the line. Was there any discussion of this? What do you make of that?

Chris Skrebowski: No, quite literally, no one discussed it. It was almost as if that was too tough to talk about. Yes, that was quite surprising, but maybe people were trying to get their heads round the report as a report, before moving on to a conclusion, which clearly is unattractive to us all, whether it's coming or not coming.

Julian Darley: You've been an oil industry analyst for a fair number of decades now, with experience with BP and the Saudi Arabians, amongst many others, and you've also been doing the seminal work on the oil field's mega projects, which gives you a kind of special insight into the likely future production. So what do you make of this report? Do you think it's more or less right? Is it congruent with your expectations?

Chris Skrebowski: Not quite, but I have to respect the fact that this is a very comprehensive report. They've gone back to fundamental sources, they've checked and they've come to their conclusions. My own conclusion, which, if you like, if fairly dependant on information that's publicly available, and I think this report actually had access to some that's less publicly available. So my work, basically tells us that if everyone does what they say they're going to do, and all the things work as they are expected to - that's a pretty heroic assumption - we could get out to about 2011, but no further. Now, what that means is that you would find an envelope of where you could get to, and then everything that goes wrong brings you back in time that envelope. What the Energy Watch Group, in effect, is saying is there are enough things that are going wrong, not working as people might have hoped, to bring us all the way back to it being an immediate peak now. And it's certainly true that if you look at a standard production series, like the IEA production series, you find that we've been on this sort of bumpy plateau since January or February 2005. That's nearly 30 months that we've been sort of bumping along without succeeding in getting the production significantly higher.

Julian Darley: If everything does go right, which, as you suggested, doesn't appear to be the case, what is your outer limit for the number of barrels per day that we might see?

Chris Skrebowski: Probably about 92 million barrels a day, and now that of course is predicated on the idea of exactly what you count. Here I'm counting all liquid, so that contrasts with an all liquid number of about 85 at the moment, or 85 and a half. So what my analysis is saying is that we've got another 5 to 7 million barrels a day to come if everything works properly.

Julian Darley: That also strongly depends on what the underlying depletion rate is, and for the world, what also really matters is what the overall depletion rate - that which affects what ultimately goes into the refineries and the petrochemical system, etc. There were mediary reports that the Energy Watch report was suggesting 7% decline rates, but looking through the report, there doesn't seem to be a great deal of evidence for that. Can you say something about the various decline rates which you've heard put forward, and what is your own estimate for an overall decline rate?

Chris Skrebowski: Certainly. The rate that I'm using is 4%. I get to 4% sort of two or three ways. The latest IA medium term report which came out in July, the one that started saying there could be an energy crunch by 2012, was, I think, the way the Financial Times put it, uses the figure of 4.6% for non-OPEC production, and 3.2% for OPEC production. If you sort of weight that by the production volumes, gives you an overall 4%. I know that the 4% figure is being used, certainly within sort of closed industry discussions, and we know that there has been a report recently from one of the major consultants, which talks about a rate 4.5% on a slightly different base number. Whichever way you cut it, it looks as though the world needs to produce about 3.3 million barrels a day increment each year just to stand still, that's before you meet any incremental demands at all. Mr. Pickens, when he was talking about peak being now, actually mentioned a rather higher figure of 6%; because he didn't elaborate exactly what it was 6% of, it's been difficult to directly compare it. The idea that it's running at around 4%, 4.5%, works pretty well if you think that if you go back to the 70s and 80s where the industry would talk about sort of 2% decline rate by the end of the 90s, it was talking about the 3% decline rate. We've seen a lot of countries move into depletion, producing less each year than the year before. So to have got it up to about 4% by now, on a gently rising trend, seems fairly plausible. But the fact that it's plausible doesn't mean that it's right. We can't rule out the possibility that this is one of these series that's, in fact, escalating. It may be the mirror image of the feature we see of countries where initially the decline rate starts quite gently, then it picks up and it's a bit like a ski slope, steep bit of the slope, and then finally you have a run out to a lower level at the end. So if it's the mirror image of that, it could be that this figure is escalating, that it's turning upwards, in which case the sort of T. Boone Pickens view or the Energy Watch Group would tend to be concerned. If it's the more gentle, progressive increment, then you can relatively easily get it out to 2010 or 2012, but as the point before starts really turning down. So unfortunately, the number we don't really have a good handle on, is the key number, and we're playing for quite big stakes here because obviously every one percent is about 800 thousand barrels a day per year.

Julian Darley: What is the significance of 800 thousand barrels per year?

Chris Skrebowski: Well, we worry about small changes in demand. Is US demand slowing a bit? Are we going to lose a hundred or two hundred thousand barrels a day? Is China squeezing out? Well then we're going to gain one or two hundred. If the key number is really the depletion number, where you're playing for 800 thousand barrels a day for every one percent change and you really, probably can't be sure, but you're necessarily within the last half percent or the last 400 thousand barrels a day, that really is going to drown out the other effects.

Julian Darley: Just to be clear, there is a difference between depletion and decline. If you've got a depletion, underlying depletion rate of 4%, if you're bringing on lots more, then you may have no decline or only a slight decline. What ultimately hits the world is, as it were in a sort of pocket book of the refinery or the wallet of the refinery, is the overall decline rate. Are you suggesting that's 4% or is it less?

Chris Skrebowski: No, that's now up to 4%.

Julian Darley: So the overall decline rate is up to 4%.

Chris Skrebowski: Yep. So every year, unless you bring on, as I say, 3.3 million barrels a day, you will start going backwards.

Julian Darley: So to clarify, what you're talking about then is an overall decline rate, for the world, of about 4%. That's what actually goes into the refineries and the petrochemical system.

Chris Skrebowski: Yes. That's right. So if we're losing that each year to depletion, unless we can make it up, our availability is going to go down. Now what we actually want to do is cover the depletion and have a bit more on top of that to meet incremental demands, because at the moment, demand continues to expand.

Julian Darley: You've recently been re-examining some of the oil field mega-projects work, I believe, and you've noticed something about 2010 and thereafter.

Chris Skrebowski: Yes indeed. The oil business is pretty slow-moving, which is why you can do any of this sort of analysis at all. Now, at the moment, the approximate time difference between when you hear of a major discovery of oil, or when it starts flowing oil, is about six and a half years. Or, if you like, from the point when someone initiates a big project, to when it starts flowing is typically some five years plus, and tending to get longer as delays accumulate in the system. Now if we look at things like the OPEC website, we find that there's no declared projects over 2010, beyond 2010; there's a couple in Iran and that's it. Even if they know about it, if they haven't started appointing contractors, if they haven't started doing the engineering, one thing and another, then we're looking at the far side of 2012, because they will need four years from now and we're not that far off from being in 2008. We're already seeing sort of holes appear where there should be a project. If we look at the sort of non-OPEC projects coming up, they really thin off after about 2012, but we should be hearing about projects in 2013, we should probably be hearing about projects in 2014. There's quite literally only a couple that we know of.

Julian Darley: So to finish up with, and to tie this together, when do you think that you would feel that you could say that, for instance, the Energy Watch Group were, in fact, right about this relatively early peak and quite stark decline; or be more secure that you're somewhat rosier, but still not very comforting to sort of business as usual, estimates will be correct? What kind of signals and what kind of timing do you think will help you to be sure?

Chris Skrebowski: Well I think by the end of the first quarter of 2008, we will have two or three key pieces of information. We will first of all have found out how much OPEC is prepared to turn up its production, how much it's able to turn up its production, and we will also find out whether the Saudi projects are coming through as planned and expected or not. We will probably have got some indication of whether OPEC is still prepared to invest heavily to expand production, or whether it is starting to take a different viewpoint. The final piece of information we will have had is just how much non-OPEC production came on stream in 2007, and then that gives us at least some sort of handle on the ways in which we can expect our future projects to come through, given that in the non-OPEC world there's every incentive to bring them on stream as quickly as you can. So with those extra bits of information, I think I'd have quite a lot of confidence in saying that we've either got to peak or we've still got a little bit more to come.

Julian Darley: So not many months to wait?

Chris Skrebowski: Not many months to wait.

Julian Darley: Thank you very much indeed. Chris Skrebowski, editor of the UK's Petroleum Review. This is Julian Darley for Global Public Media, on the 22nd of October, 2007.

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