Statistical Review U.S. Tour with Spencer Dale

United States – June 15-17, 2016

Overview

Spencer Dale conducted a U.S. tour to promote the 2016 edition of BP's *Statistical Review of World Energy* with stops in Washington, D.C., and Houston. During the three-day trip, he participated in **12 meetings and events**, reaching **more than 925 stakeholders**.

The trip provided a natural forum to **leverage the publication with key US stakeholders**, while continuing to **elevate BP's position as a trusted voice** in the ongoing energy debate.

Ten media articles arising from Spencer's visit are included. More are expected in the coming days.

Overall, preparation and collaboration resulted in an incredibly successful week. The media coverage and stakeholder participation alone underscore the interest in and importance of the *Statistical Review* in the United States.

Notable feedback included:

> *"It's a hugely valuable piece of research," –public acknowledgment from former Ambassador Richard Morningstar, founding director and chairman of the Global Energy Center at the Atlantic Council*
>
> *"Congratulations on a great dinner last night. All-star cast of people, great discussion, and really substantive. When you ended the dinner nobody stood up to leave because they wanted to keep going – sign of a really worthwhile gathering. It was really clear that you guys care about these issues and I think everyone was really impressed with the level of thought you're giving them. Honestly, one of the best dinners I've gone to in a long time." –Sarah Ladislaw, director and senior fellow of the Energy and National Security Program at the Center for Strategic and International Studies (CSIS), on the BP Energy Matters Dinner*

Public events

Spencer participated in two public events during his trip. The Atlantic Council hosted the official U.S. launch of the publication in Washington, where **more than 230 people** joined in-person and via webcast. The Atlantic Council's Energy Center commented that it was **the largest crowd they've hosted in the past year** and included relevant stakeholders with substantial industry knowledge.

The Greater Houston Partnership (GHP) hosted Spencer as part of their Thought Leader Series. **More than 120 influencers** attended, including GHP leadership and area elected officials.

Private events

Spencer also participated in **three private events**, most notably the BP Energy Matters Dinner, where **leading experts from Harvard, Tufts, Princeton** and think tanks convened for an off-the-record conversation on climate economics. CSIS hosted Spencer and the Economics team for a private lunch to debate possibilities for economic reform in the Middle East. In Houston, **The Baker Institute** also held a dinner for Spencer, where Institute senior director Ken Medlock facilitated a lively discussion, which captivated attendees for nearly an hour later than anticipated.

Redacted - First Amendment

Media

Spencer provided **one media interview and two reporter roundtables**, representing outlets with key energy portfolios. The journalists selected are contacts the Media Affairs team works with on a regular basis, including the *Washington Post*, the *Wall Street Journal*, *Reuters*, *Bloomberg* and the *Houston Chronicle*.

Headlines ranged from the **dominant role of natural gas** to the **future of renewables** and China's coal demand. Spencer has also been quoted in other pieces, including one on electric vehicles and fuel consumption.

Social media saw a flurry of activity surrounding Spencer's U.S. engagements as well. In addition to sharing related content, the team supported tweets from many of the previously mentioned outlets.

Internal engagements

In an effort to engage Westlake campus employees, who have experienced a number of staff reductions in the past 18 months, Spencer held a town hall, where he presented to a standing-room-only crowd of **460 Houston employees and contractors**. This was the **largest town hall since Bob Dudley** last addressed the campus. Such enthusiasm demonstrated the appetite employees have to hear directly from the Executive Leadership Team.

Spencer also sat down for a one-on-one breakfast with Richard Morrison and met with Orlando Alvarez and the North America Gas and Power leadership for a question-and-answer session on industry trends.

Visit summary

Event Number	Type of Event	Approximate Audience Number
1	**Public Event**: U.S. Launch - Statistical Review of World Energy at the Atlantic Council	231
2	**Media**: Reporter Interview - Steven Mufson of The Washington Post	1
3	**Private Event**: Center for Strategic and International Studies - Middle East Economic Reform	15
Redacted - First Amendment		
5	**Private Event**: BP Energy Matters Dinner: Climate Economics	13
6	**Media**: Reporter Roundtable with Wall Street Journal, Bloomberg and Reuters	3
7	**Public Event**: Greater Houston Partnership Thought Leader Luncheon	121
8	**Internal**: Westlake Employee Town Hall	460
9	**Private Event**: Baker Institute Dinner hosted by Ken Medlock	14
10	**Internal**: Breakfast with Richard Morrison	1
11	**Internal**: Meeting with Orlando Alvarez and North America Gas and Power Leadership Team	15
12	**Media**: Reporter Roundtable with Houston Chronicle Energy Team	4
	Total	**928**

Chinese coal demand expected to rebound: BP

Print article

15 Jun 16, 15:06 - Coal, Fundamentals

Washington, 15 June (Argus) — Chinese coal demand is likely to recover in coming years, after a year of general abundance of coal in 2015 that stymied US producers' hopes of boosting exports, BP's group chief economist Spencer Dale said today.

Dale, appearing at an event hosted by the Washington, DC, think tank the Atlantic Council to discuss BP's latest Statistical Review of World Energy, said Chinese coal consumption fell for the second consecutive year in 2015 to 1.92 trillion tons of oil equivalent. The country's coal production was down 2pc.

Dale said reduced Chinese coal demand is partly structural, as the country shifts to cleaner energy sources, but also cyclical. Chinese gas demand growth was 4.8pc, and its consumption of 138bn m3 (4.8 tcf) in 2015 was the highest burn in BP's data series released on 8 June.

The output of the country's coal-intensive iron, steel and cement industries fell for the first time in three years, but Dale doubts this will be sustained if China's annual GDP grows at 5-7pc.

"There is good reason to think structurally that lower coal use will persist, but that the cyclical trend will be reversed."

As the country's output shifts to consumer goods and services, Dale said that past GDP growth of 10pc/yr will no longer be attained.

He said coal was the main casualty last year of technological improvements in gas production, which are focused in North America. US coal production was down by 10pc in 2015, according to BP's statistical review.

The relatively low US gas prices of 2012 resulted in exports of surplus coal to Europe, Dale said. That year, US coal production slipped by 6.8pc from 2011 while gas output increased by 5.1pc, according to the BP data.

Energy

Oil Giant Sees Bright Future for Renewables

BP forecasts continued growth in wind, solar and other clean energy

By Umair Irfan, ClimateWire on June 16, 2016

Credit: PhotoDisc/Getty Images (MARS)

Oneof the world's largest oil companies confirmed scant growth in global carbon emissions from energy yesterday and projected a robust future for renewables in its annual energy assessment. Oil major BP PLC found that growth in shale oil and gas output in the United States lowered the prices of these fuels around the world. The company, which closed its own solar division in 2011 because it couldn't make enough money selling photovoltaics, also reported that wind and solar power expanded rapidly worldwide as technology improved and manufacturers achieved economies of scale.

"These advances mean that, despite the weakness of energy demand, oil, natural gas and renewable energy all recorded solid growth in 2015," wrote Bob Dudley, group chief executive at BP, in the report.

The 65th edition of the "BP Statistical Review of World Energy" looked at energy data from the prior year and placed them in the broader context of global energy trends.

"It's a hugely valuable piece of research," said Richard Morningstar, founding director and chairman of the Global Energy Center at the Atlantic Council.

The report found that in 2015, primary energy consumption grew at a rate of 1 percent, well below the 10-year average growth rate of 1.9 percent. Other than the 2009 economic recession, this is the slowest growth rate since 1998. Meanwhile, carbon dioxide emissions from energy grew by 0.1 percent in 2015.

The slowdown in energy demand comes after more than a decade of double-digit growth in China, driven by rapid industrialization. "That's coming to an end, and we're transitioning to a slower growth profile," said Spencer Dale, group chief economist at BP.

Speaking yesterday at a launch event for the report hosted by the Atlantic Council in Washington, D.C., he noted that energy efficiency measures to keep greenhouse gas emissions in check were a big part of the story.

"I do think it's striking that in a year where energy prices fell so sharply, you still saw such a significant decline in energy intensity," Dale said. "The energy intensity of [global] GDP, the average amount of energy needed to produce each unit of GDP, ... fell by about 2 percent."

China, U.S. driving coal consumption drop

The findings echo a report from the International Energy Agency from earlier this year that found that global carbon emissions remained flat for the second year in a row while the global economy grew (*ClimateWire*, March 17).

"What happened here is a combination of weak growth in global energy demand combined with a shift in the fuel mix," Dale said. "Carbon emissions effectively stalled last year."

Renewable energy and natural gas were some of the big winners last year, and those trends are likely to continue. Dale noted that solar power has grown sixtyfold in the past 10 years and has doubled in capacity every 20 months. "We expect renewable energy to grow quicker than any fuel seen in modern history," he said.

Meanwhile, coal emerged as the global loser, with global consumption falling by 1.8 percent. The largest declines came from the United States and China, and coal's share of global energy dropped to 29.2 percent, the lowest level since 2005.

With an international climate treaty signed last year in Paris, Dale said it's unlikely global demand will surge again, but the path to a low-carbon future remains uncertain.

"There are many ways one can hit the Paris accords," he said. "I don't know what the right answer is. And I'd rather do it by a price on carbon rather than by regulations, and let the market and business communities find a way."

Click here to see the report.

Markets | Thu Jun 16, 2016 1:53pm EDT Related: STOCKS, MARKETS

BRIEF-BP economist: shale revolution also behind stronger dollar

BP Plc Group Chief Economist Spencer Dale says:

-U.S. shale revolution means U.S. now produces more than 90 percent of its energy needs domestically, up from two-thirds a decade ago.

-Despite lower investment in price downturn, BP sees U.S. gaining full energy self-sufficiency in early 2020s as country already world's top oil and gas producer.

-Half of the wide U.S. current account gaps of 2005-2006 stemmed from energy imports, which have declined sharply to lowest levels since mid-1990s.

-Shale oil and gas output has produced 'a fundamental shift in the structure of the U.S. economy' and could in part explain why the dollar has been strengthening in recent years as energy imports fall. (Reporting By Terry Wade)

US rig count rise may stem price volatility: BP

Houston, 16 June (Argus) — A rising US oil rig count may help stem crude price volatility stemming from the uncertainty of future supply growth amid the steep cut in global spending, BP chief economist Spencer Dale said.

"Once we have WTI prices decisively above $50/bl, US producers will start to add back rigs," Dale said at an event in Houston. "More than weighing on prices, I think, it will help reduce some of the volatility in the market."

The US drilling rig count rose for a second week, by 10 in total, to 414, latest weekly data from Baker Hughes showed last week. The gain ended 22 straight weeks of declines that saw the total plunge to its lowest since 1987, when the company began publishing the data. Overall, the US count had dipped by about 54pc from a year ago and some 79pc below the peak in 2014.

The plunge in crude prices to 12-year lows below $30/bl in the first quarter saw almost every producer, from ExxonMobil and Chevron to Whiting Petroleum, sharply cut spending for a second straight year. That in turn has raised questions about meeting demand for oil few years down the line once the market turns.

US proven oil reserves fell by 12pc to 24.15mn bl in 2015 from 27.55mn bl a year earlier, while gas reserves fell by 21pc to 147 Tcf in 2015 from 187 Tcf a year earlier, consultancy Ernst & Young said in its annual US oil and gas reserves study.

That's a result of the steep cut in capex in 2015, by 41pc from a year earlier to $117.5bn, a drop not seen since the global financial crisis of 2009, EY's study of the 50 largest US companies based on 2015 end-of-year oil and gas reserves showed.

"The extraordinarily large fall in investment will impact future supply growth," BP's Dale said.

The decline in output in the US and other exporters such as Nigeria and Venezuela, and an unexpected outage in Canada, is helping supply come back in line with demand, but for the market to balance out, large global inventory levels need to get soaked up, he said.

"As the market moves back into balance, it does not mean problem solved," Dale said. "You still have the stock overhang to think about."

Houston Business Journal - BP economist: The light's at the end of the tunnel

Jun 17, 2016, 8:21am CDT Joe Martin Reporter

On the heels of oil prices tipping over $50 a barrel for the first time since October 2015, BP's top economist predicted a market stabilization in the second half of 2016, potentially quelling the thousands of job cuts plaguing the energy industry in Houston.

Supply and demand issues played significant roles for oil prices over the past year, Spencer Dale, BP PLC's group chief economist, told a Greater Houston Partnership group June 17. As companies have lowered the rig count, among other worldwide supply factors, some headway is being made. Dale sees the energy economy stabilizing in the second half of 2016, however, that doesn't necessarily mean a full turnaround before year end.

"It looks like the market will move into balance at some point in the second half of this year," Dale said. "But as the market moves into balance, that doesn't mean the problem is solved. It means the problem of accumulating stock stops getting worse."
Once that happens, the exorbitant supply of the world's stockpile of oil can begin to fall to more normal levels, he said.

"As the market moves into balance, for those in the oil industry it feels like you've turned a corner, and you can see the light at the end of the tunnel, but you have a ways to walk until you get to the end of the tunnel because you have that stock overhang to adjust to," Dale added.

There was some good news for Houston's energy economy in the form of natural gas. As China and the rest of the world have made efforts to move away from coal as a fuel source, natural gas has made significant strides in the world energy supply, much of it coming from U.S. shale basins. And, for the first time since the data has been recorded, natural gas overtook coal as the dominate fuel in the U.S. power sector, Dale said.

"U.S. shale gas is enormously important for America, but it's also enormously important for the world in terms of providing a fuel helping shift away from coal as a transition to a lower carbon world," Dale said.

Joe Martin covers technology, money and law for the Houston Business Journal. Follow him on Twitter for more.

http://www.bizjournals.com/houston/morning_call/2016/06/bp-economist-the-lights-at-the-end-of-the-tunnel.html

Natural gas surpasses coal as power source for 1st time, BP report says

Posted by davidhunn

Date: June 17, 2016

U.S. power plants burned more natural gas than coal for the first time last year, one factor that kept global CO2 emissions the lowest in years, a key oil company economist said Thursday.

"You can go back as long as you want in history, coal had always been the dominant source of fuel in U.S. power, until last year," Spencer Dale, chief economist for British oil giant BP, told Houston business and civic leaders at a presentation of the company's annual Statistical Review. Dale said the report, in its 65th year, is the longest-running review of world energy supply and demand.

CO2 emissions grew by 0.1 percent in 2015, according to the report, the lowest growth rate outside of the 2009 recession since 1992. Dale attributed the decline in part to the U.S. boom in shale-drilled natural gas. A glut in production and low demand reduced prices, he said, and made natural gas more economical for power plants.

Dale acknowledged that a weak global economy also helped check emissions. The world's energy consumption grew by 1 percent, half its annual average over the past five years, according to the report. Chinese demand crept up by just 1.5 percent in 2015, far less than in previous years.

And though global oil use ballooned by 1.9 million barrels per day, or 1.9 percent — nearly double the recent historical average — coal dipped 1.8 percent, the largest decline on record, the report said. In the U.S., coal use dropped by almost 13 percent.
Globally, coal accounted for less than 30 percent of energy consumption, its lowest share since 2005.

The continued increase in renewable fuel use also helped curb CO2 emissions, Dale said. Wind, solar and biofuel consumption again grew by 15 percent, slightly below the 10-year annual average of 15.9 percent. Renewables make up almost 3 percent of global energy consumption, according to the report.

But Dale called shale gas pivotal for the world's transition to low-carbon energy.

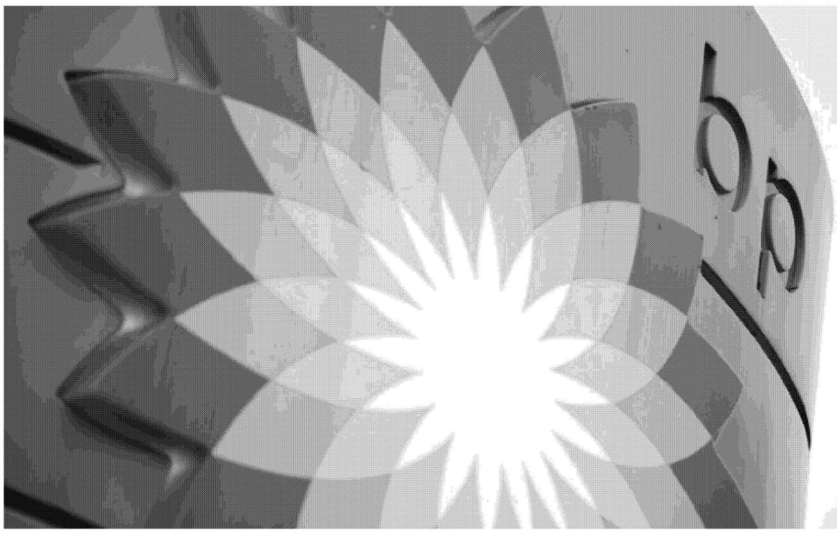
"This audience will know more than anybody," he told the crowd assembled at the Houston branch of the Federal Reserve Bank of Dallas for lunch. "U.S. shale gas is enormously important for America. But it's also enormously important for the world."

Dale said energy production was riding a "technological wave" in 2015. And the trends that started last year, he said, would likely continue this year.

Friday 17 June 2016 5:10pm

BP says natural gas overtakes coal as dominant US power source for the first time ever

Jessica Morris
Jessica Morris is City A.M.'s industrials reporter.



BP said that coal clocked its largest fall on record (Source: Getty)

The world's largest economy burned more natural gas than coal for the first time ever last year.

It coincides with a spate of bankruptcies within the embattled US coal industry, with embattled coal producers Peabody, Arch Coal, Patriot and Alpha Natural Resources all filing for bankruptcy in the last year.

Spencer Dale, former Bank of England MPC member and chief economist for BP, reportedly said: "You can go back as long as you want in history, coal had always been the dominant source of fuel in US power, until last year."

He was addressing business leaders at a presentation of the oil giant's annual statistical review, according to energy business website fuelfix.com which first reported the news.

The US coal industry has been decimated by cheap natural gas from fracking. Data released by the US Energy Information Administration earlier this week showed quarterly coal production across the country fell to its lowest since the early 1980s.

It's also been hurt by the world's increasing commitment to renewable energy sources, embodied by the UN-led COP 21 meetings in Paris last year and the historic agreement to tackle climate change, and slower global economic growth.

BP said that coal clocked its largest fall on record, taking its share within primary energy to its lowest level since 2005. This came as technological gains supported strong growth in oil, natural gas and renewables.

"The combination of slow demand growth and a shift in the fuel mix away from coal towards natural gas and renewable energy had important implications for carbon emissions," according to the annual statistical review.

"In particular, carbon emissions from energy consumption are estimated to have been essentially flat in 2015, the lowest growth in emissions in nearly a quarter of a century, other than in the immediate aftermath of the financial crisis."

Texas adds 13 drilling rigs as oil prices improve

Posted by Jordan Blum
Date: June 17, 2016

A crew works on a gas drilling rig at a well site for shale based natural gas in Pennsylvania. (Keith Srakocic/AP photo 2012)

Energy companies brought out 13 more rigs actively drilling for oil and gas in Texas this week as oil prices rebounded to hover just below $50 a barrel.

This was the third consecutive week of rig count increases nationally and the largest three-week jump since July. The number of oil rigs had sunk almost every week from August through the end of May, and has begun a slow turnaround, analysts contend.

"This is the beginning of the end of the oil market weakness," said BP Chief Economist Spencer Dale. "The oil market has turned a corner."

Texas' Eagle Ford and Permian shale areas added four rigs each, while the Barnett shale in northern Texas added five rigs to its existing two, according to weekly data collected by Houston's Baker Hughes oil field services company.

Texas accounted for almost all the national growth this week. Overall, nine oil rigs were added to the market and one new gas-seeking rig came online. The overall rig count stands at 424 — 337 seeking oil and 86 seeking natural gas. Louisiana and Alaska each lost one rig. Another lost rig was not disclosed.

The end-of-May tally of 404 rigs represented the lowest total since the oil field services company began compiling data in 1944.

The oil rig count is down by almost 80 percent from its peak of 1,609 in October 2014, before oil prices began plummeting.

The price of U.S. oil may have bottomed out at $26.21 on Feb. 11. The price was dancing around $47.50 early Friday afternoon, up about $1.30 for the day.

Rig count up 3rd straight week

From Staff and Wire Reports
June 17, 2016 at 11:33 p.m.

The number of Texas rigs drilling for oil and gas gained 13 this week as oil prices continued to rebound, ending the week at just less than $50 a barrel.

It was the third consecutive week of rig count increases nationally and the largest three-week gain since July. The number of active U.S. oil rigs had declined nearly every week from August through the end of May but appears to be staging a slow turnaround.

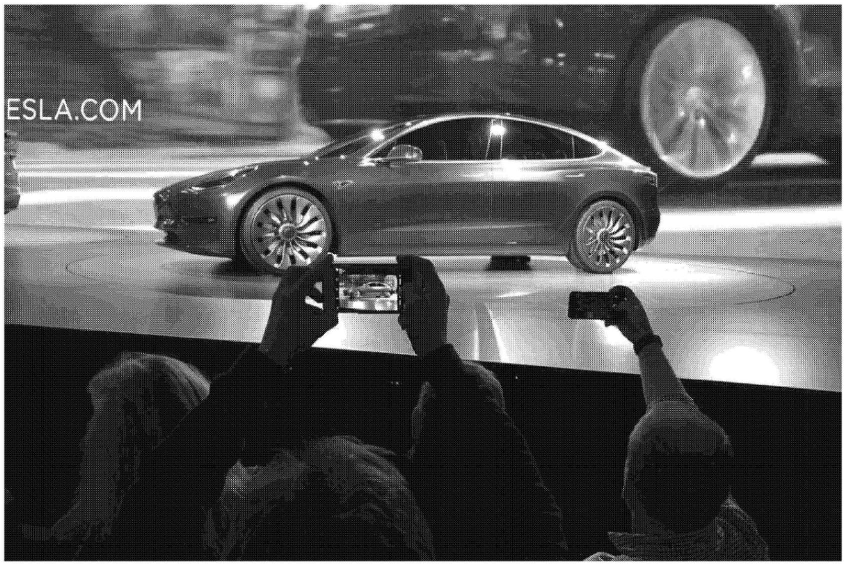
"This is the beginning of the end of the oil market weakness," BP Chief Economist Spencer Dale told the Houston Chronicle. "The oil market has turned a corner."

In its weekly report Friday, Baker Hughes Inc. said Texas' Eagle Ford and Permian shale areas added four rigs each, while the Barnett shale in North Texas added five rigs to settle at seven.

Texas accounted for almost all the national growth this week. Across the U.S., nine oil rigs were added to the market and one new gas-seeking rig came online. The overall rig count now stands at 424, with 337 seeking oil and 86 seeking natural gas. Louisiana and Alaska each lost one rig. Another lost rig was not disclosed. The end-of-May tally of 404 rigs represented the lowest total since the oil field services company began compiling data in 1944. The oil rig count is down by almost 80 percent from its peak of 1,609 in October 2014, before oil prices began plummeting. Benchmark U.S. crude added $1.77 to close Friday at $47.98 a barrel on the New York Mercantile Exchange. Brent crude, used to price international oils, gained $1.98 to close at $49.17 a barrel in London.

WSJ: U.S. Gasoline Demand Is Likely to Slide

Electric vehicles could slice fuel's consumption up to 20% in two decades, new report says



Tesla's Model 3 is expected to be available next year for $35,000.
PHOTO: JUSTIN PRITCHARD/ASSOCIATED PRESS

By
LYNN COOK and **ALISON SIDER**

Updated June 20, 2016 12:35 a.m. ET

Electric cars are poised to reduce U.S. gasoline demand by 5% over the next two decades—and could cut it by as much as 20%—according to a new report being released Monday by energy consulting firm Wood Mackenzie.

The U.S., which currently uses more than nine million barrels of gasoline a day, could see that demand drop by as much as two million barrels a day if electric cars gain more than 35% market share by 2035, according to the report.

That aggressive case assumes Tesla Motors Inc. and other auto makers begin to deliver lower-cost electric vehicles that can travel longer distances in relatively short order, said the report's author, Prajit Ghosh. A more likely scenario is a 5% drop in U.S. gasoline demand as electric cars build to more than 10% of the U.S. vehicle fleet by 2035, he said.

Even the low end of the forecast by Wood Mackenzie, which provides in-depth analysis for a wide range of clients including large oil companies, utilities and banks, is a more bullish outlook for electric-car adoption than many oil-and-gas companies have espoused.

Spencer Dale, the chief economist of energy company BP PLC, said last week in Houston that while he expects electric cars to start gaining traction, the internal-combustion engine still has significant advantages over electric alternatives and widespread adoption won't happen in the next two decades.
"It will still take some time," Mr. Dale said. "Electric vehicles will happen. It is a sort of when, not if, story."

The electrification of the automobile has evolved more slowly than some expected, in part thanks to low fuel prices and limited battery life that meant drivers had to recharge every 100 miles. But more capable cars are coming to market as tightening air-pollution regulations in places such as Europe and China force auto makers to engineer better electric vehicles.

The U.S. market today remains tiny, with pure electric cars amounting to less than 1% of total sales so far this year. But Tesla's decision to build cars with sizable batteries that can run for more than 200 miles before recharging has led a number of competitors to double down on their own electric-car designs.

Nissan Motor Co., Hyundai Motor Co. and Volkswagen AG are working on their own long-range electric vehicles. Ford Motor Co. has said it would invest $4.5 billion over the next four years to develop 12 new electric cars and hybrids, and Volvo has set a goal of producing one million electric vehicles by 2025.
Tesla's Model 3, which is scheduled to begin rolling out to customers in 2017 at a price point of roughly $35,000, has the potential to push electric vehicles into the mainstream in the next decade and cause a significant dent in U.S. fuel demand after 2025, Mr. Ghosh said.

"The Model 3 is planting a flag," he said. "With time, it has the potential to be a disruptive force in the market."

A few new electric vehicles are expected to make their debuts soon with lower price tags, Wood Mackenzie said. The Chevrolet Bolt—which will cost $30,000 after tax credits—hits the market later this year.

If electric vehicles gain a foothold in the U.S., the impact won't be all bad for fossil-fuel companies, the report concluded.

While petroleum demand would fall, natural-gas demand would likely go up, because utilities would need to generate more electricity and more of it would increasingly come from natural-gas-burning power plants as well as renewable-energy sources, the report said.

—Mike Ramsey contributed to this article.

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