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# AKIN GUMP ENERGY MEDIA BRIEFING

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## Our Speakers

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# DISTRIBUTED GENERATION

What's Driving It?  
What Do Utilities Think About It?  
What Do Regulators Think About It?

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## INCREASING DEMAND FOR DISTRIBUTED GENERATION

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- Since 2006, number of generation units at commercial and industrial sites has increased more than 400% (~10,000 to 40,000)
- Distributed generation accounts for ~5% of U.S. electricity production
- Demand is even greater if you include demand response (distributed energy resources)
- Spawns microgrids
- DG customers include residential, small business, universities, municipal enterprises

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## WHAT'S DRIVING DG DEPLOYMENT?

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### ■ Affordability

- Distributed solar costs have declined by 50% since 2002, with more cost decreases expected
- State subsidies
- Net metering

### ■ Customer Empowerment

- Investment and action

### ■ Reliability

- Safety and power quality

### ■ Environment and Efficiency

- Green and waste reduction

### ■ New Market Opportunities in Face of Stagnant Electricity Demand

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## WHAT DO REGULATORS THINK?

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- Support for Customer Empowerment, Reliability, Environmental and Efficiency Benefits
  - CPUC on-bill repayment program for financing
  - NET metering
  - FERC'S NYISO ruling
- Concern for Impact on Regulated Utilities
  - Market erosion and stranded costs
  - Inability to plan for uncontrolled dispatch
  - Lack of integration in utility resource planning
  - Increased production costs overall without increased consumption overall
- Unanswered Questions
  - Should regulated utilities be allowed/prohibited/encouraged in the DG market?
  - Should DG marketplace be regulated?

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## THE UNITED STATES AS AN ENERGY EXPORTER

- LNG (Liquefied Natural Gas)
- Petroleum Products
- LPG (Liquefied Petroleum Gases)
- Crude Oil?

and that's without mentioning pipeline natural gas, coal, gas-to-liquids, petrochemicals....!

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## Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower 48 States (as of November 15, 2013)

Company	Quantity <sup>(a)</sup>	FTA Applications <sup>(b)</sup> (Docket Number)	Non-FTA Applications <sup>(c)</sup> (Docket Number)
Sabine Pass Liquefaction, LLC	2.2 billion cubic feet per day (Bcf/d) <sup>(d)</sup>	Approved ( <a href="#">10-85-LNG</a> )	Approved ( <a href="#">10-111-LNG</a> )
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC	1.4 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">10-160-LNG</a> )	Approved ( <a href="#">10-161-LNG</a> )
Lake Charles Exports, LLC	2.0 Bcf/d <sup>(e)*</sup>	Approved ( <a href="#">11-59-LNG</a> )	Approved ( <a href="#">11-59-LNG</a> )
Carib Energy (USA) LLC	0.03 Bcf/d: FTA 0.01 Bcf/d: non-FTA <sup>(f)</sup>	Approved ( <a href="#">11-71-LNG</a> )	Under DOE Review ( <a href="#">11-141-LNG</a> )
Dominion Cove Point LNG, LP	1.0 Bcf/d: FTA 0.77 Bcf/d: non-FTA	Approved ( <a href="#">11-115-LNG</a> )	Approved ( <a href="#">11-128-LNG</a> )
Jordan Cove Energy Project, L.P.	1.2 Bcf/d: FTA 0.8 Bcf/d: non-FTA <sup>(g)</sup>	Approved ( <a href="#">11-127-LNG</a> )	Under DOE Review ( <a href="#">12-32-LNG</a> )
Cameron LNG, LLC	1.7 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">11-145-LNG</a> )	Under DOE Review ( <a href="#">11-162-LNG</a> )
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC <sup>(h)</sup>	1.4 Bcf/d: FTA 0.4 Bcf/d: non-FTA <sup>(k)</sup>	Approved ( <a href="#">12-06-LNG</a> )	Approved ( <a href="#">11-161-LNG</a> )
Gulf Coast LNG Export, LLC <sup>(i)</sup>	2.8 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-05-LNG</a> )	Under DOE Review ( <a href="#">12-05-LNG</a> )
Gulf LNG Liquefaction Company, LLC	1.5 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-47-LNG</a> )	Under DOE Review ( <a href="#">12-101-LNG</a> )
LNG Development Company, LLC (d/b/a Oregon LNG)	1.25 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-48-LNG</a> )	Under DOE Review ( <a href="#">12-77-LNG</a> )
SB Power Solutions Inc.	0.07 Bcf/d	Approved ( <a href="#">12-50-LNG</a> )	n/a
Southern LNG Company, L.L.C.	0.5 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-54-LNG</a> )	Under DOE Review ( <a href="#">12-100-LNG</a> )
Excelerate Liquefaction Solutions I, LLC	1.38 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-61-LNG</a> )	Under DOE Review ( <a href="#">12-146-LNG</a> )
Golden Pass Products LLC	2.6 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-88-LNG</a> )	Under DOE Review ( <a href="#">12-156-LNG</a> )
Cheniere Marketing, LLC	2.1 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-99-LNG</a> )	Under DOE Review ( <a href="#">12-97-LNG</a> )
Main Pass Energy Hub, LLC	3.22 Bcf/d**	Approved ( <a href="#">12-114-LNG</a> )	n/a
CE FLNG, LLC	1.07 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-123-LNG</a> )	Under DOE Review ( <a href="#">12-123-LNG</a> )
Waller LNG Services, LLC	0.16 Bcf/d	Approved ( <a href="#">12-152-LNG</a> )	n/a
Pangea LNG (North America) Holdings, LLC	1.09 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">12-174-LNG</a> )	Under DOE Review ( <a href="#">12-184-LNG</a> )



## Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower 48 States (as of November 15, 2013)

Company	Quantity <sup>(a)</sup>	FTA Applications <sup>(b)</sup> (Docket Number)	Non-FTA Applications <sup>(c)</sup> (Docket Number)
Magnolia LNG, LLC	0.54 Bcf/d <sup>(j)</sup>	Approved ( <a href="#">12-183-LNG</a> )	n/a
Trunkline LNG Export, LLC	2.0 Bcf/d*	Approved ( <a href="#">13-04-LNG</a> )	Under DOE Review ( <a href="#">13-04-LNG</a> )
Gasfin Development USA, LLC	0.2 Bcf/d	Approved ( <a href="#">13-06-LNG</a> )	n/a
Freeport-McMoRan Energy LLC	3.22 Bcf/d**	Approved ( <a href="#">13-26-LNG</a> )	Under DOE Review ( <a href="#">13-26-LNG</a> )
Sabine Pass Liquefaction, LLC	0.28 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">13-30-LNG</a> )	Under DOE Review ( <a href="#">13-30-LNG</a> )
Sabine Pass Liquefaction, LLC	0.24 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">13-42-LNG</a> )	Under DOE Review ( <a href="#">13-42-LNG</a> )
Venture Global LNG, LLC	0.67 Bcf/d <sup>(d)</sup>	Approved ( <a href="#">13-69-LNG</a> )	Under DOE Review ( <a href="#">13-69-LNG</a> )
Advanced Energy Solutions, L.L.C.	0.02 Bcf/d	Approved ( <a href="#">13-104-LNG</a> )	n/a
Argent Marine Management, Inc.	0.003 Bcf/d	Approved ( <a href="#">13-105-LNG</a> )	n/a
Eos LNG LLC	1.6 Bcf/d <sup>(d)</sup>	Pending Approval ( <a href="#">13-115-LNG</a> )	Under DOE Review ( <a href="#">13-116-LNG</a> )
Barca LNG LLC	1.6 Bcf/d <sup>(d)</sup>	Pending Approval ( <a href="#">13-117-LNG</a> )	Under DOE Review ( <a href="#">13-118-LNG</a> )
Sabine Pass Liquefaction, LLC	0.86 Bcf/d <sup>(d)</sup>	Pending Approval ( <a href="#">13-121-LNG</a> )	Under DOE Review ( <a href="#">13-121-LNG</a> )
Delfin LNG LLC	1.8 Bcf/d	Pending Approval ( <a href="#">13-129-LNG</a> )	n/a
Magnolia LNG, LLC	0.54 Bcf/d: FTA <sup>(j)</sup> 1.08 Bcf/d: Non-FTA <sup>(j)</sup>	Pending Approval ( <a href="#">13-131-LNG</a> )	Under DOE Review ( <a href="#">13-132-LNG</a> )
<b>Annova LNG LLC</b>	<b>0.94 Bcf / d</b>	<b>Pending Approval (<a href="#">13-140-LNG</a>)</b>	<b>n/a</b>
<b>Total of all Applications Received</b>		<b>37.96 Bcf/d(*)(**)</b>	<b>33.12 Bcf/d (*)(**)</b>

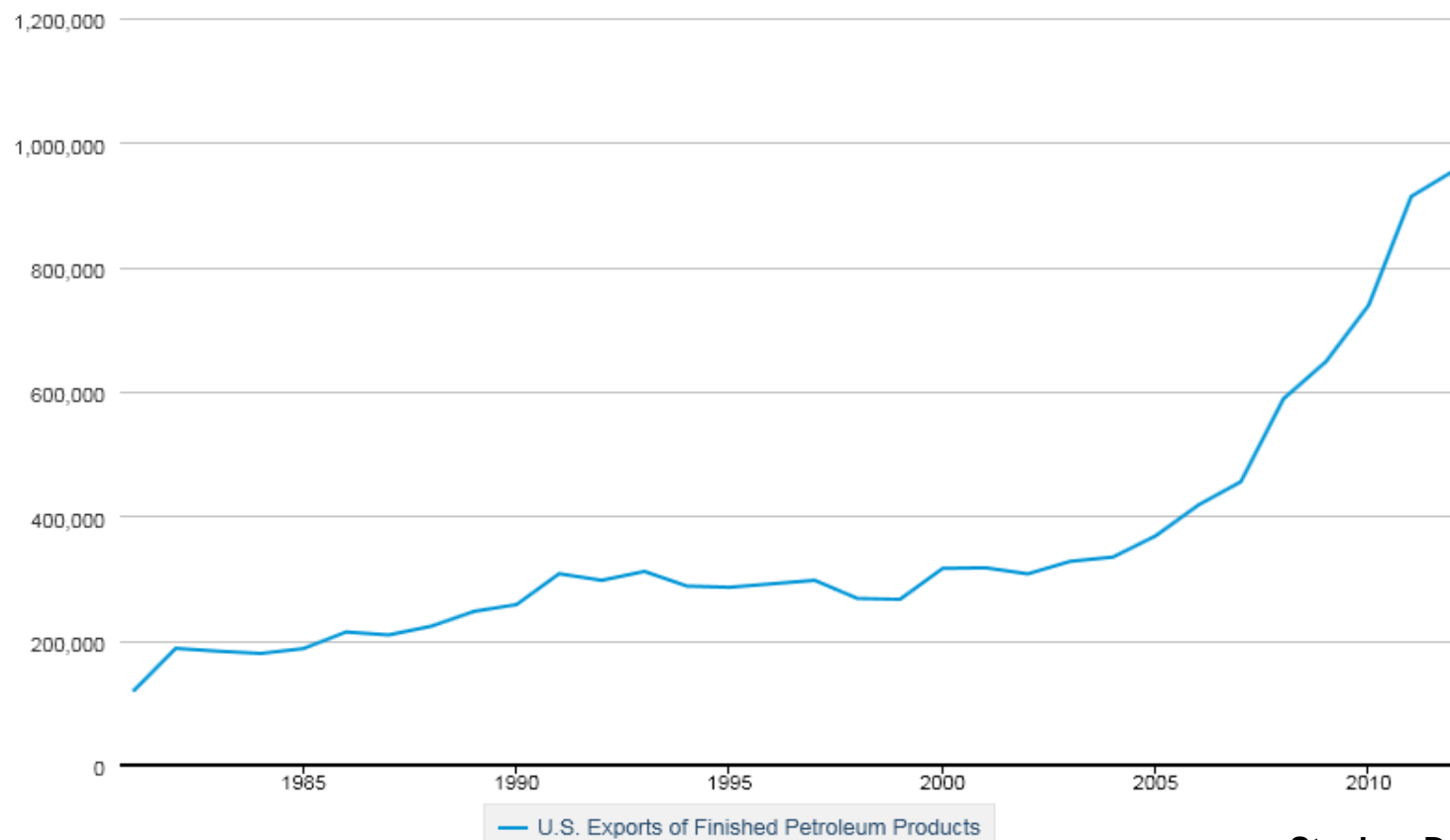
\*Lake Charles Exports, LLC (LCE) and Trunkline LNG Export, LLC (TLNG), the owner of the Lake Charles Terminal, have both filed an application to export up to 2.0 Bcf/d of LNG from the Lake Charles Terminal. The total quantity of combined exports requested between LCE and TLNG does not exceed 2.0 Bcf/d (i.e., both requests are not additive and only 2 Bcf/d is included in the bottom-line total of applications received.)

\*\* Main Pass Energy Hub, LLC (MPEH) and Freeport McMoRan Energy LLC (FME), have both filed an application to export up to 3.22 Bcf/d of LNG from the Main Pass Energy Hub. (The existing Main Pass Energy Hub structures are owned by FME). The total quantity of combined FTA exports requested between MPEH and FME does not exceed 3.22 Bcf/d (i.e., both requests are not additive and only 3.22 Bcf/d is included in the bottom-line total of FTA applications received). FME's application includes exports of 3.22 Bcf/d to non-FTA countries and is included in the bottom line total of non-FTA applications received, while MPEH has not submitted an application to export LNG to non-FTA countries.

## Finished Petroleum Products Exported from the United States

### Exports

Mbbl

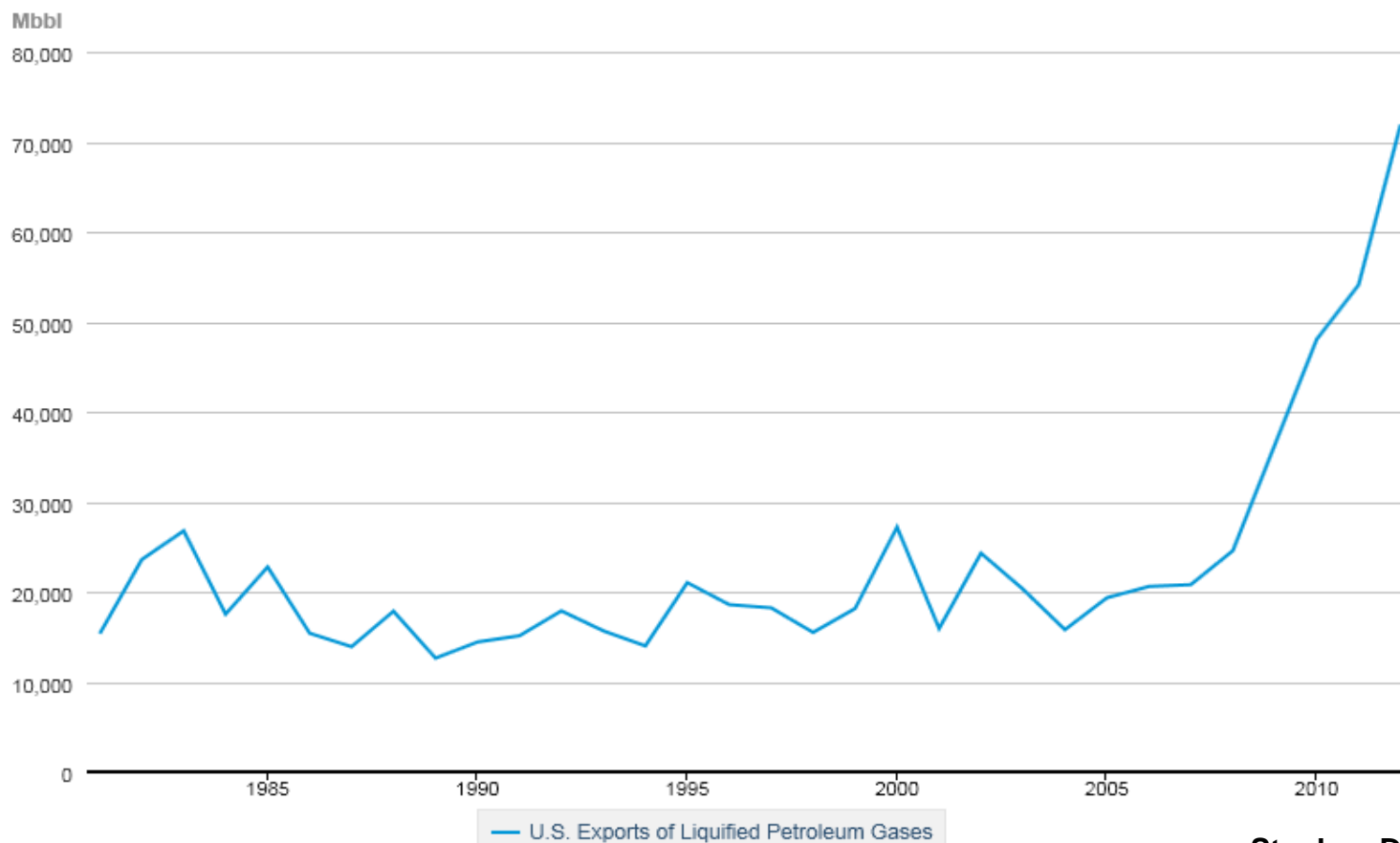


Source: U.S. Energy Information Administration

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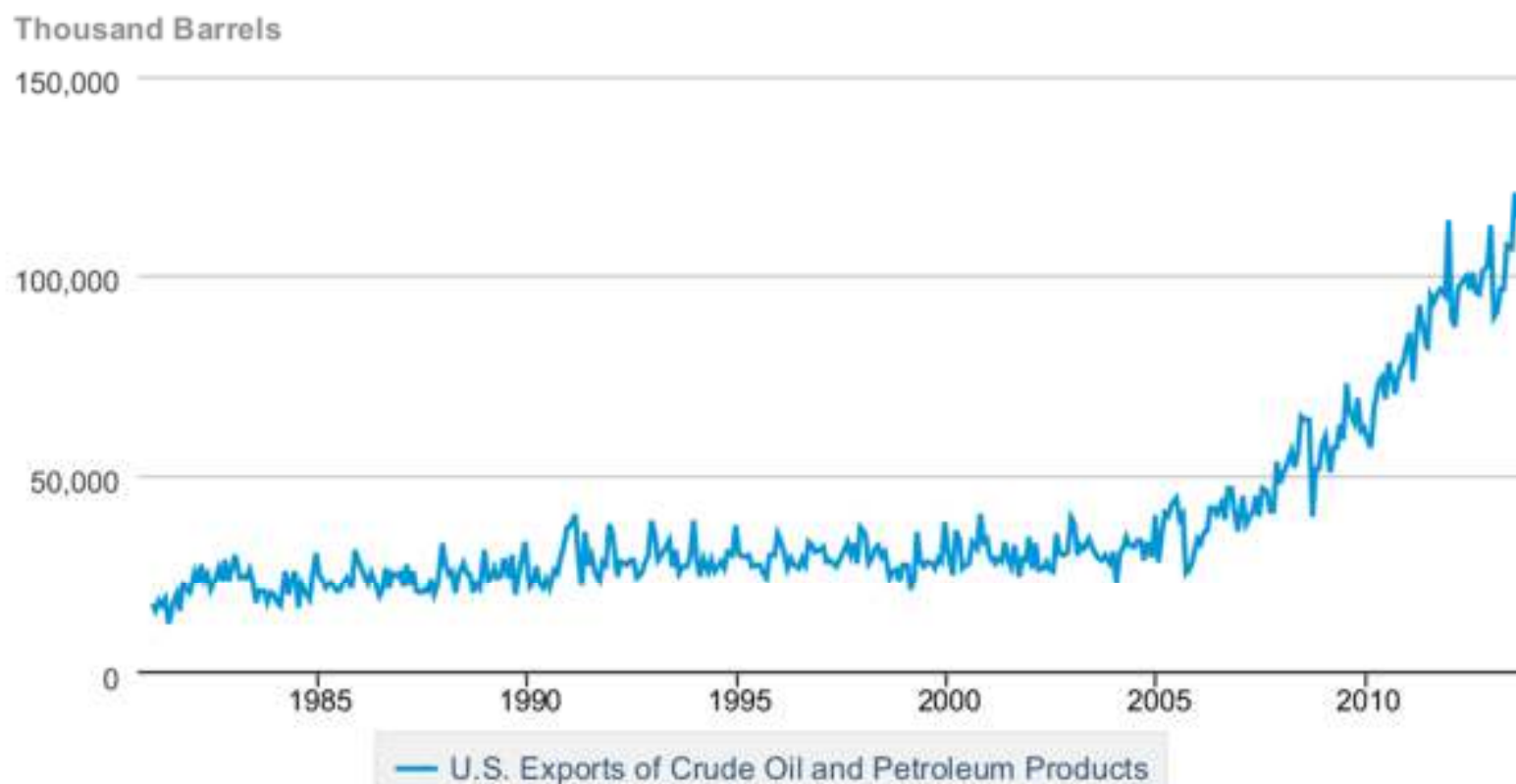
## Liquefied Petroleum Gases (Ethane/Ethylene, Propane/Propylene, Butane/Butylene, Isobutane/Isobutylene) Exported from the United States

### Exports



## United States Exports of Crude Oil and Petroleum Products

### U.S. Exports of Crude Oil and Petroleum Products

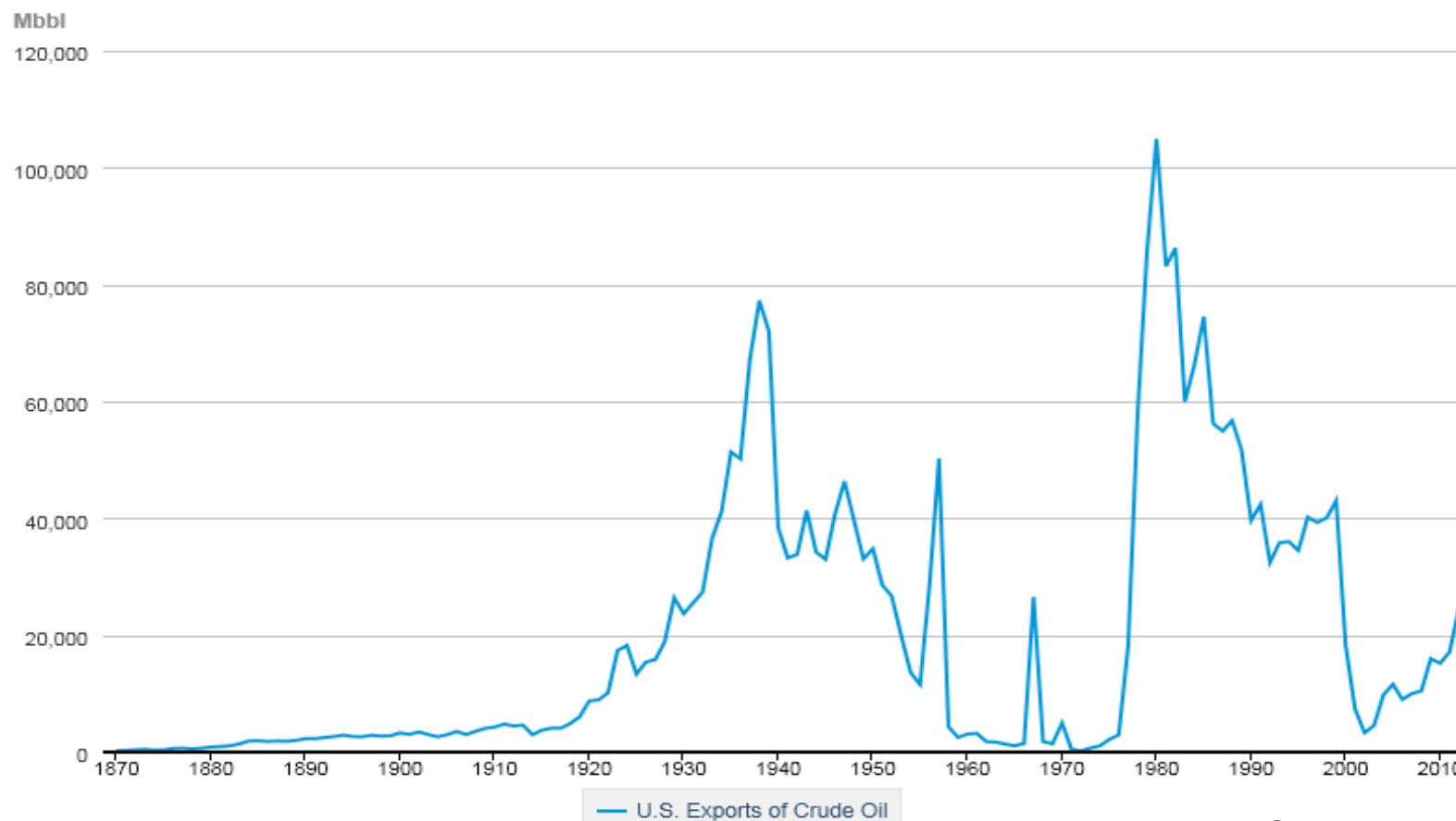


Source: U.S. Energy Information Administration

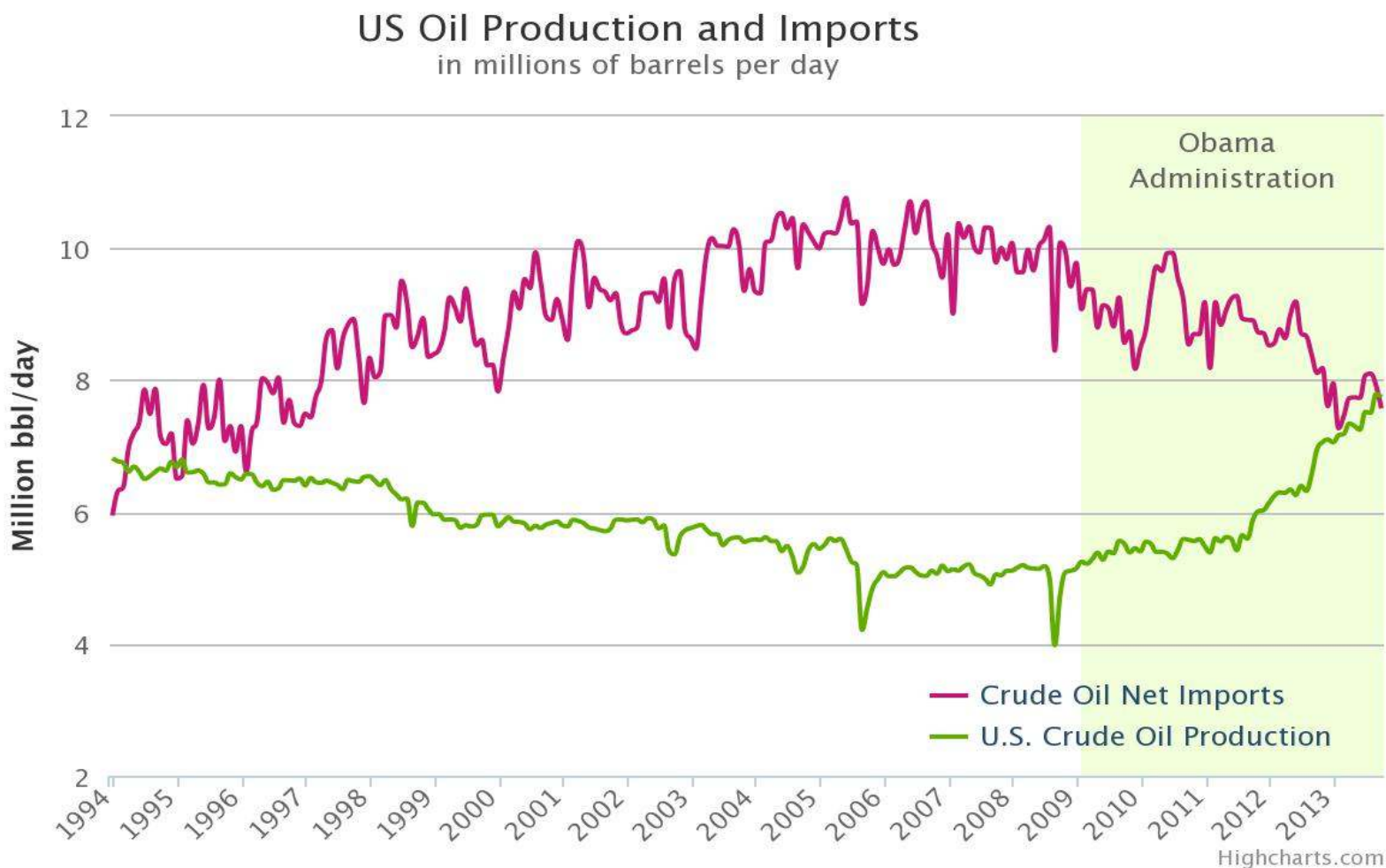
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## United States Exports of Crude Oil Only

### Exports



## United States Oil Production and Imports



## WEST AFRICAN ENERGY

### Navigating the opportunities

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## West African Energy: Navigating the opportunities

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### *Context*

- Abundance and historic exploitation of West Africa's oil & gas are well documented
- Nigeria, Gabon, Ghana and other countries around the Gulf of Guinea produce more than 3 million barrels of oil a day, approx. one-third of Africa's output (BP Plc data)

### *Current investment profile*

- Major IOCs (international oil companies) continue to invest actively—e.g., Angola's offshore pre-salt licenses 2011 attracted BP, Statoil, Total
- Recent analysis predicted capital expenditure in the West African oil & gas market to be approx. \$21.3 billion in 2013 alone (Visiongain, 2013)
- Transformative years ahead for the region

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## West African Energy: Navigating the opportunities

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### *Risk profile*

- Risks inherent to the West African oil & gas sector include:
  - Political instability
  - Significant security concerns
  - Corruption
  - Under-developed infrastructure and services
- Although regionally specific, these are arguably similar to problems faced by the oil & gas industry worldwide.

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## West African Energy: Navigating the opportunities

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### *Investment challenges example*

Challenges in relation to any initial investment in West African oil & gas:

#### ■ Anticipating host government priorities

- Seeking to increase government control
- Affirming and exercising sovereignty over natural resources

#### ■ Indigenization

- Required/ encouraged to promote local participation
- Develop local skills and experience

#### ■ Transparency

- Corruption, political instability and underdeveloped infrastructure
- Tight regulatory controls for many IOCs, e.g. U.K. Bribery Act and FCPA
- Potential for change as West African NOCs begin to act outside their home boundaries

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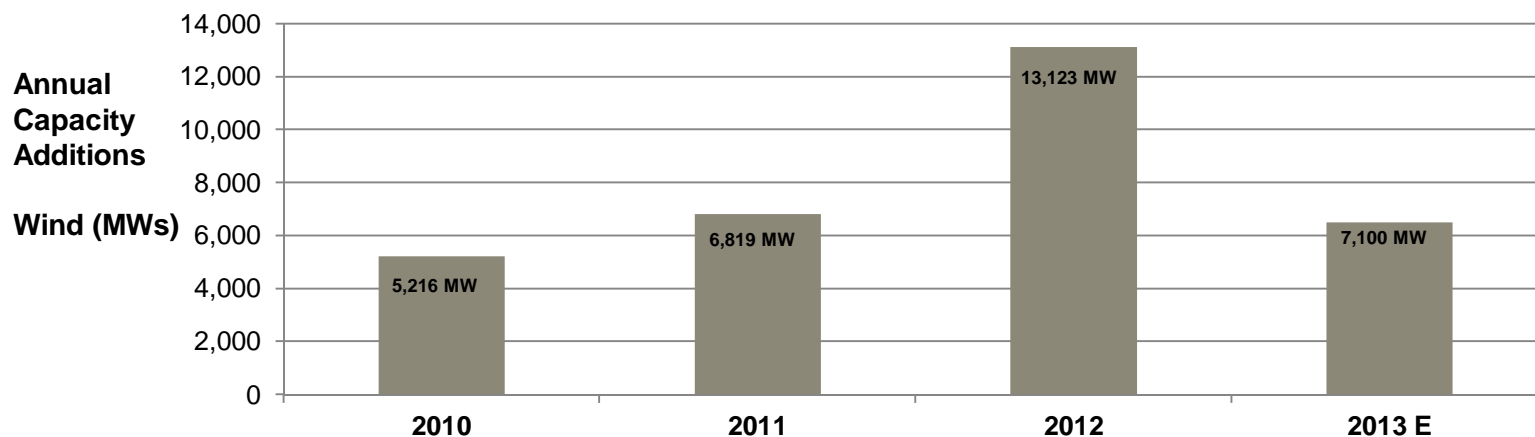
# RENEWABLE ENERGY

## The Changing Competitive Landscape

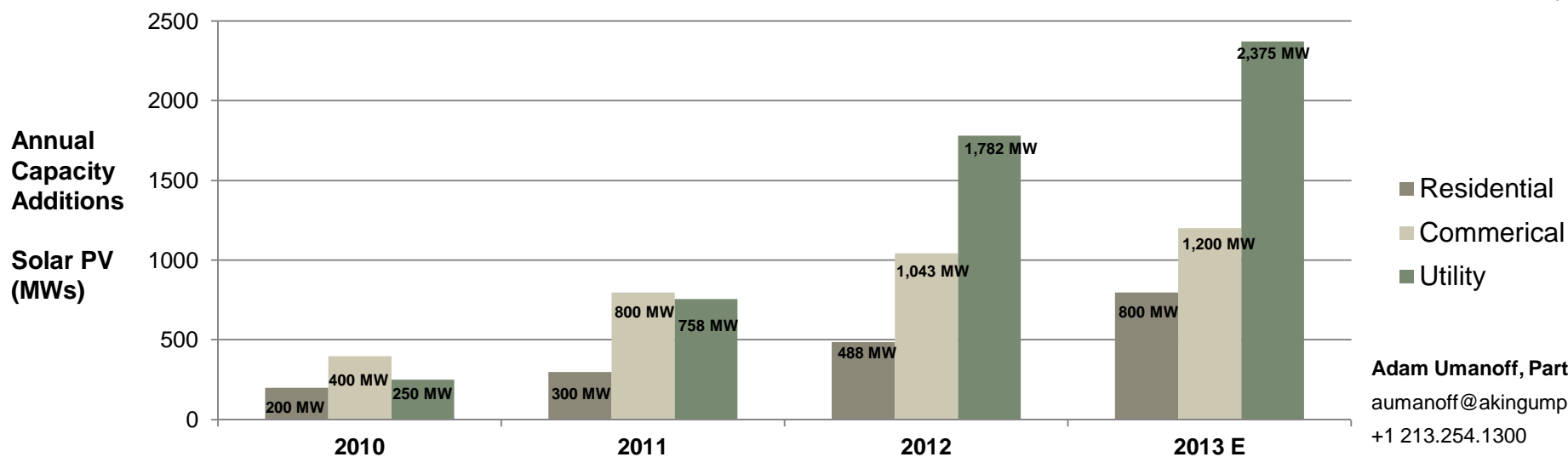
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## Renewable Energy – Changing Competitive Landscape

- Renewable Energy Growth Has Been Substantial



\*AWEA U.S. Third Quarter 2013 Report



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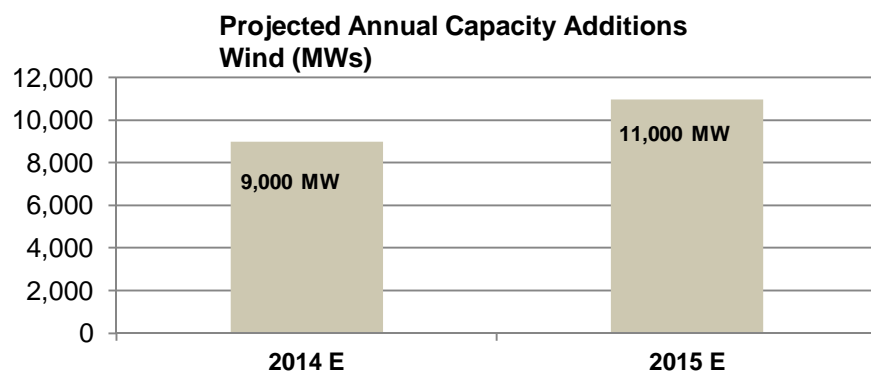
## Renewable Energy – Changing Competitive Landscape

■ But Historical Low Power Prices and Cheap Natural Gas Threaten Continued Growth

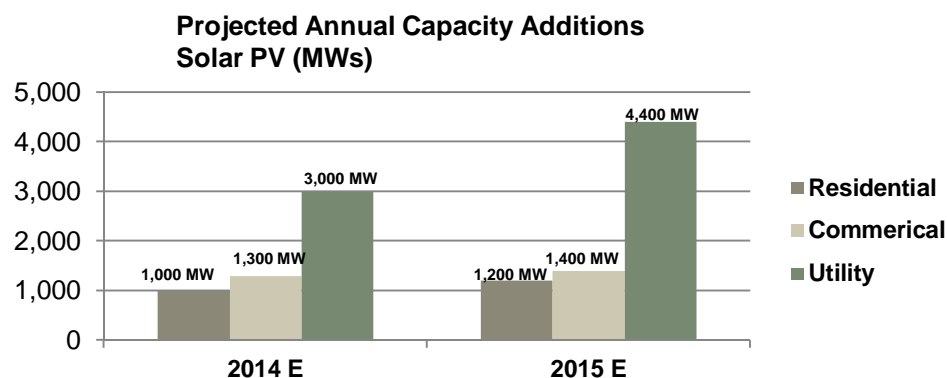
■ Drivers for Renewable Energy in United States

- Increased Demand for Electricity
- Increased Cost Competitiveness
- Policy Support
  - Federal tax policy
  - State renewable portfolio standards

■ Near-Term Projections



\*AWEA U.S. Third Quarter 2013 Report



\*SEIA U.S. Market Insight Report Q3 2013

■ Shift to conventional power in many markets, but

- Renewables will continue to be active in markets with unfulfilled RPS markets
- Distributed generation solar will continue to grow

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# ENERGY RESTRUCTURING

Complications arising in restructurings in the power sector

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## Energy Restructurings

### Recent Trends and Issues

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#### ■ Energy Companies Across All Sectors Have Filed for Chapter 11 in 2013

- **Oil & Gas:** GMX Resources, ATP
- **Coal:** Patriot Coal
- **Power:** Edison Mission Energy, Longview Power
- **Renewables:** Hoku, Solar Trust, Sun Tech
- **Vendors/Suppliers:** Geokinetics, Green Field Energy Services

#### ■ Factors Driving Energy Company Restructurings

- Cheap and Abundant Natural Gas
- Environmental Compliance Costs
- Government Promotion of Renewable Technologies

#### ■ Typical Complications in Energy Company Restructurings

- FERC Jurisdictional Issues
- Valuation Issues
- Ring Fencing/Leveraged Lease Transactions
- Intercompany Transactions
- Legal Characterization of Property Rights
- Treatment of Government Rights, Guarantees and Incentives

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## Complications in Energy Company Restructurings

### Notable Issue of 2013 - Tax Sharing Agreements

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- In 2013, the existence of tax sharing agreements between a corporate parent and subsidiaries has created significant complications in two major power restructurings
  - Edison Mission Energy—official committee of unsecured creditors is seeking authority to commence litigation against parent company Edison International (NYSE: EIX) to recover transfers under tax sharing agreement
  - Energy Future Holdings (formerly known as TXU) —expected to file for chapter 11 in first quarter of 2014
- Tax sharing agreements, generally
  - Allow consolidated tax entities to reduce federal and state tax exposure
  - Provide a mechanism for monetization of tax benefits, including various tax credits frequently available to energy companies
  - Tend to be imprecise, leaving significant discretion to parent
- Importance of tax and restructuring advisors working together to understand potential issues that may arise from tax sharing agreements
  - Potential tool in negotiations between parent and subsidiaries, and respective creditor groups
  - Must consider when claims will be triggered, at what entities claims reside and how claims will be treated in bankruptcy
  - Potential source of litigation against parent/affiliates in chapter 11

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THANK YOU

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