

Jeco 2013 – Lyon

Gaz et huile de schiste  
en France

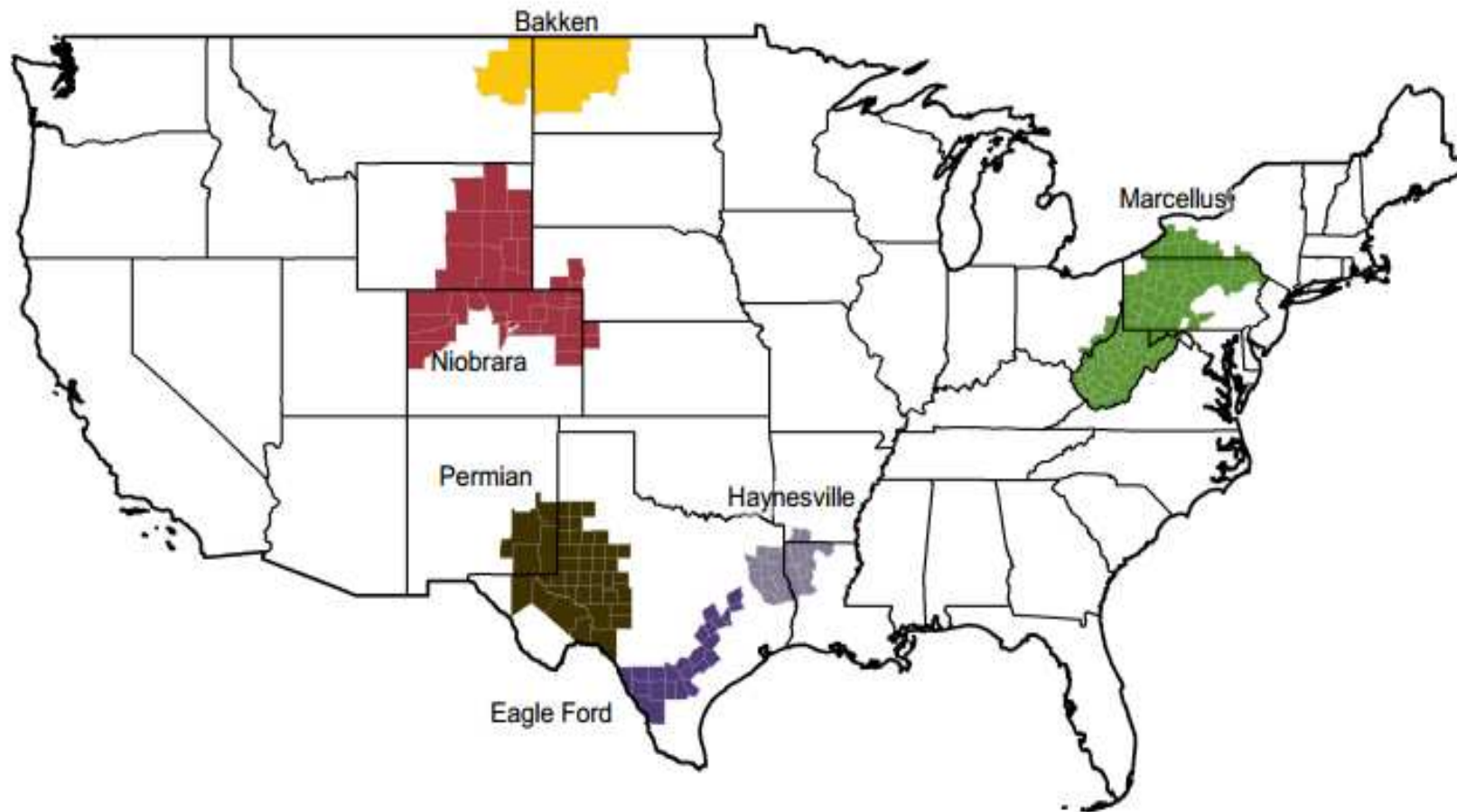
**La solution ?**

Dominique Chauvin

Prospectiviste

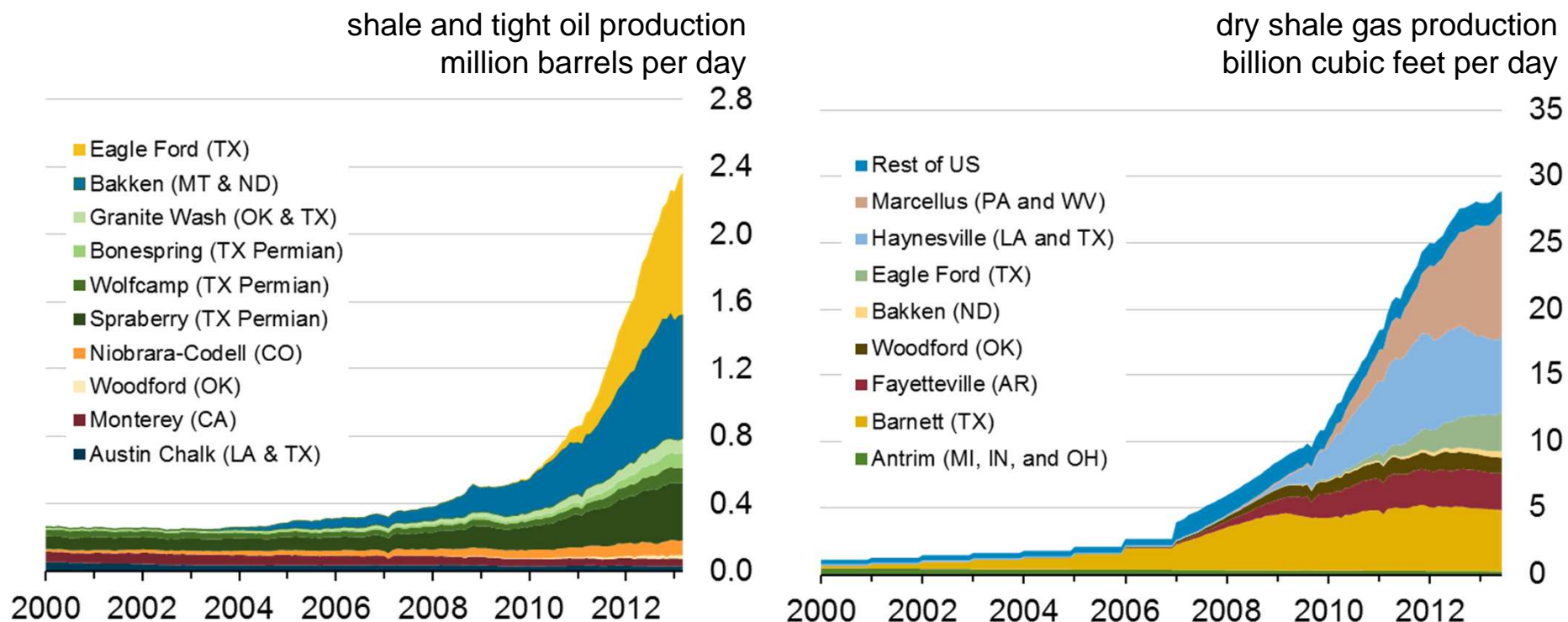
16 Novembre 2013

## Six key plays account for nearly all recent growth in production



Source: *EIA Drilling Productivity Report*

## The U.S. has experienced a rapid increase in natural gas and oil production from shale and other tight resources

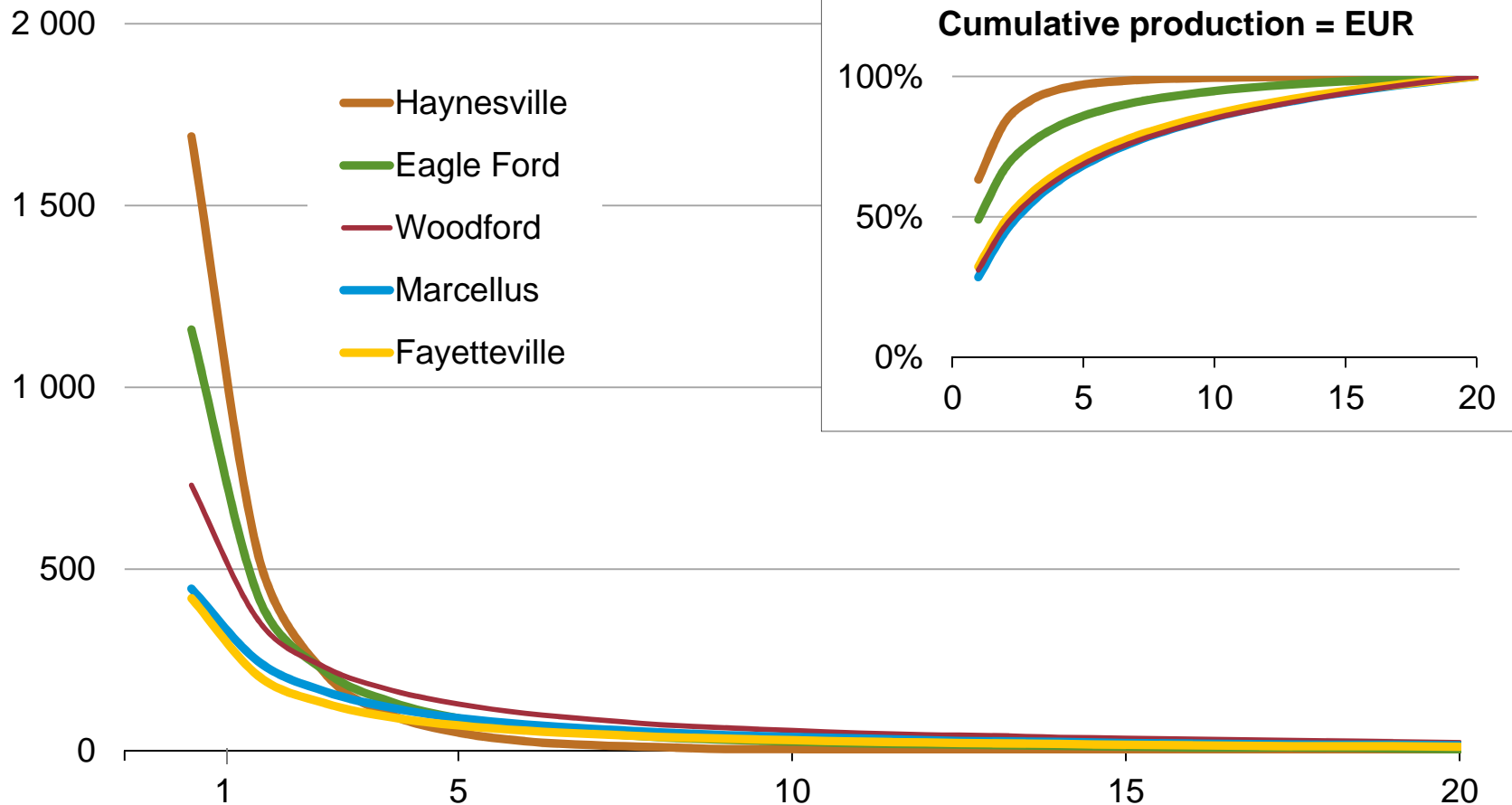


*Note: Dry shale gas production data are based on LCI Energy Insight gross withdrawal estimates as of June 2013, converted to dry production estimates with EIA-calculated average gross-to-dry shrinkage factors by state and/or shale play.*

*Source: EIA based on DrillingInfo and LCI Energy Insight*

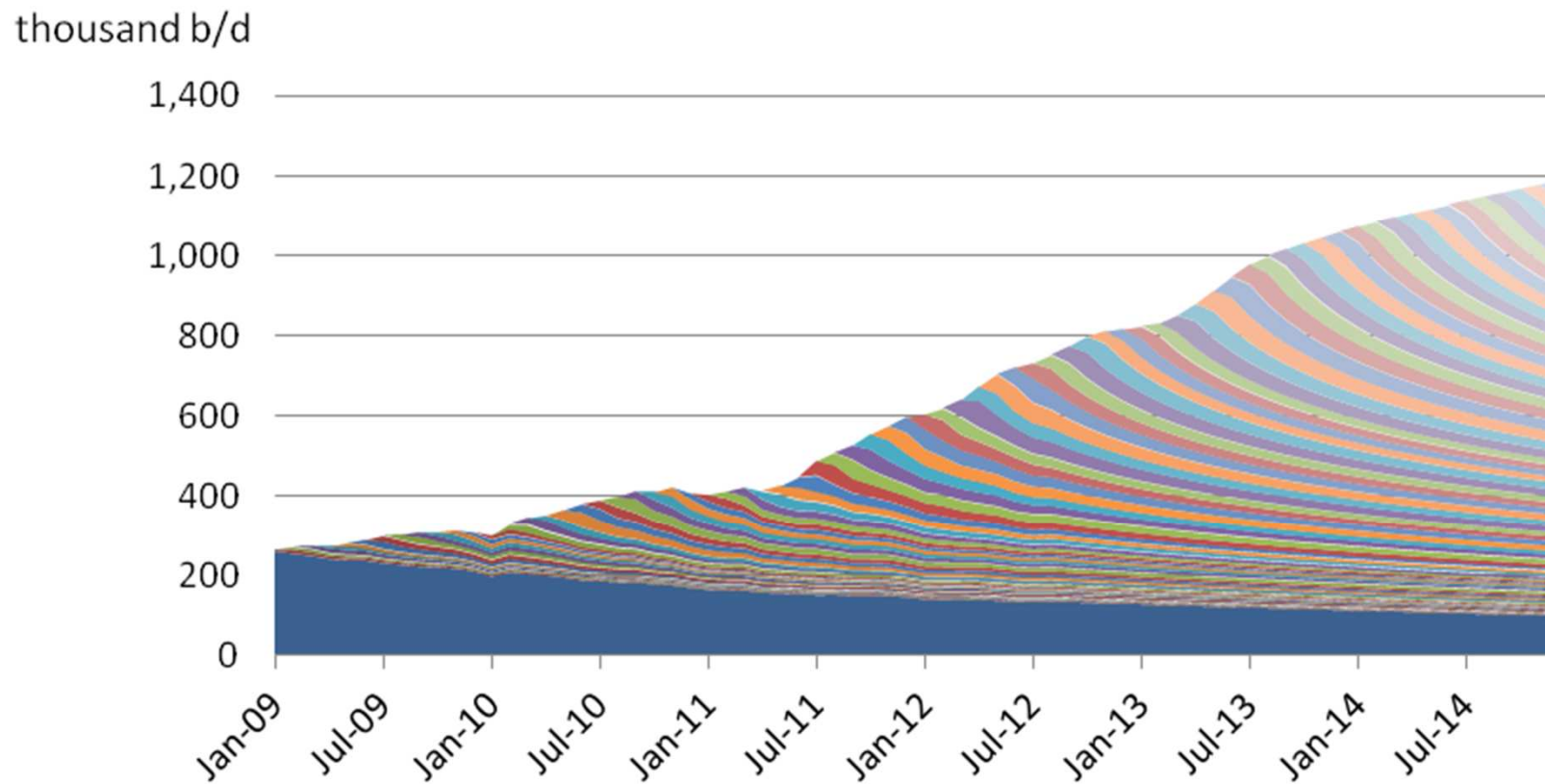
# An average well in shale gas and other continuous resource plays can also have steep decline curves, which require continued drilling to grow production

million cubic feet per year



Source: EIA, Annual Energy Outlook 2012

## For example: Oil production by monthly vintage of wells in the Williston Basin



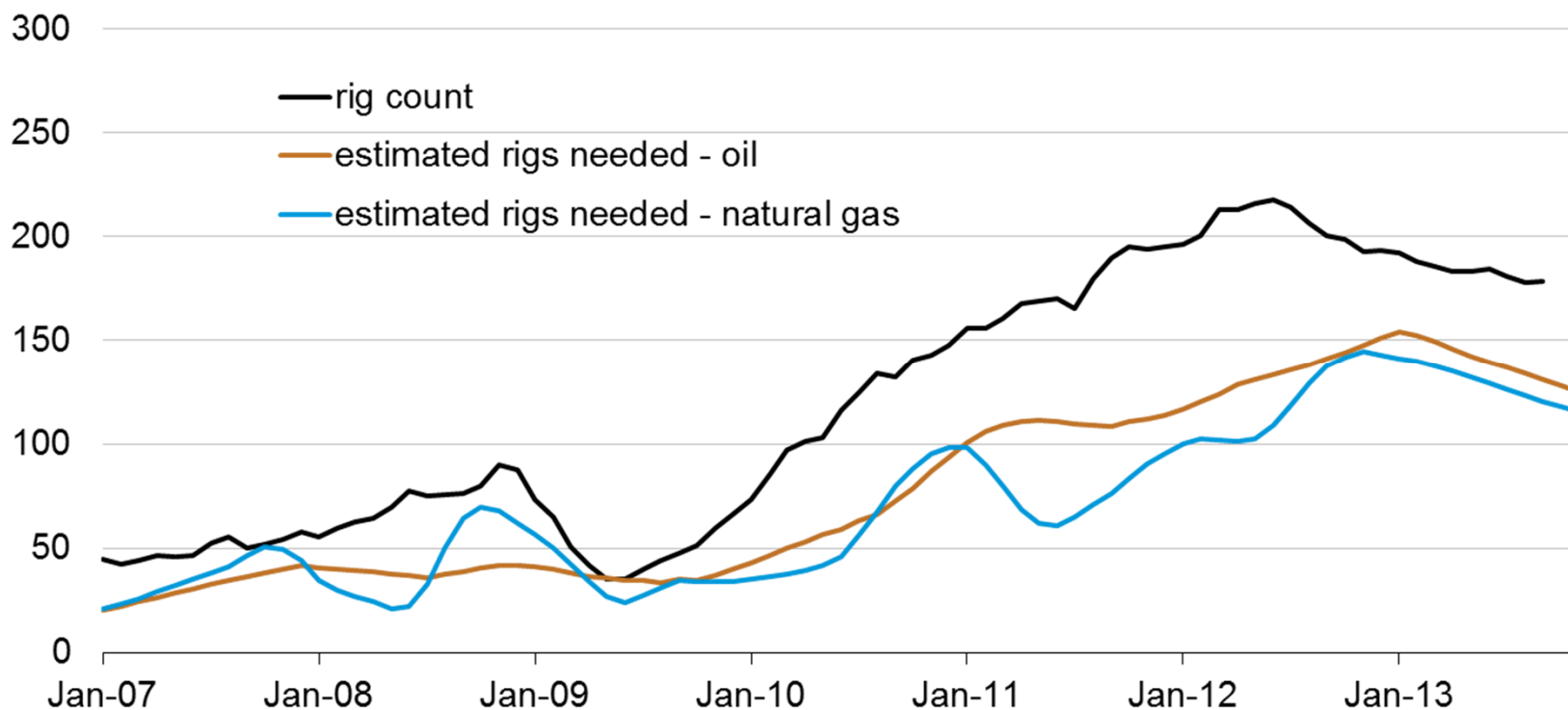
Source: DrillingInfo history through August 2012, EIA Short-Term Energy Outlook, February 2013 forecast



## Rigs needed to sustain production in the Bakken play

Bakken

rigs needed to sustain prior month's production



Source: EIA Drilling Productivity Report

## Top ten countries with technically recoverable shale resources

Shale oil		
Rank	Country	Billion barrels
1	Russia	75
2	United States	58
3	China	32
4	Argentina	27
5	Libya	26
6	Venezuela	13
7	Mexico	13
8	Pakistan	9
9	Canada	9
10	Indonesia	8
	<b>World total</b>	<b>345</b>

Shale gas		
Rank	Country	Trillion cubic feet
1	China	1,115
2	Argentina	802
3	Algeria	707
4	United States	665
5	Canada	573
6	Mexico	545
7	Australia	437
8	South Africa	390
9	Russia	285
10	Brazil	245
	<b>World total</b>	<b>7,299</b>

Note: ARI estimates U.S. shale oil resources at 48 billion barrels and U.S. shale gas resources at 1,161 trillion cubic feet.  
 Source: United States: EIA and USGS; Other basins: ARI