A Comparison of US Oil and Natural Gas Policies

Pro-development Policies vs. Proposed Regulatory Constraints

June 22nd 2015

Key findings: Potential impacts of US oil and natural gas regulatory policies

Impact on US*	Pro-development Policies		Regulatory Constraints	
	2025	2035	2025	2035
Oil and Natural Gas Production	+2.8 MMboed**	+8.0 MMboed	-2.6 MMboed	-3.4 MMboed
Total Jobs Supported	+1.0 million	+2.3 million	-800 thousand	-830 thousand
GDP / Year***	+$163 billion	+$443 billion	-$138 billion	-$133 billion
Total Government Revenue / Year	+$38 billion	+$122 billion	-$33 billion	-$18 billion
Cumulative Gov't Revenue (2016 - 2035)	+$111 billion	+$1078 billion	-$260 billion	-$500 billion
Total Household Income / Year	+$52 billion	+$118 billion	-$40 billion	-$43 billion
Average Household Energy Expense	-$169/year	-$360/year	+$255/year	+$242/year

*Incremental impacts assessed versus a Baseline scenario
**MMboed is million barrel oil equivalent per day
***All dollar numbers are in 2015 real US dollars

Glossary (1 of 2)

Term	Definition
ANWR	Arctic National Wildlife Refuge
bbl	Barrel
bcfd	Billion cubic feet per day
BLM	Bureau of Land Management
BSEE	Bureau of Safety and Environmental Enforcement
CEQ	Council on Environmental Quality
DOE	Department of Energy
E15	Gasoline blends containing 15% ethanol by volume
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FOB	Free On Board
FWS	Fish and Wildlife Service
GDP	Gross Domestic Product
GOM	Gulf of Mexico
HH	Henry Hub
IMPLAN	A data and software program for economic analytics published by MIG Inc.

Glossary (2 of 2)

Term	Definition
kbd	Thousand barrels per day
kboed	Thousand barrels of oil equivalent per day
KXL	Keystone XL pipeline
LNG	Liquefied Natural Gas
MMbbld	Million barrels per day
MMboed	Million barrels of oil equivalent per day
MMbtu	Million British thermal units
MMTPA	Million metric tonnes per day
NEPA	National Environmental Policy Act
NGLs	Natural Gas Liquids
NPRA	National Petroleum Reserve in Alaska
PHMSA	Pipeline and Hazardous Materials Safety Administration
ppb	Parts per billion
ULSD	Ultra low sulfur diesel
WM	Wood Mackenzie
WTI	West Texas Intermediate crude oil

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Wood Mackenzie has evaluated the impact on the US economy of various pro-development policies and regulatory constraints in the oil and natural gas sectors

Background

API has requested Wood Mackenzie to investigate the impact of potential changes to various oil and natural gas-related policies at both a federal and state level

The positive impacts of a series of pro-development policies have been evaluated, alongside the detrimental impacts of a number of proposed and recently enacted regulatory constraints

The impacts are characterized in terms of jobs, GDP, government revenues, and household income and energy expenditure

Both upside and downside scenarios have been compared to a Baseline forecast that excludes the listed pro-development policies and the regulatory constraints

Potential oil and natural gas pro-development policies

Policy Assumption*	Pro-development	Baseline	Reg Constraints
Increase Federal Permitting Rates			
Onshore federal lands	🟢	🟡	🟡
Gulf of Mexico	🟢	🟡	🔴
New areas for exploration and development			
Atlantic offshore	🟢	🔴	🔴
Pacific offshore	🟢	🔴	🔴
Eastern Gulf of Mexico	🟢	🔴	🔴
Alaska (ANWR, NPRA and offshore)	🟢	🔴	🔴
Remove restrictions in Federal Rockies	🟢	🔴	🔴
Repeal New York State hydraulic fracturing ban	🟢	🔴	🔴
Approve Canadian oil pipelines	🟢	🔴	🔴
Repeal crude oil export ban	🟢	🔴	🔴
Market level of Condensate exports	🟢	🟡	🟡
Market level of LNG exports	🟢	🟡	🟡

🔴 **Prohibited / enforced** 🟡 **Inhibited** 🟢 **Supported / not enforced**

*Further details of policy assumptions are provided in section 1 and the appendices.
**All scenarios in this study do not include the Clean Power Plan.

Recent and proposed regulatory constraints

Policy Assumption*	Pro-development	Baseline	Reg Constraints
Emissions regulations			
Ozone regulations (EPA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Methane emissions restrictions (EPA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Refinery emissions restrictions and measurements (EPA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Definition of Waters of the USA (EPA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Sage grouse listed under Endangered Species Act (FWS)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Standards and technical regulations			
Hydraulic fracking standards on federal lands (BLM)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Blow out preventer design and testing standards (BSEE)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
NEPA programmatic reviews (CEQ)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Rail car tank standards (PHMSA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced
Renewable Fuel Standards (EPA)	Supported / not enforced	Supported / not enforced	Prohibited / enforced

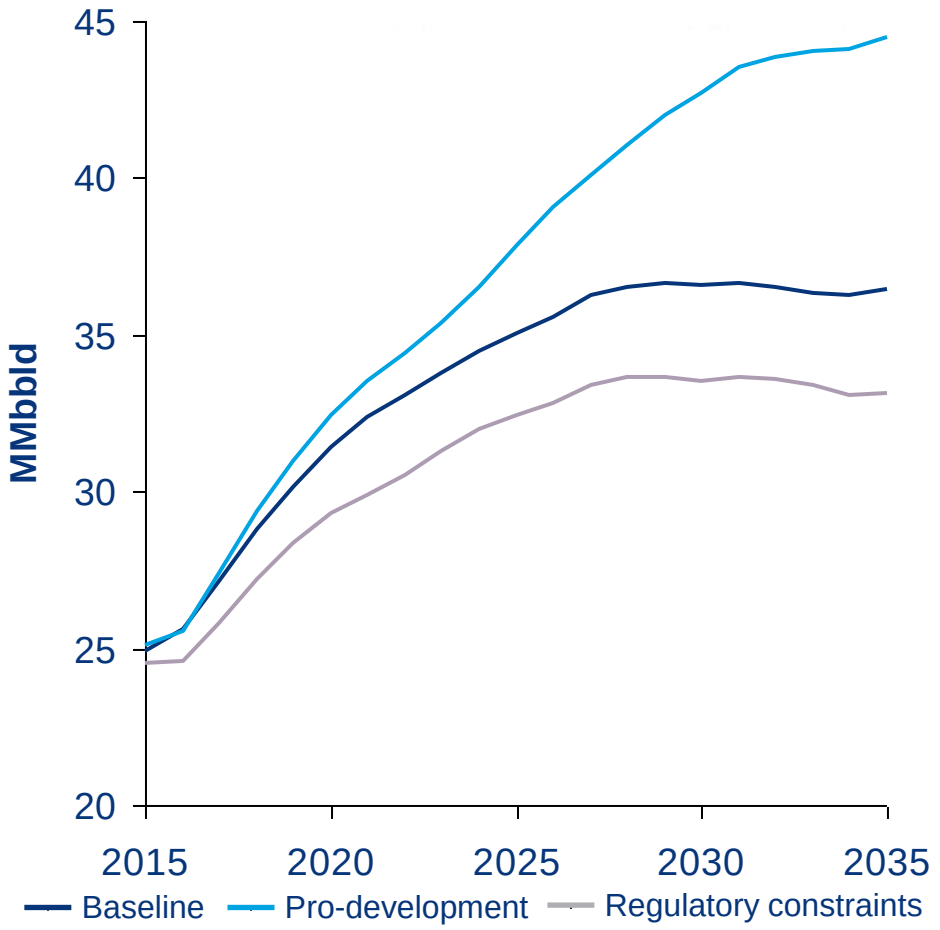
Prohibited / enforced **Inhibited** **Supported / not enforced**

*Further details of policy assumptions are provided in section 1 and the appendices.
**All scenarios in this study do not include the Clean Power Plan.

Pro-development policies could increase oil and gas production by 8 MMboed whereas regulatory constraints could reduce it by 3.4 MMboed by 2035

Total Supply Implications for the US

MMboed	2025	2035
Baseline production	35.0	36.5
Pro-development production	37.8	44.5
Regulatory constraints production	32.4	33.1
Pro-development change from Baseline	+2.8	+8.0
Regulatory constraints change from Baseline	-2.6	-3.4



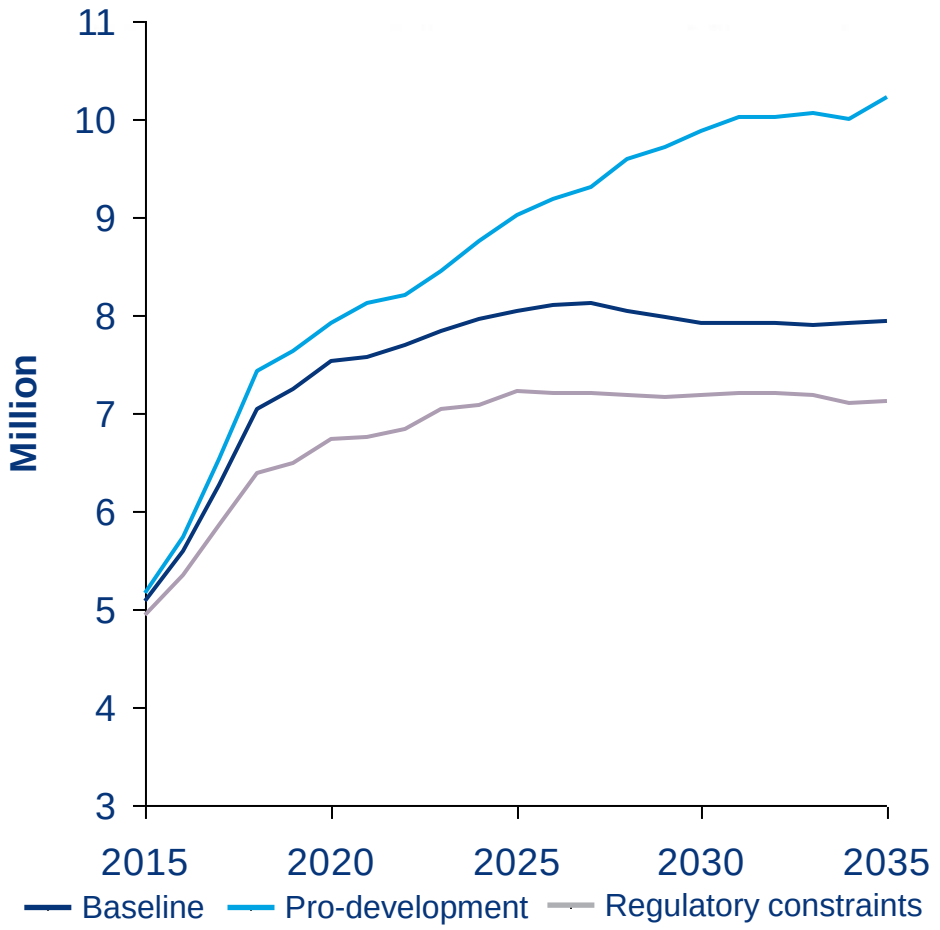
- **Increases in US oil and natural gas production is expected in all scenarios, but the regulatory environment is expected to have a very material impact on the pace of growth and the peak level achieved**

Pro-development policies could support an additional +2.3 million US jobs*, whereas regulatory constraints could cost 0.8 million US jobs

Total Job Creation Implications for the US

Millions	2025	2035
Baseline jobs supported	8.0	7.9
Pro-development jobs supported	9.0	10.2
Regulatory constraints jobs supported	7.2	7.1
Pro-development change from Baseline	+1.0	+2.3
Regulatory constraints change from Baseline	-0.8	-0.8

- **The ultimate level of supported direct, indirect and induced jobs is strongly influenced by US oil and natural gas production rates****



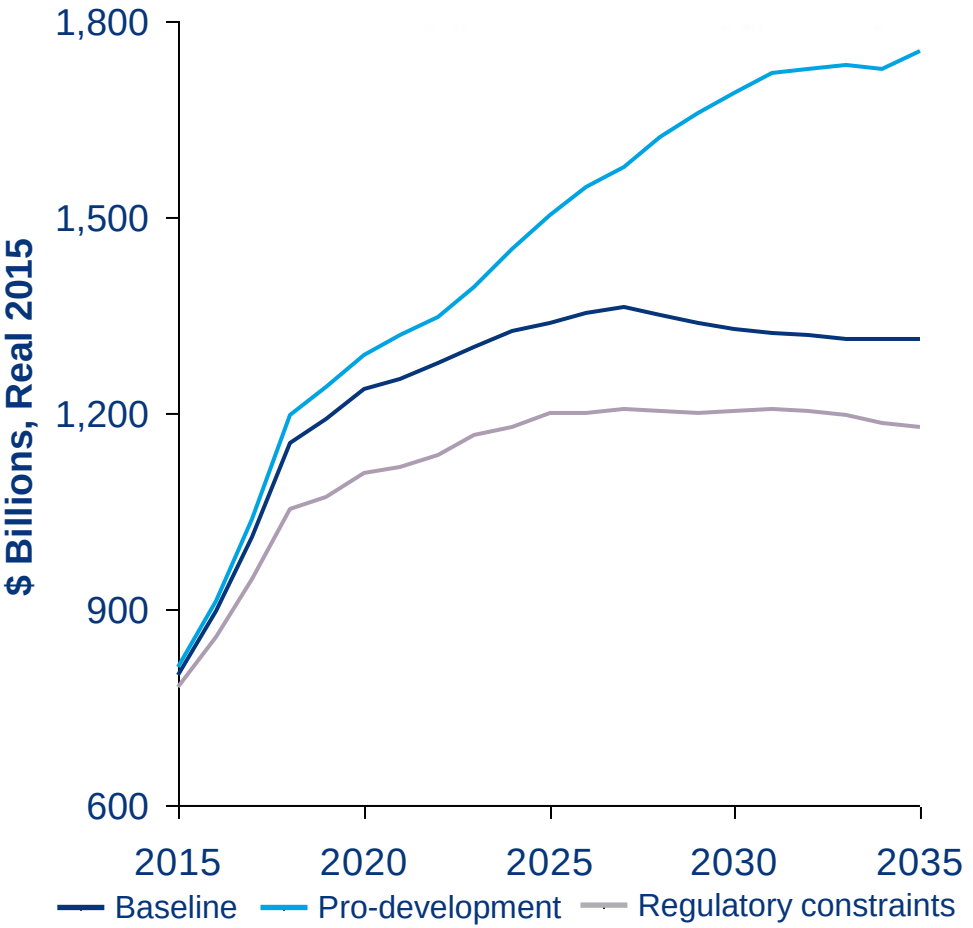
* Total jobs supported include direct, indirect, and induced jobs in the upstream, midstream and refining sectors. Excludes some wholesale and distribution sectors.

** Short-term growth in supported jobs is expected in all three scenarios, driven by projected oil price recovery.

Pro-development policies could contribute an additional $443 billion/yr to US GDP, whereas regulatory constraints could reduce US GDP by $138 billion/yr

Total GDP Contribution Implications for the US

$ Billions, Real 2015	2025	2035
Baseline GDP contribution	1,339	1,312
Pro-development GDP contribution	1,502	1,755
Regulatory constraints GDP contribution	1,200	1,178
Pro-development change from Baseline	+163	+443
Regulatory constraints change from Baseline	-138	-133

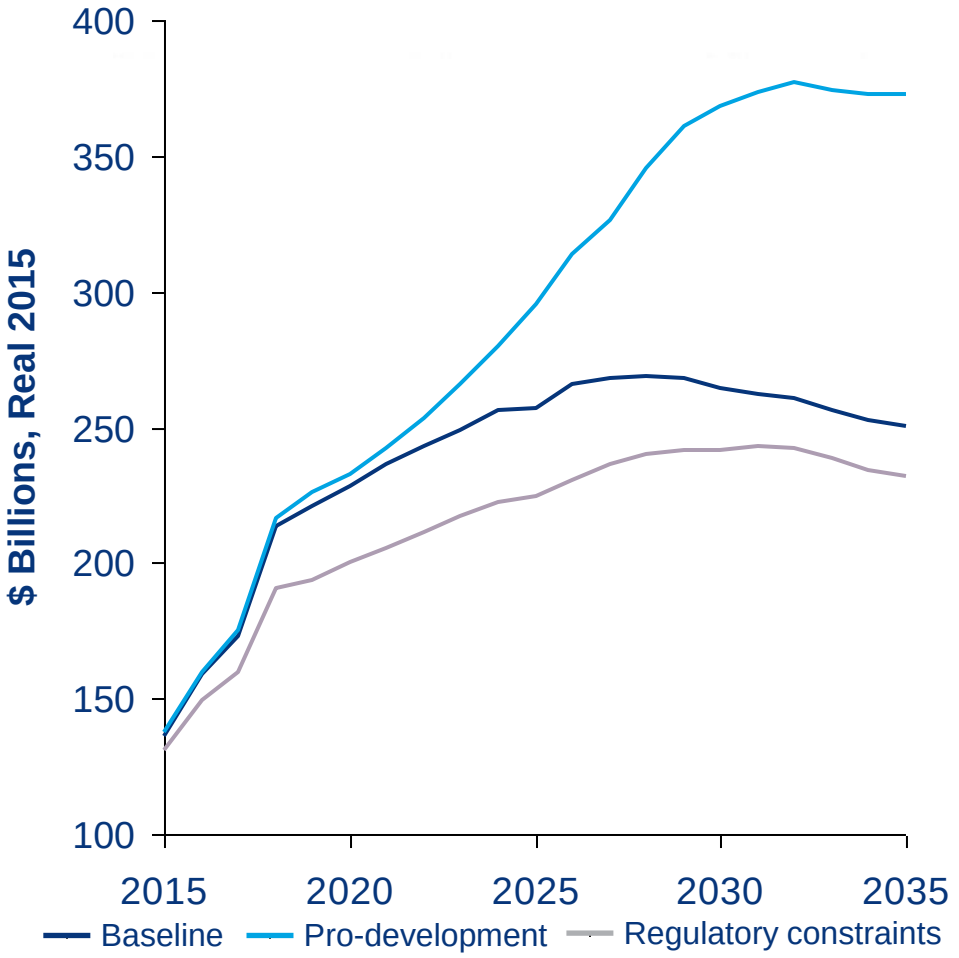


- **GDP contribution from oil and natural gas development follows a similar trend, with $576 billion/year at stake by 2035, depending on the regulatory environment**

Pro-development policies could increase tax revenues by $122 billion/yr, whereas regulatory constraints could reduce tax revenues by $33 billion/yr

Total Tax Revenue* Implications for the US

$ Billions, Real 2015	2025	2035
Baseline Tax Revenue	257	250
Pro-development Tax Revenue	295	373
Regulatory constraints Tax Revenue	224	232
Pro-development change from Baseline	+38	+122
Regulatory constraints change from Baseline	-33	-18



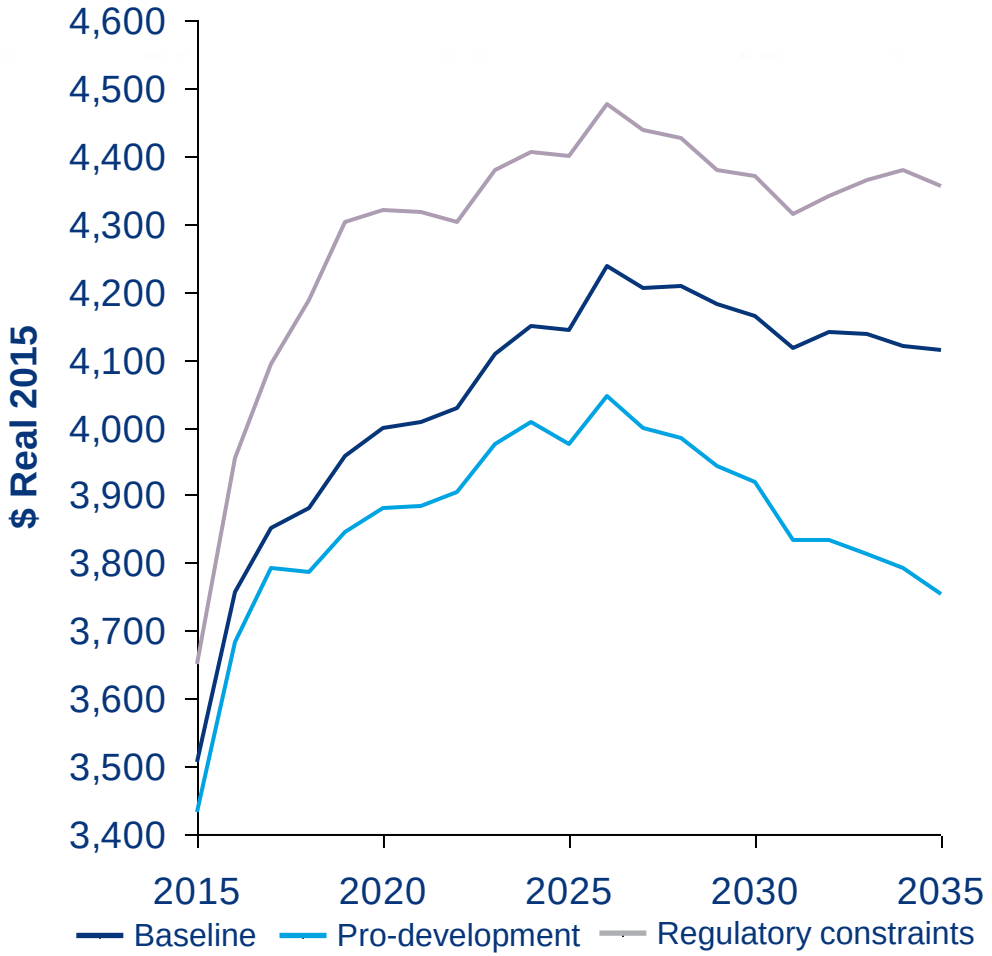
- **Cumulative local, state, and federal taxes at risk to 2035 is estimated at $1.6 trillion**
  - » Pro-development policies scenario upside, $1.1 trillion
  - » Regulatory constraints scenario downside, -$500 billion

* Total taxes includes government lease royalties, rents and bonus payments.

Pro-development policies could reduce household energy bills by $360/yr*, whereas regulatory constraints could increase these by $255/yr

US Household Energy Cost per Household

$ Real 2015	2025	2035
Baseline energy cost	4,144	4,113
Pro-development energy cost	3,975	3,753
Regulatory constraints energy cost	4,369	4,355
Pro-development change from Baseline	-169	-360
Regulatory constraints change from Baseline	+255	+242



- **Pro-development policies could save the average consumer household over 8 ½ percent a year in energy costs**
- **Regulatory constraints could drive up the average consumer household's energy costs by nearly 6 percent a year**

* Household energy costs include gasoline, electricity and natural gas.

US policies and regulations are expected to have significant impacts on oil and natural gas production, jobs, GDP, government revenue and consumer energy costs

Study Conclusions

- **If enacted, Pro-development policies could have the following impact by 2035***
  - » increase US energy security by increasing US oil and natural gas production by an additional 8 MMboed
  - » support US employment by an additional 2.3 million US jobs throughout the economy
  - » contribute to US GDP by an additional $443 billion /year
  - » increase total local, state, and federal government revenue by $122 billion / year, a cumulative increase of $1.1 trillion from 2015 to 2035
  - » save the average US household $360 / year on energy expenses
- **Recent and proposed regulatory constraints are projected to by 2035***
  - » decrease US energy security by reducing US oil and natural gas production by 3.4 MMboed
  - » reduce the total employment supported by the oil and natural gas industry by 830 thousand jobs
  - » reduce contributions to the US economy by $133 billion / year (-$138 billion in 2025)
  - » decrease total local, state, and federal government revenue by $18 billion / year (-$33 billion in 2015), a cumulative reduction of $500 billion from 2016 to 2035
  - » increase average US household energy expenses by $255 / year

* Relative to a Baseline forecast without these policies.

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This study evaluates the positive impacts of pro-development policies and the detrimental impacts of regulatory constraints

Scenario Definition

- **A 'Pro-development' upside scenario considers various policy measures to support growth in oil and natural gas development and transportation**
  - » This is intended to show the full potential of the US hydrocarbon reserves to contribute positively to the growth of the US economy
- **A 'Regulatory Constraints' downside scenario reflects a combination of recently enacted and proposed policy and regulatory changes which could inhibit oil and natural gas development, transportation, and refining**
  - » This is intended to illustrate the potential costs to the US economy associated with pursuing ever more stringent regulation of the US oil and natural gas industries
- **Both upside and downside scenarios are compared to a Baseline forecast without these policies**

Pro-development oil and natural gas policies considered in each scenario (1 of 2)

	Scenario		
Policy / Regulation	**Pro Oil and Natural Gas Development Policies**	**Baseline**	**Recent and Proposed Regulatory Constraints**
Federal permitting rates and policies in current production areas	Permit and regulatory policies encourage accelerated development of resources	State-level regulation of resources and permitting processes remain at current levels	Current permitting process remains in place, but future developments subject to various additional regulations (see next pages)
Access to new production areas	Eastern Gulf of Mexico, portions of the Rocky Mountains, Atlantic OCS, Pacific OCS, ANWR, NPRA, Alaska offshore & New York state all opened up for leasing, drilling and development activity	Various onshore and offshore resources remain closed to oil and gas extraction	Same as Baseline
Cross-border Canadian oil pipelines	Implementation of both Keystone XL and Alberta Clipper pipelines is completed by 2018	No further cross-border pipelines permitted	Same as Baseline

Pro-development oil and natural gas policies considered in each scenario (2 of 2)

	Scenario		
Policy / Regulation	**Pro Oil and Natural Gas Development Policies**	**Baseline**	**Recent and Proposed Regulatory Constraints**
Crude exports – prohibited except to Canada and other limited exceptions	Export ban repealed 2016, exports determined by the market	Current restrictions remain in place	Same as Baseline
Condensate exports – restricted to processed condensates only	No restrictions on exports from 2016, which are determined by the market	Current restrictions remain in place	Same as Baseline
LNG exports – process slowed by Dept. of Energy approvals	All LNG terminals DOE approved – exports determined by market	LNG export capacity limited to a maximum of 6 bcfd by DOE/FERC approval process	Same as Baseline

Regulatory constraints considered in each scenario (1 of 3)

	Scenario		
Policy / Regulation	**Pro Oil and Natural Gas Development Policies**	**Baseline**	**Recent and Proposed Regulatory Constraints**
Ozone Standards (EPA)	Same as Baseline	Ground-level ozone limits remain at 75ppb level	Ground-level ozone limits reduced to 65ppb
Enhanced Tank Car Standards and Operational Controls (PHMSA)	Same as Baseline	2014 standards for transportation by rail of flammable liquids are retained	Implementation of finalized rules for tighter standards for transportation by rail of flammable liquids
Methane emission restrictions (EPA)	Same as Baseline	Air emissions regulations which restrict methane emissions are applied only to new unconventional gas wells	Extension of air emissions regulations to include all new and existing (producing) wells
Refining sector technology and performance standards (EPA)	Same as Baseline	Current emissions standards for hazardous air pollutants from petroleum refineries are retained	Implementation of proposed amendments (40 CFR Parts 60 and 63) to the emission standards for hazardous air pollutants for petroleum refineries

Regulatory constraints considered in each scenario (2 of 3)

	Scenario		
Policy / Regulation	**Pro Oil and Natural Gas Development Policies**	**Baseline**	**Recent and Proposed Regulatory Constraints**
Renewable Fuel Standard (EPA)	Same as Baseline	Blend composition of biofuels in gasoline and diesel remains constant after 2015	E15 grows to 50% of the market by 2020 and 100% by 2030, biodiesel increases to 5% of ULSD pool*
New definition of Waters of the USA (EPA)	Same as Baseline	No amendments to the clean water act - EPA's current definition of the Waters of the USA is retained	Implementation of EPA's proposed introduction of the 'significant nexus' concept to the definition of Waters of the USA in the Clean Water Act
Methane emission restrictions (EPA)	Same as Baseline	Air emissions regulations which restrict methane emissions are applied only to new unconventional gas wells	Extension of air emissions regulations to include all new and existing (producing) wells
Hydraulic fracking standards (BLM) - currently regulated by states	Same as Baseline	Continuation of 2014 state regulations which restrict, but do not inhibit hydraulic fracturing on Federal and Indian lands	Implementation of BLM's further regulation of hydraulic fracturing on Federal and Indian lands (BLM – 43 CFR part 3160)

* Volumes are below legislated targets.

Regulatory constraints considered in each scenario (3 of 3)

	Scenario		
Policy / Regulation	**Pro Oil and Natural Gas Development Policies**	**Baseline**	**Recent and Proposed Regulatory Constraints**
Offshore Well Control Rule (BSEE)	Same as Baseline	Continuation of current regulations governing new offshore oil and gas extraction	Implementation reforms to blowout preventer requirements, well design, control and monitoring in accordance with BSEE NPRM 2015
Sage grouse listed under Endangered Species Act (FWS)	Same as Baseline	No additions to the current list of endangered species and threatened wildlife	Addition of the greater sage-grouse to the list of endangered and threatened wildlife
NEPA programmatic review (CEQ)	Same as Baseline	No changes to current environmental permitting requirements	Enforced use of programmatic reviews for all proposed new oil and gas developments in accordance with the Memorandum for Heads of Federal Departments and Agencies, dated December 18, 2014

Pro development policies have been assessed for their enabling impact on key industry parameters

Policy Assumption	Increases Acreage Available	Reduces Schedule	Reduces Operator Costs	Creates new markets
Increase Federal Permitting Rates				
Onshore federal lands		✓		
Gulf of Mexico		✓		
New areas for exploration and development				
Atlantic offshore	✓			
Pacific offshore	✓			
Eastern Gulf of Mexico	✓			
Alaska (ANWR, NPRA and offshore)	✓			
Remove restrictions in Federal Rockies	✓			
Repeal New York State hydraulic fracturing ban	✓		✓	
Approve Canadian oil pipelines			✓	
Repeal crude oil export ban	✓			✓
Market level of Condensate exports				✓
Market level of LNG exports				✓

✓ **Enabling resource development** ✗ **Inhibiting resource development**

*Refer to the Appendix for a detailed overview of the various policies and regulations and implications.

With new regulatory constraints inhibiting resource development and resulting in schedule and cost implications

Policy Assumption	Reduces Acreage Available	Increases Schedule	Increases Operator Costs	Increases Consumer costs
Emissions regulations				
Ozone regulations (EPA)	✗		✗	✗
Methane emissions restrictions (EPA)			✗	
Refinery emissions restrictions and measurements (EPA)			✗	
Definition of Waters of the USA (EPA)	✗		✗	
Sage grouse listed under Endangered Species Act (FWS)	✗			
Standards and technical regulations				
Hydraulic fracking standards on federal lands (BLM)	✗			
Blow out preventer design and testing standards (BSEE)	✗		✗	
NEPA programmatic reviews (CEQ)	✗	✗		
Rail car tank standards (PHMSA)			✗	
Renewable Fuel Standards (EPA)				✗

✓ **Enabling resource development** ✗ **Inhibiting resource development**

*Refer to the Appendix for a detailed overview of the various policies and regulations and implications.

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Each US and Canada oil and gas source is grouped into gas plays, oil plays and other sources, and is projected in three sequential models

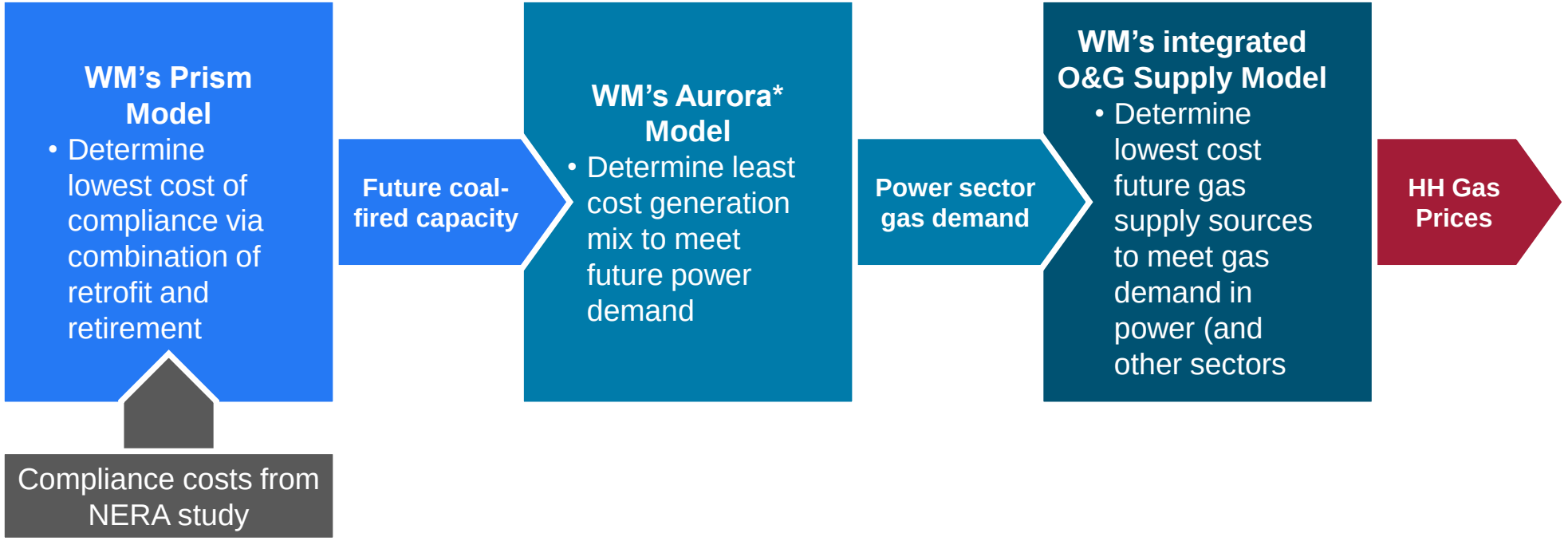
Conceptual Overview of Supply Modelling Approach

Offshore & Alaska Model	Gas Model	Oil Model
• Offshore and Alaska supplies are driven by long-term oil price due to its long cycle time nature • Wood Mackenzie forecasts supply level by each field in current western and eastern Gulf of Mexico and Alaska • Wood Mackenzie developed a model to project oil and gas production in new areas with reserves assumptions from other studies	• Gas plays are mostly shale gas plays with economics driven by Henry Hub (HH) gas price, e.g. Marcellus, Barnett, Haynesville • Play level gas supply is forecasted based on each play's type curve, breakeven price, well count, acreage, basis assumptions • Gas model adjusts HH gas price to balance North America gas supply and demand, which includes new LNG export projects	• Oil plays are mostly tight oil plays with economics driven by WTI oil price, e.g. Bakken/Three Forks, Permian unconventionals, Eagle Ford, Niobrara • Play level oil supply is modeled in the same methodology as gas, based on assumed Brent oil price outlook as defined in Appendix A1

*Canadian oil supply is not forecasted in the model.

Wood Mackenzie employs a series of proprietary optimization models to determine impacts of costs in the power sector on natural gas prices

Illustrative Approach to Making Maximum Use of 3rd Party Studies



* WM's Aurora model combines 3rd party dispatch algorithms with our own proprietary data on the installed fleet of power generation capacity.

Wood Mackenzie has assessed the impact of a number of opportunities where changes to Baseline could support US oil and gas production growth

Policy Assumption	Baseline	Pro-development	Comments re pro-development
Current production areas			
Onshore federal lands	🟡	🟢	No changes to current BLM hydraulic fracking regulation
Gulf of Mexico	🟡	🟢	Permit and regulatory policies allow for faster development
New areas for expl. & devt.			
Atlantic offshore	🔴	🟢	Leasing, drilling and devt activity starts in 2016
Pacific offshore	🔴	🟢	Leasing, drilling and devt activity starts in 2016
Eastern Gulf of Mexico	🔴	🟢	Leasing, drilling and devt activity starts in 2016
Alaska	🔴	🟢	Leasing, drilling and devt activity starts in 2016
Federal Rockies	🟡	🟢	Current regulatory hurdles removed in 2016
New York State	🔴	🟢	Leasing, drilling and devt activity starts in 2016
Canadian oil pipelines	🔴	🟢	KXL passed in 2016 - Canadian production grows faster
Crude oil exports	🔴	🟢	Full lifting of the export ban in 2016
Condensate exports	🟡	🟢	Full lifting of the export ban in 2016
LNG exports	🟡	🟢	Faster permitting encourages >6 bcfd of LNG exports

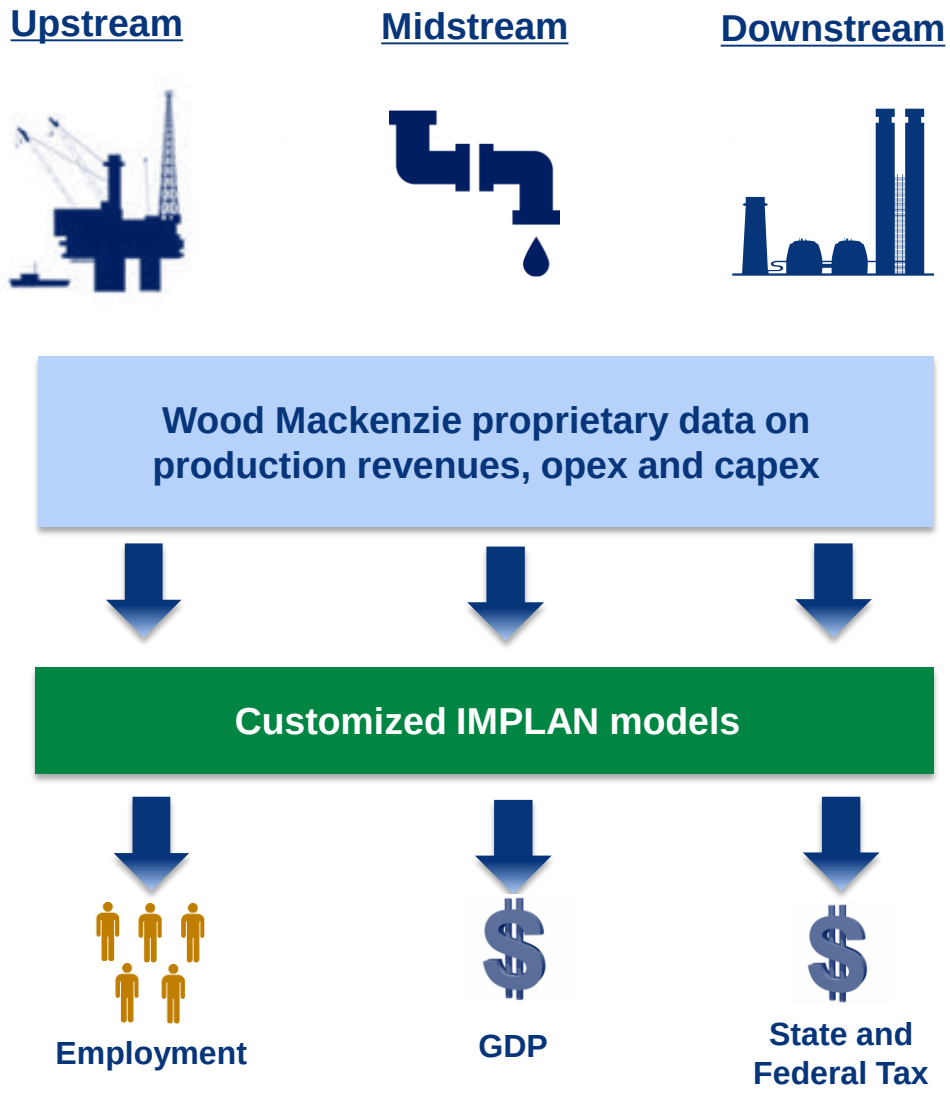
🔴 **prohibited** 🟡 **inhibited** 🟢 **supported**

* More detailed assumptions provided in the Appendix.

Each regulatory constraint is assessed separately on its impact on investment timing, acreages, cost and upstream activity

Reduces acreage available	**Sage grouse listed under Endangered Species Act (FWS)**	Severely restricts potential acreage available for drilling in Colorado, Utah, and Wyoming
	Ozone regulations (EPA) – Upstream	Operators are unlikely to be able to buy credits from other industries in some remote areas (e.g. West Texas, Oklahoma), effectively restricting acreage
	Definition of Waters of the USA (EPA)	Higher hydraulic fracking costs in some areas inhibit drilling, effectively restricting available acreage
	Hydraulic fracking standards on federal lands (BLM)	Inhibits ability to economically drill on federal lands, effectively restricting available acreage
	Blow out preventer design and testing standards (BSEE)	Lower development drilling for under development fields and probable development fields, lower exploration drilling for all Yet-to-Find reserves
Increases schedule	**NEPA programmatic reviews (CEQ) – Onshore**	Onshore play reaching peak activity is delayed by 2 years
	NEPA programmatic reviews (CEQ) – Offshore	Current probable fields in Gulf of Mexico start-up are delayed by 2 years
	Blow out preventer design and testing standards (BSEE)	Some otherwise attractive technical fields in Gulf of Mexico become uneconomic to develop
Increases operator costs	**Ozone regulations (EPA) – Upstream**	Upstream companies either have to invest in mitigation equipment or buy credit from other industries in the same area
	Ozone regulations (EPA) – Midstream	Midstream companies have to invest in mitigation equipment, which results in higher pipeline tariff for upstream operators
	Rail car tank standards (PHMSA)	Higher transportation cost for Bakken/Three Forks plays

Wood Mackenzie used IMPLAN to assess potential economic impacts of different activity, capex, and revenue levels throughout the energy value chain



- Wood Mackenzie's proprietary data is entered into models using the IMPLAN framework. These US models cover all 50 states and are highly customized to reflect Wood Mackenzie's industry cost data. Then jobs, GDP and tax impacts are estimated by state
- The IMPLAN approach is the industry standard for economic impact assessments
  - » Extensive datasets
  - » Customizable models
- Modelling outputs are split into:
  - » Direct – impacts from development and production in upstream, midstream and downstream
  - » Indirect – impacts from the supply chain for the direct industries
  - » Induced – impacts from spending of those employed directly and indirectly

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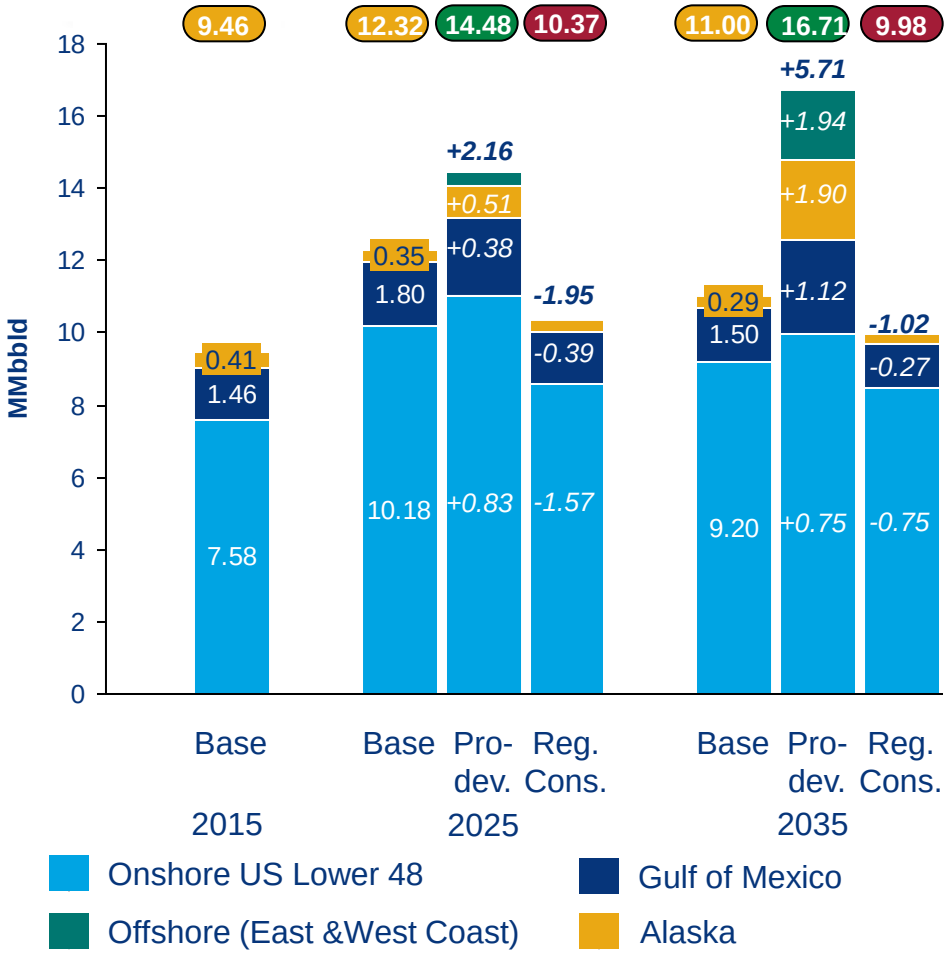
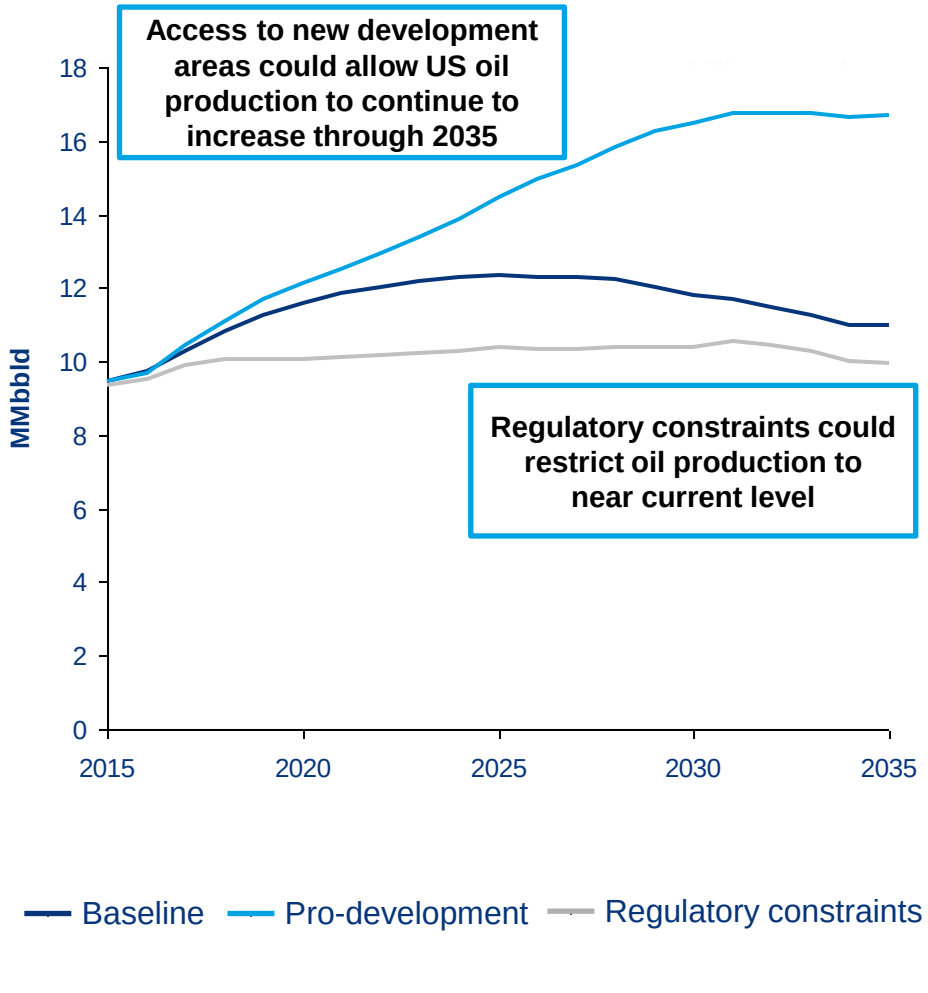
Pro-development policies could increase oil production by 5.7 MMbbld* by 2035, while production loss from regulatory constraints peaks at 2 MMbbld

Oil Supply, Baseline, Pro-development Policies, Regulatory Constraints Scenarios

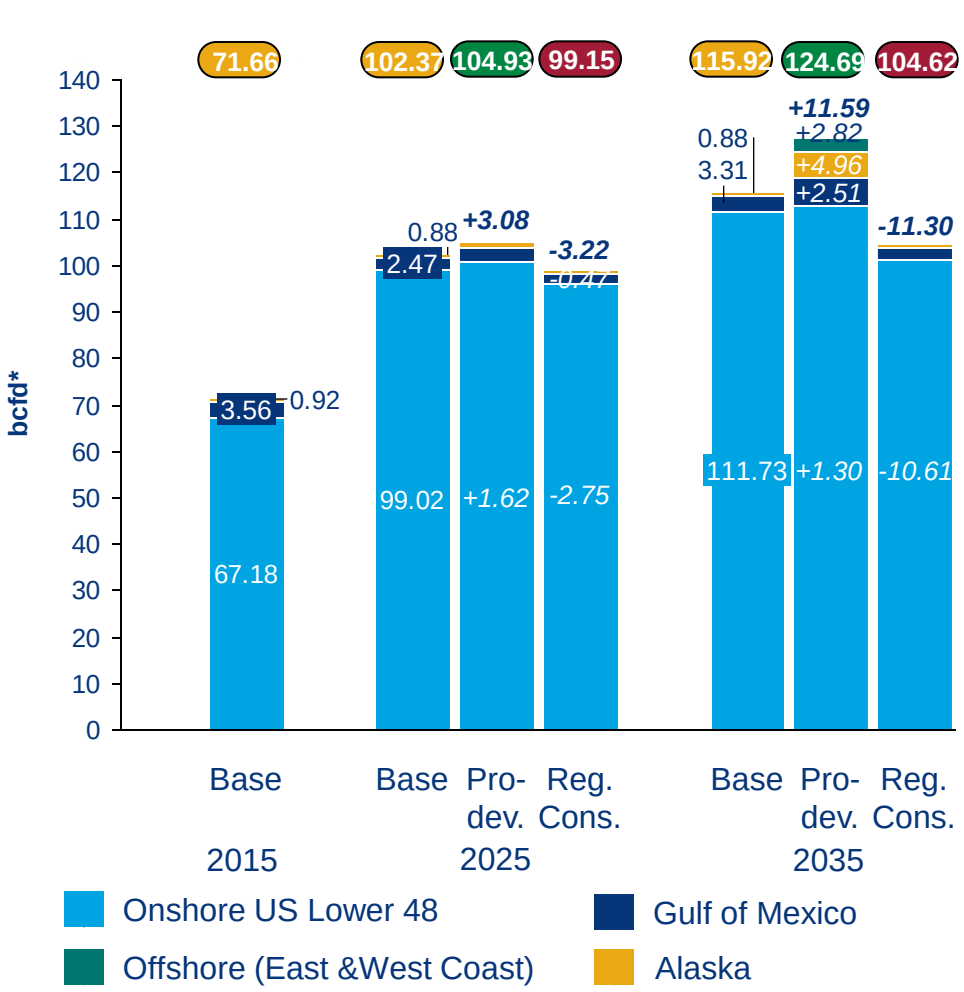


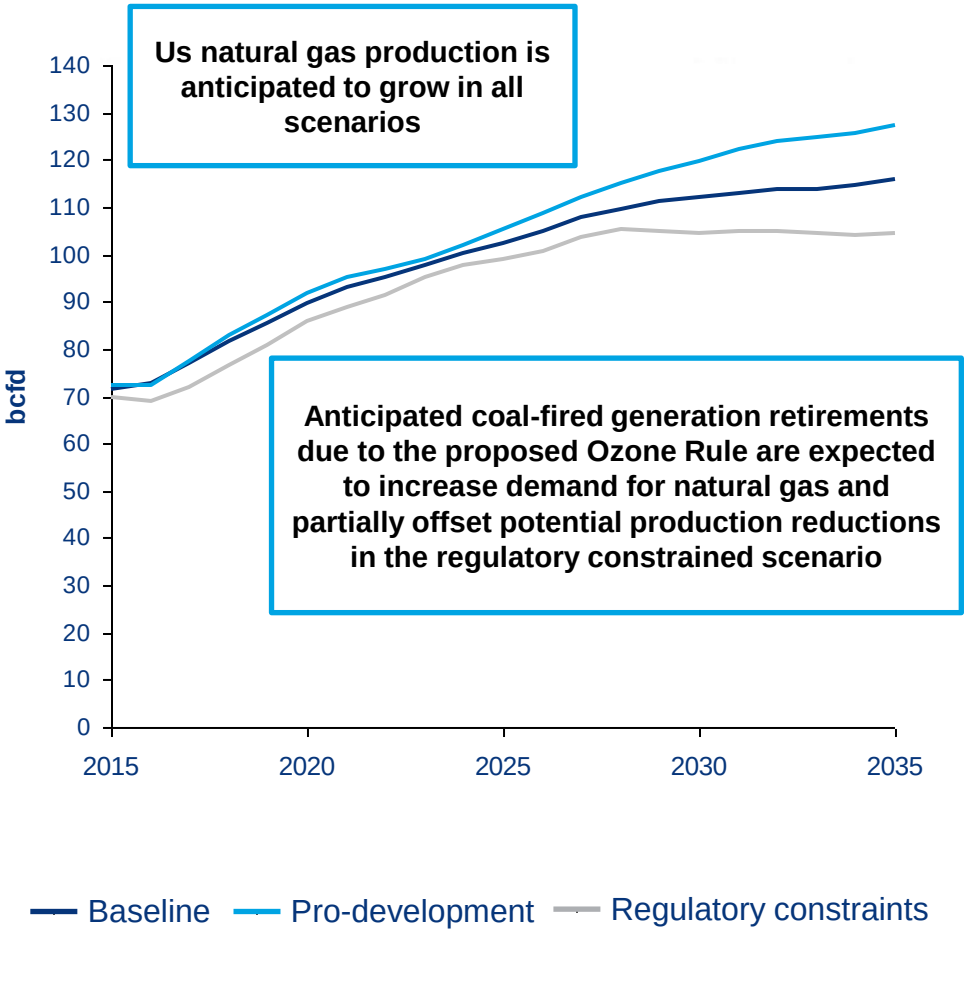


*MMbbld is million barrels per day

Gas production growth in the future is expected to continued to be driven by onshore lower 48 shale gas supply

Gas Supply, Pro-development Policies, Regulatory Constraints Scenarios

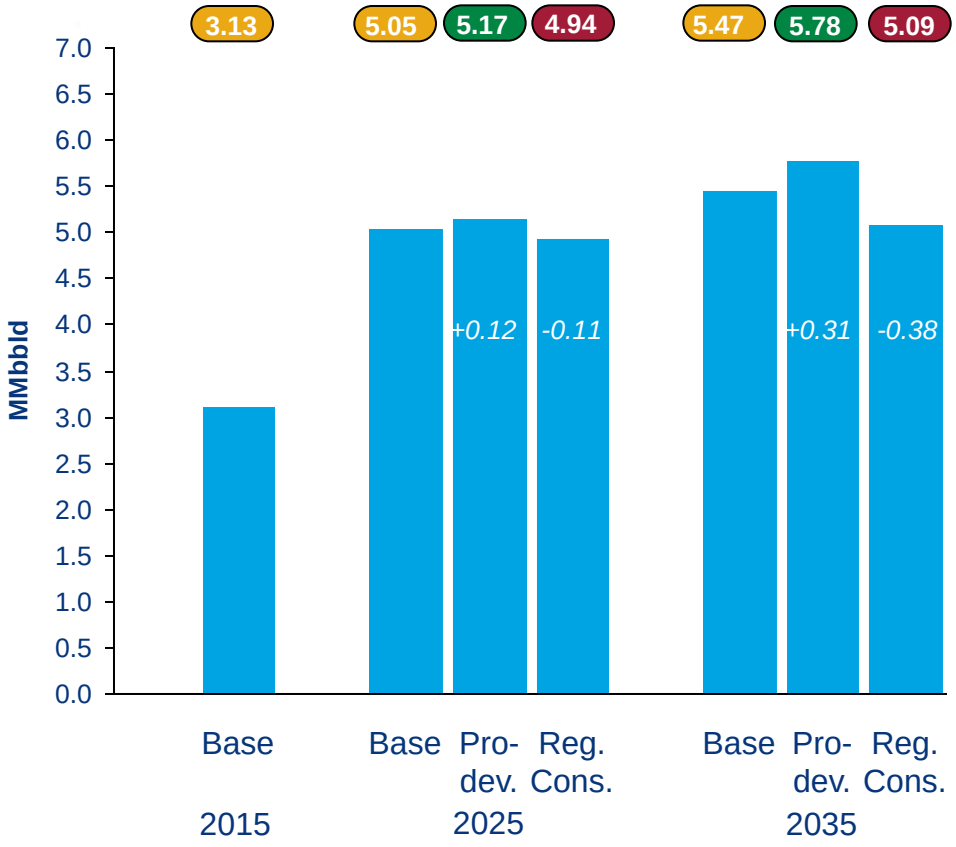


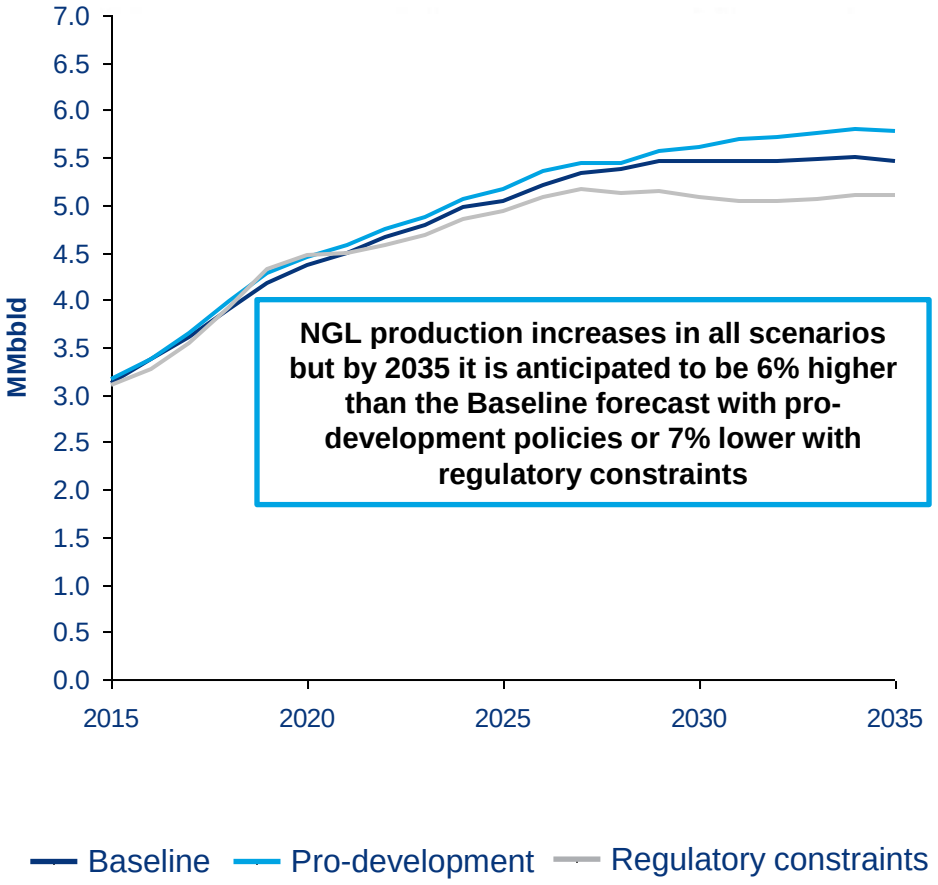


*bcfd is billion cubic feet per day

Pro-development policies could increase NGL production by 0.3 MMbbld in 2035, while regulatory constraints could reduce NGLs by nearly 0.4 MMbbld

NGLs Supply, Pro-development Policies, Regulatory Constraints Scenarios

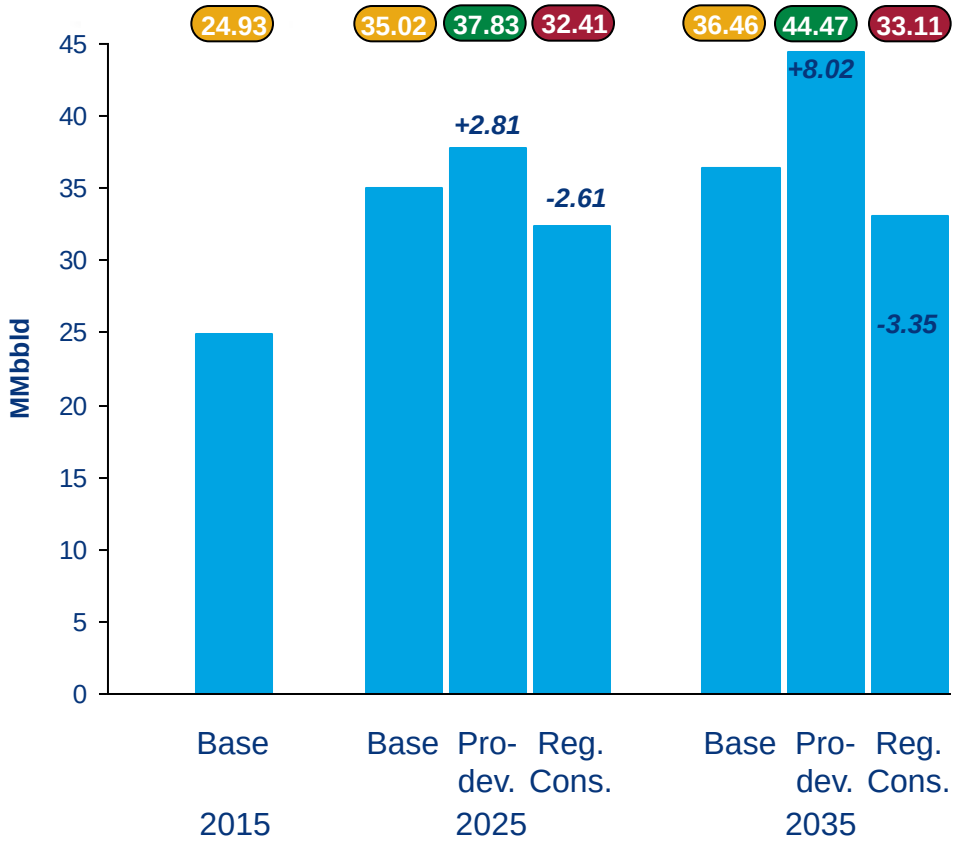


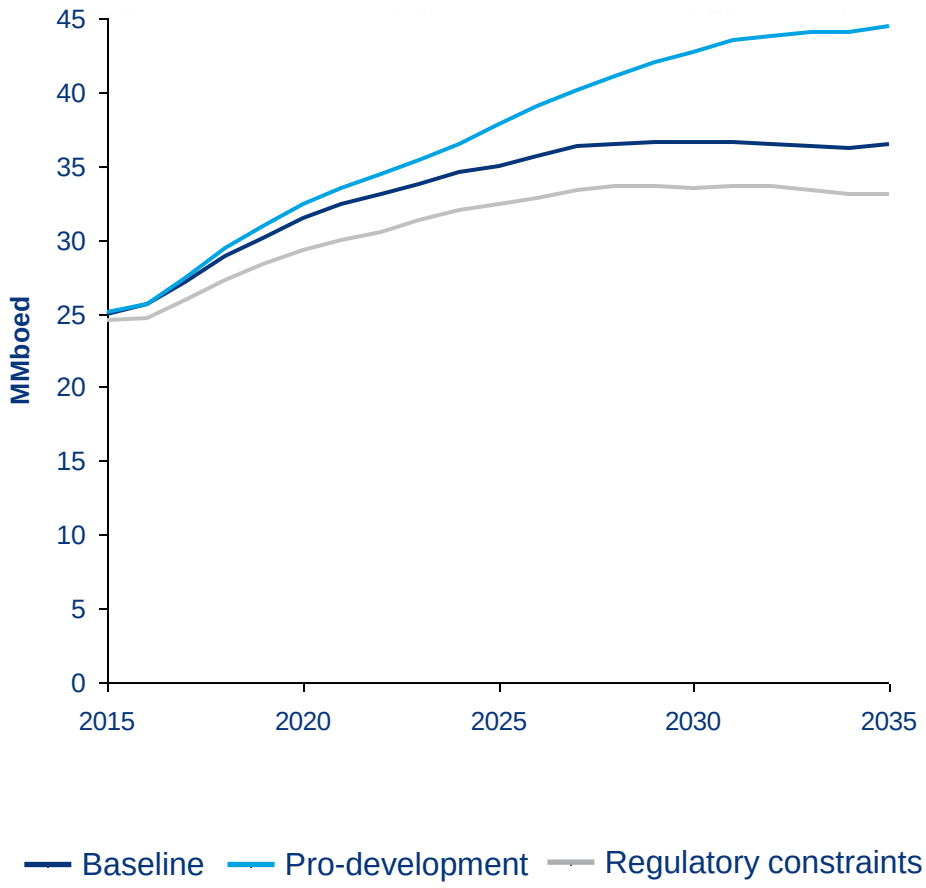


*MMbbld is million barrels per day

Pro-development policies could increase production by 8.0 MMboed by 2035, while production loss from regulatory constraints peaks at 3.4 MMboed

Combined Oil, Gas and NGLs Supply, Baseline, Pro-development, Regulatory constraints Scenarios

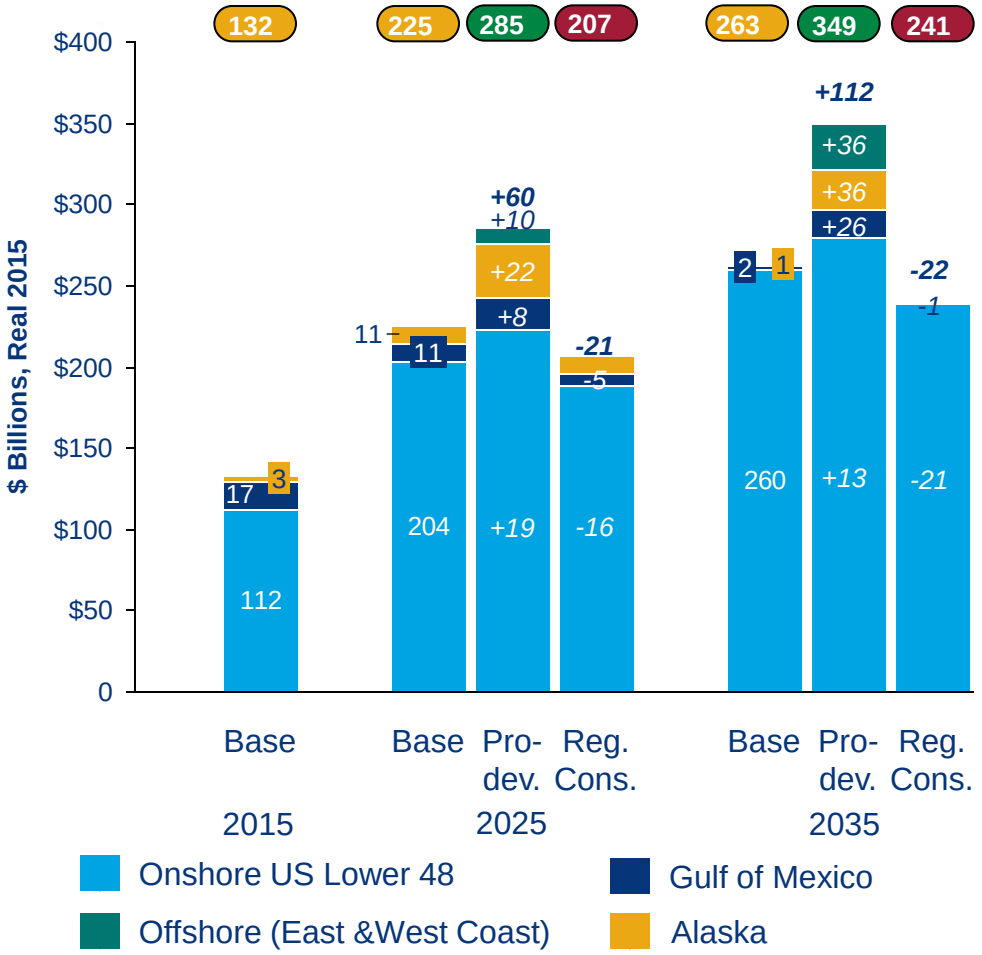


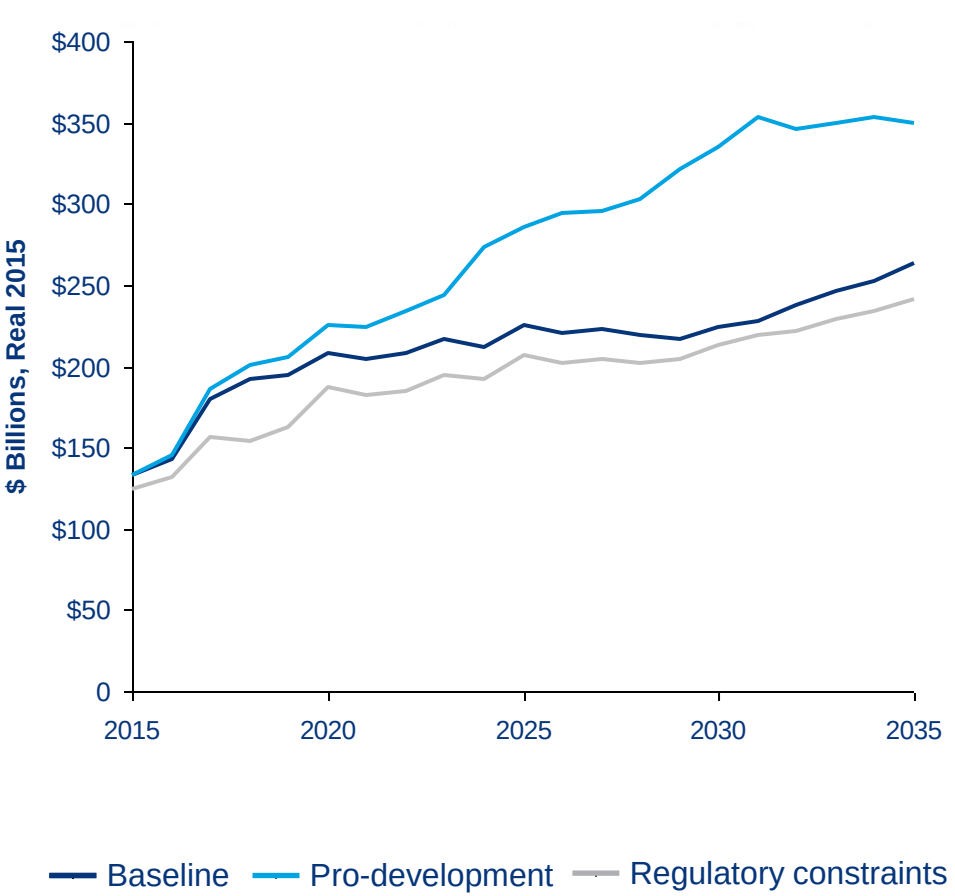


*MMboed is million barrels of oil equivalent per day

To bring projected production onstream in new areas, significant investment could be required for exploration and development expenditure

Upstream Capital Expenditures, Basline, Pro-development Policies, Regulatory Constraints Scenarios





*Alaska upstream capex in the pro-development policies scenario includes the pipeline investments required to monetize the gas supply upside, and Alaska is not directly affected by regulatory constraints specified in this study.

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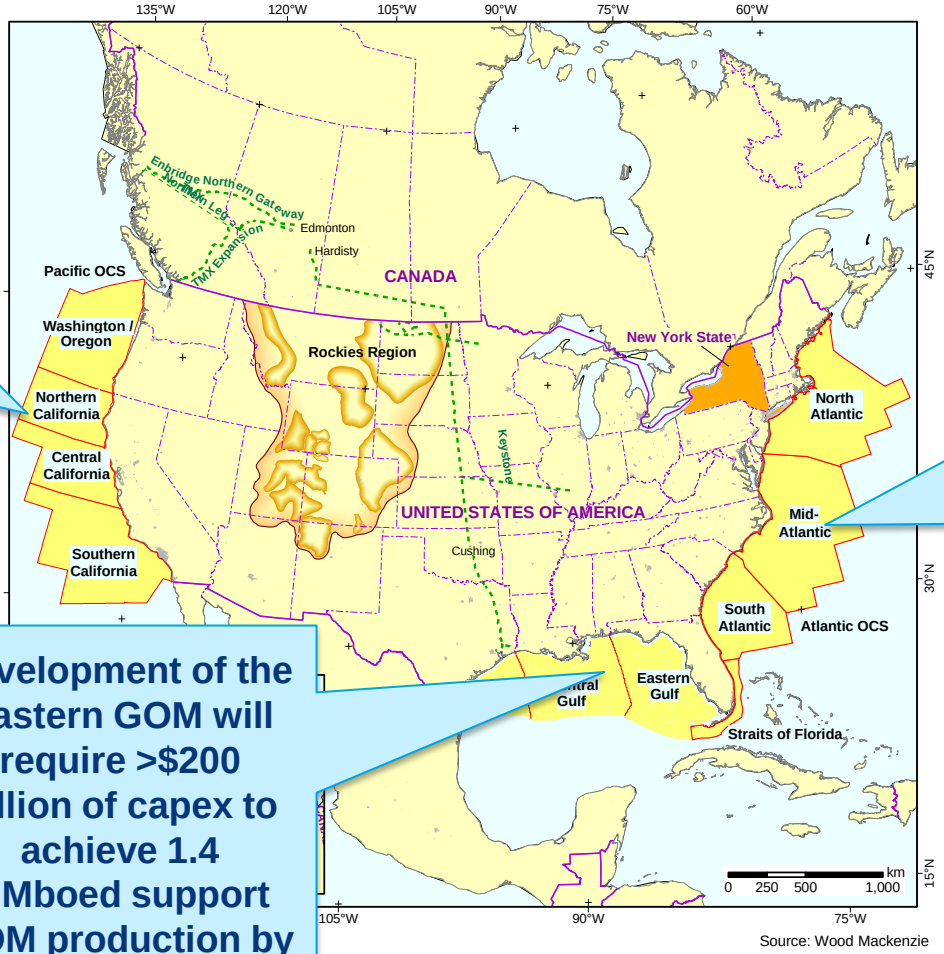
Midstream investment requirements are expected to be significantly impacted by the future regulatory environment

Midstream Sector	Pro-development policies	Baseline	Regulatory constraints
Crude oil pipelines	Includes Keystone XL and Alberta Clipper plus all pipeline projects in Wood Mackenzie base case	Includes pipeline projects in Wood Mackenzie base case that do not cross international borders	Includes pipeline projects in Wood Mackenzie base case that do not cross international borders
Natural gas pipelines	Includes all projects in Wood Mackenzie base case plus required capacity to support new production areas	Includes all announced projects in Wood Mackenzie base case	Excludes pipelines originating in the midcontinent that are no longer required
LNG export facilities	Includes all announced projects	Includes only projects currently approved	Same as Baseline
Storage	Built as needed to support production and transportation growth	Built as needed to support production and transportation growth	Built as needed to support production and transportation growth
Gathering and processing	Built as needed to support production growth	Built as needed to support production growth	Built as needed to support production growth
Rail	Same as Baseline	PHMSA's current standards for transportation by rail of flammable liquids are retained	Implementation of PHMSA's proposals for tighter standards for transportation by rail of flammable liquids

The development of new offshore areas could require capex of more than $500 billion by 2035 for gathering, processing, trunk-lines, and storage

Offshore Developments and Corresponding Infrastructure Requirements

Development in the Pacific coastal areas will require >$200 billion of capex over the next 20 years to support 1.6 MMboed production by 2035



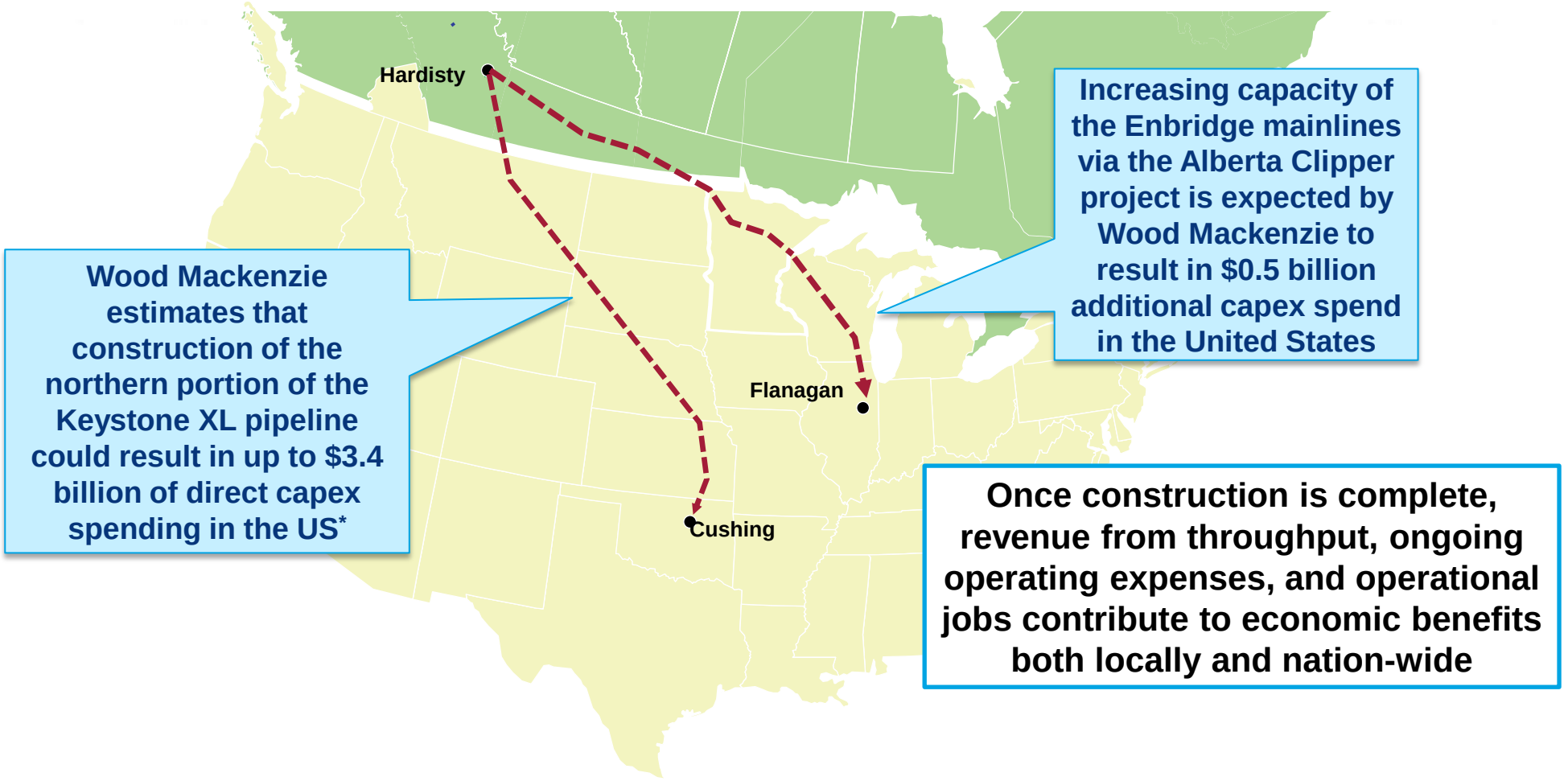
Source: Wood Mackenzie

Development in the South and Mid Atlantic will require >$100 billion of capex to support 0.9 MMboed production by 2035

Development of the Eastern GOM will require >$200 billion of capex to achieve 1.4 MMboed support GOM production by 2035

Approval of TransCanada's and Enbridge's crude oil trunkline projects could result in significant additional capital expenditures in the US

Routing of Proposed Crude Oil Pipeline from Canada



Wood Mackenzie estimates that construction of the northern portion of the Keystone XL pipeline could result in up to $3.4 billion of direct capex spending in the US*

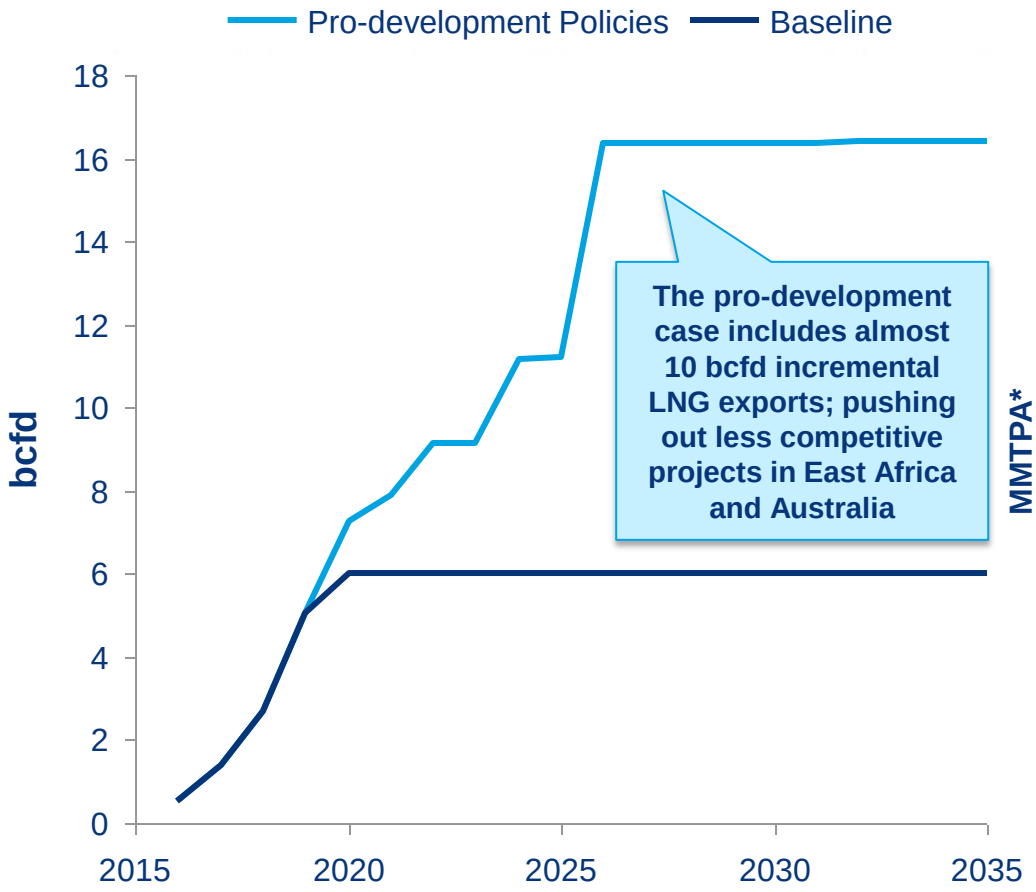
Increasing capacity of the Enbridge mainlines via the Alberta Clipper project is expected by Wood Mackenzie to result in $0.5 billion additional capex spend in the United States

Once construction is complete, revenue from throughput, ongoing operating expenses, and operational jobs contribute to economic benefits both locally and nation-wide

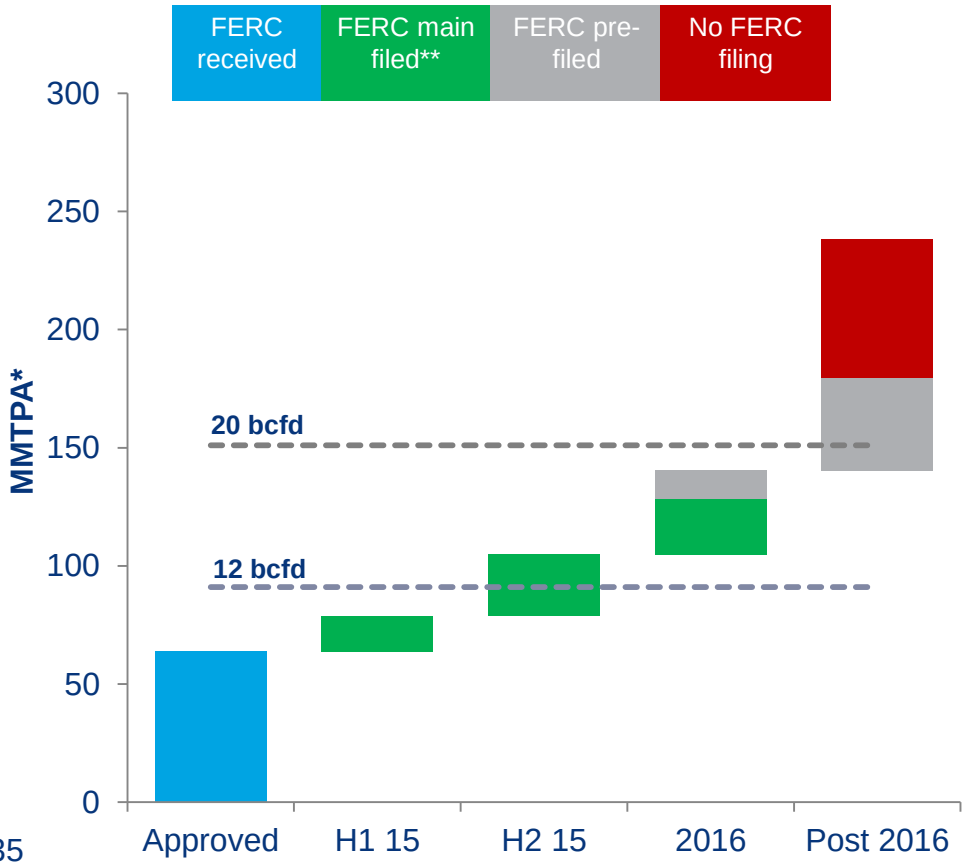
*TransCanada and Enbridge company websites

More than 30 bcfd of LNG exports have been proposed – of this we assume 16 bcfd comes to fruition, beating competing international projects to market

LNG Exports



FERC Approval Queue



*MMTPA is million metric tonne per annum

**Proposed LNG export projects include

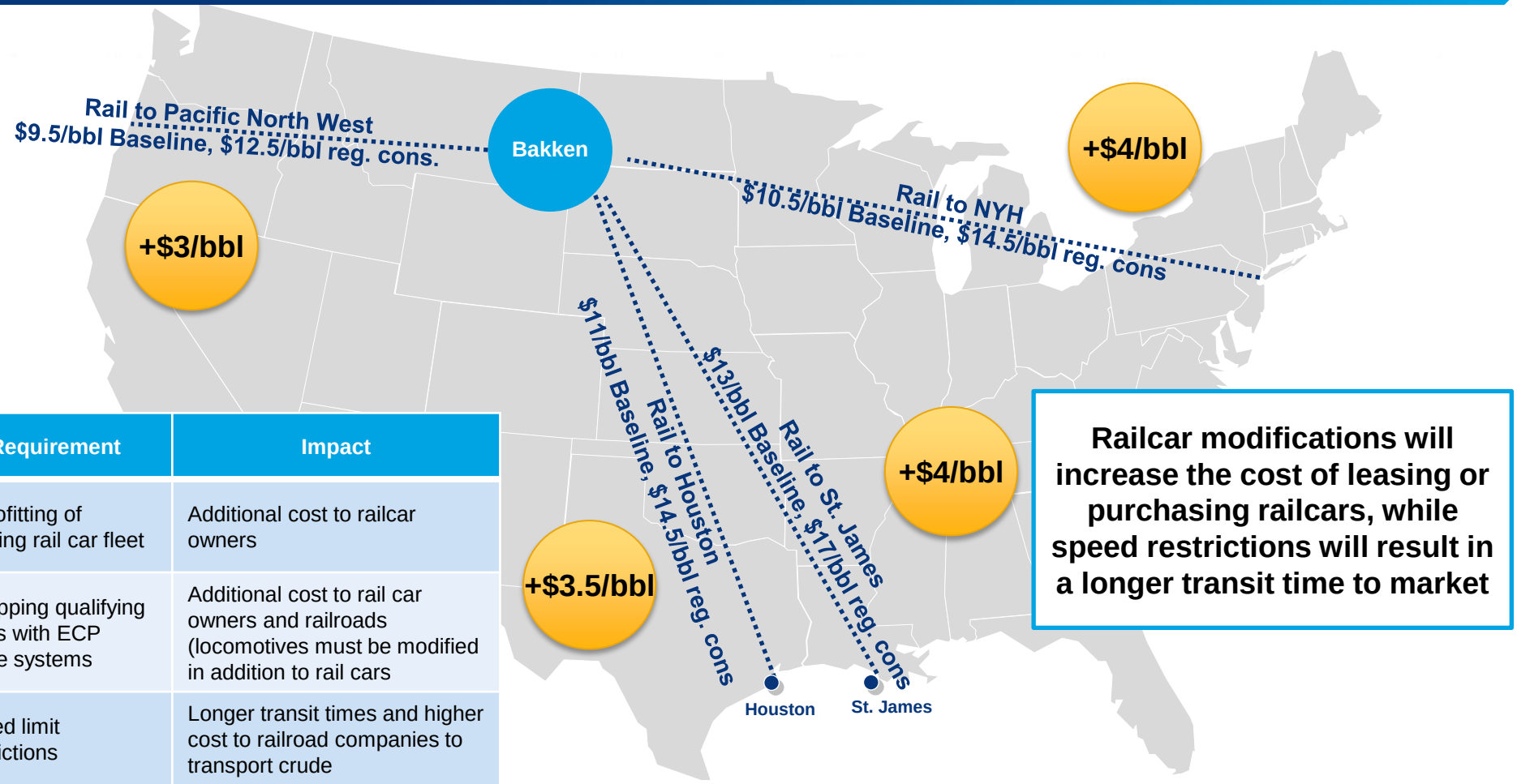
FERC main filed: Jordan Cove, Sabine Pass 3, Oregon, Lacaca, Elba Island, Lake Charles, Magnolia, Golden Pass;

FERC pre-filed: Louisiana, Gulf, Alaska, Downeast, CE, Venture, Cameron Expansion

No FERC filling: Annova, Barca, Delfin, Eos, Gasfin, Gulf Coast, MPEH*, South Texas, Texas, Waller Point, SCT&E, Alturas, Live Oak, Pelican, Cameron exp.

Regulations impacting railcar transportation could dramatically increase the cost of railing inland crude production to coastal refining centers

Crude by Rail Costs* Bakken vs. Baseline, 2025 ($2015 real)



Requirement	Impact
Retrofitting of existing rail car fleet	Additional cost to railcar owners
Equipping qualifying trains with ECP brake systems	Additional cost to rail car owners and railroads (locomotives must be modified in addition to rail cars
Speed limit restrictions	Longer transit times and higher cost to railroad companies to transport crude

Railcar modifications will increase the cost of leasing or purchasing railcars, while speed restrictions will result in a longer transit time to market

*Includes railroad tariffs and tank car leasing costs; excludes terminalling.

Existing and planned inter-state crude oil trunklines are expected to be sufficient in all three scenarios for the Bakken and Eagle Ford

Key tight oil play	Takeaway Options	Pro-development policies	Baseline	Regulatory constraints
Bakken	Average pipeline takeaway volumes, 2015-2025	758 kbd	725 kbd	757 kbd
	Average rail takeaway volumes, 2015-2025	1,085 kbd	1,016 kbd	931 kbd
	Maximum pipeline takeaway volumes	930 kbd	819 kbd	823 kbd
	Maximum rail takeaway volumes	1394 kbd	1,302 kbd	1,130 kbd
	2015 pipeline and local refinery takeaway capacity	-	827 kbd	-
	2015 rail takeaway capacity	-	1,490 kbd	-
	Takeaway capacity added	Sandpiper + 100 kbd of Keystone XL	Sandpiper pipeline, 225 kbd in 2018	Same as Baseline
Eagle Ford	Average pipeline takeaway volumes, 2015-2025	1,925 kbd	1,689 kbd	1,685 kbd
	Maximum pipeline takeaway volumes	2,227 kbd	1,971 kbd	1,941 kbd
	2015 pipeline and local refinery takeaway capacity	-	2,010 kbd	-
	Takeaway capacity added	Rio Bravo + expansion (100 kbd total, Victoria express expansion (50 kbd), call on additional pipe	Rio Bravo 50 kbd in 2016	Same as Baseline

The Permian is expected to need new takeaway capacity by 2021 with pro-development policies; regulatory constraints could delay this until 2030

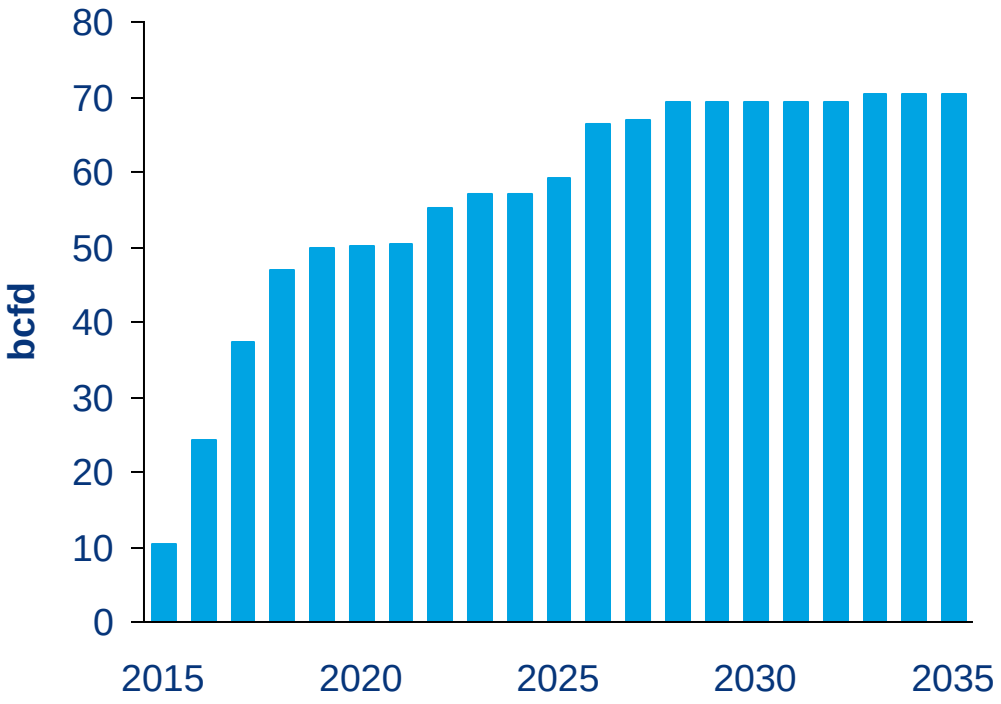
Key tight oil play	Takeaway options	Pro-development policies	Baseline	Regulatory constraints
Niobrara	Average pipeline takeaway volumes, 2015-2025	206 kbd	205 kbd	54 kbd
	Average rail takeaway volumes, 2015-2025	110 kbd	59 kbd	2 kbd
	Maximum pipeline takeaway volumes	210 kbd	210 kbd	152 kbd
	Maximum rail takeaway volumes	161 kbd	80 kbd	38 kbd
	2015 pipeline and local refinery takeaway capacity	-	460 kbd*	-
	2015 rail takeaway capacity	-	180 kbd	-
	Takeaway capacity added	Same as Baseline	Saddlehorn pipeline, 200 kbd 2017	Same as Baseline
Permian	Average pipeline takeaway volumes, 2015-2025	2,654 kbd	2,606 kbd	2,318 kbd
	Maximum pipeline takeaway volumes	2,918 kbd	2,818 kbd	3,010 kbd
	2015 pipeline and local refinery takeaway capacity	-	2,265 kbd	-
	Takeaway capacity added	Same as Baseline, new capacity required by 2021	Permian Exp. Phase 2, 250 kbd 2016, Cactus expansion +80 2018, new capacity required by 2023	Same as Baseline, new capacity required by 2030

*Includes pipelines carrying non-Niobrara crude.

Required investments in inter-state natural gas pipelines are substantial in all scenarios but are higher in the pro-development scenario and lower with regulatory constraints

Announced Nat. Gas Pipeline Projects, Cumulative*

Wood Mackenzie's expectations for the timing, likelihood, and capacity of announced natural gas pipelines did not change across scenarios



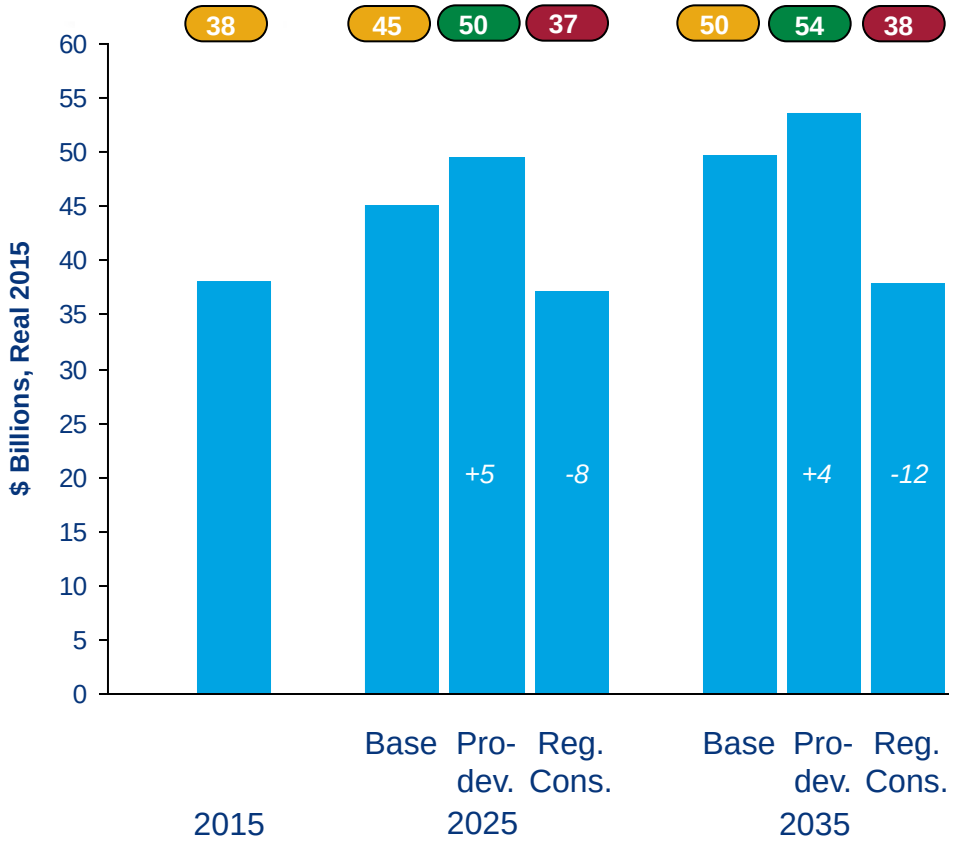
Implied natural gas pipeline projects

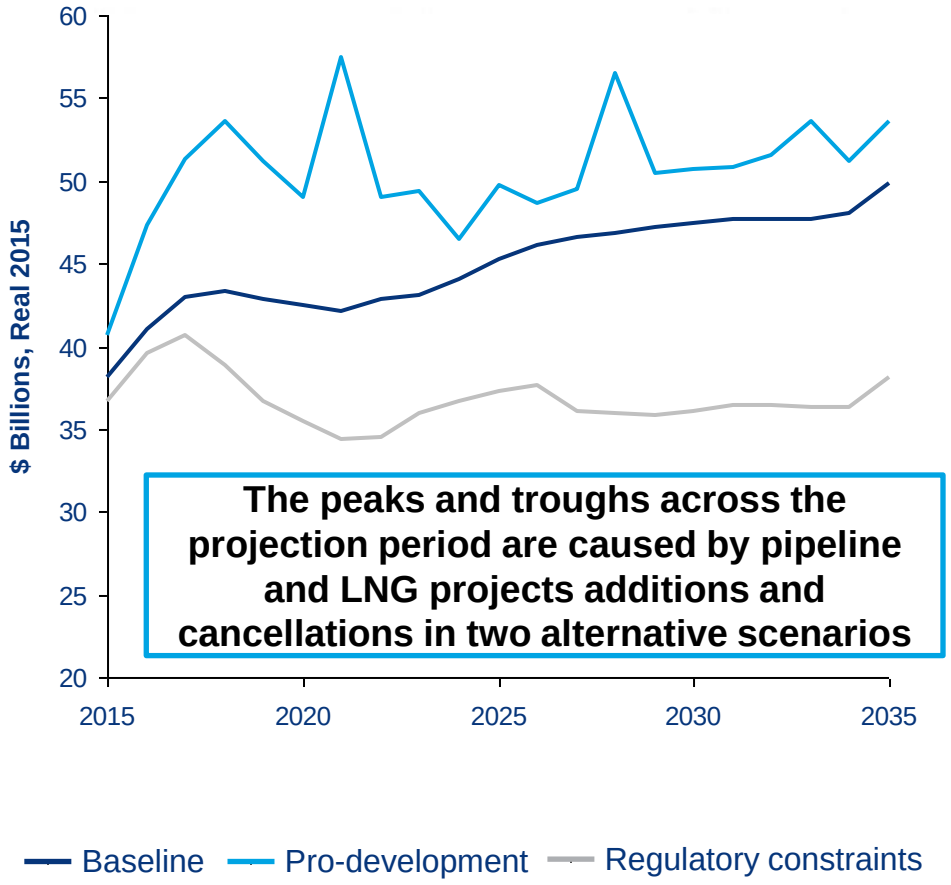
Takeaway options	Pro-development policies	Baseline	Regulatory constraints
Marcellus Southwest & Utica Supply	Same as Baseline	20.1 bcfd by 2026	Same as Baseline
Marcellus Northeast	5.2 bcfd by 2019	8.2 bcfd by 2022	Same as Baseline
US Gulf Coast LNG Exports	11.6 bcfd by 2033	7.1 bcfd by 2018	Same as Baseline
Mid-Continent Supply	2.6 bcfd by 2028	1.6 bcfd by 2028	1 bcfd by 2028
Rockies Supply	5.8 bcfd by 2033	5.0 bcfd by 2033	Not required
Gulf Coast Markets	Same as Baseline	0.2 bcfd by 2023	3.7 bcfd by 2033
US Northeast LNG Exports	0.7 bcfd by 2019	Not required	Not required
US West Coast LNG Exports	1.7 bcfd by 2022	Not required	Not required

*Includes expected pipelines projects assumed my Wood Mackenzie.

Cumulative midstream capex is expected to be $118 billion higher through 2035 in the pro-development scenario and $171 billion lower under regulatory constraints

Midstream (incl. LNG) Capital Expenditures, Baseline, Pro-development Policies, Regulatory Constraints Scenarios





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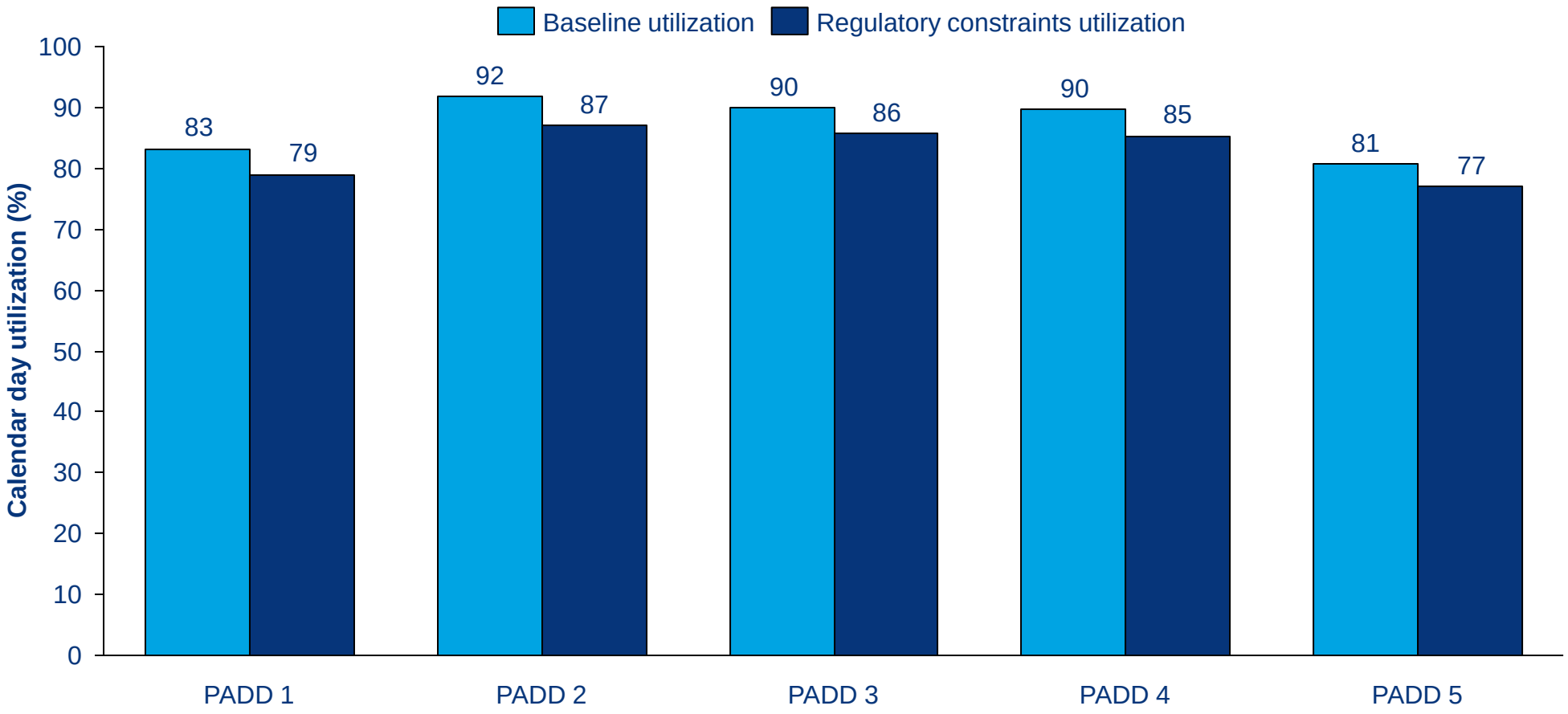
Policies impacting the refining sector

Downstream drivers	Pro-development implications	Baseline implications	Regulatory constraints implications
Renewable Fuels Standard	Same as Baseline	No further destruction of refinery-produced transportation fuel demand	Aggressive enforcement increases refiner compliance costs and decreases product demand
Emissions monitoring (Refinery Sector Rule, Ozone Regulations, Methane Emission Restrictions)	Same as Baseline	No impact – not under enforcement	Lowers achievable throughput to maintain compliance
Natural gas, power and crude oil prices	Lower natural gas and power prices decrease refinery operating costs vs Baseline. Modest impacts to refinery margins	Gradually rising natural gas and power prices increase refinery operating costs over time	Higher natural gas and power prices increase refinery operating costs vs. Baseline

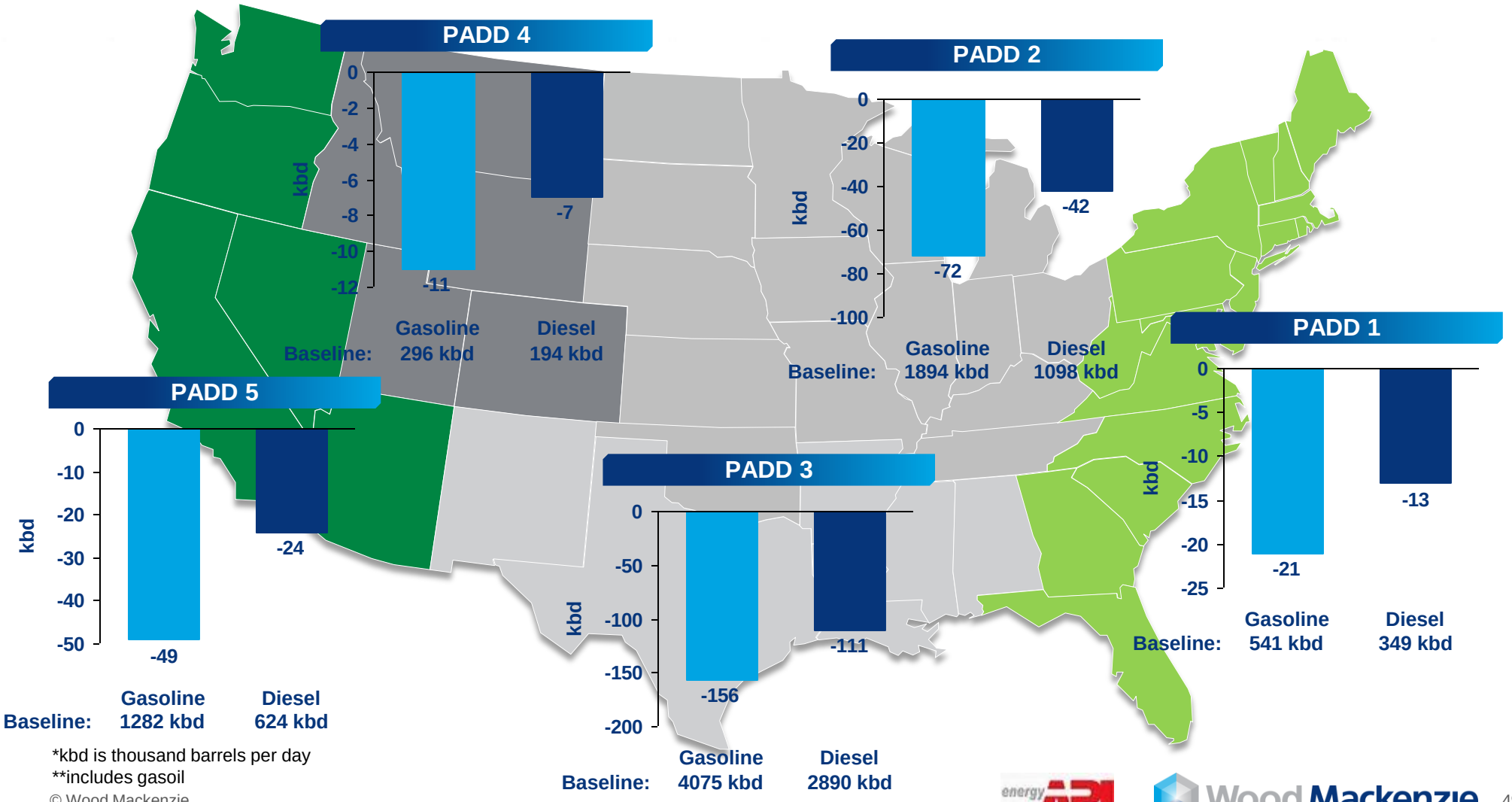
In the regulatory constraints case, refiners are negatively impacted by lowered demand, increased compliance costs, and narrower differentials

2025 Utilization Forecast



Regulatory constraints decrease refinery production of finished products in all PADDs relative to the Baseline case

Change in 2025 Production of Gasoline and Diesel* Regulatory Constraints vs. Baseline



*kbd is thousand barrels per day
**includes gasoil

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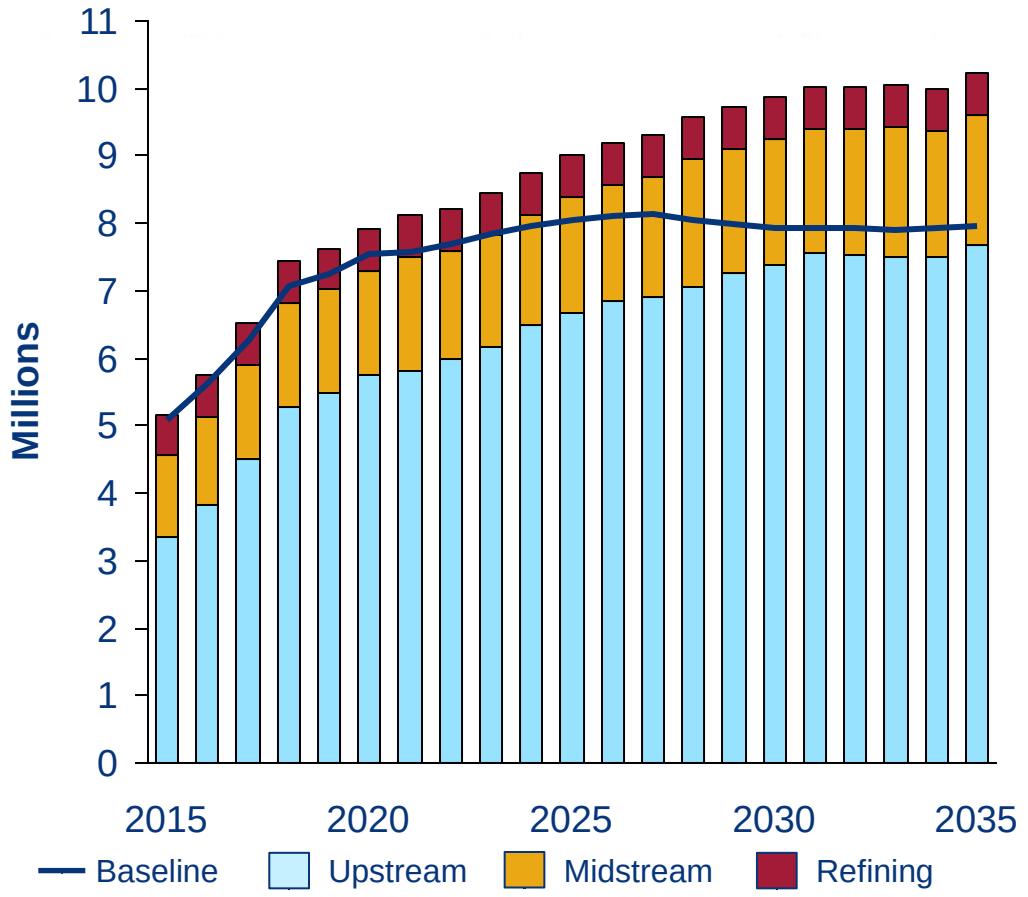
Pro-development policies could support an additional +2.3 million US jobs by 2035

- Pro-development policies result in average of 1.1 million jobs more per year relative to the Baseline (2016-2035)* This includes direct, indirect and induced jobs
- Additional jobs are concentrated in the 2nd half of the forecast period, as offshore production ramps up in "new areas" and Alaska

Jobs (Millions)

	2025	2035	Max differential in 2035
Pro-development	9.02	10.22	10.22
Baseline	8.03	7.94	7.94
Difference	0.99	2.28	2.28

Jobs Impacts



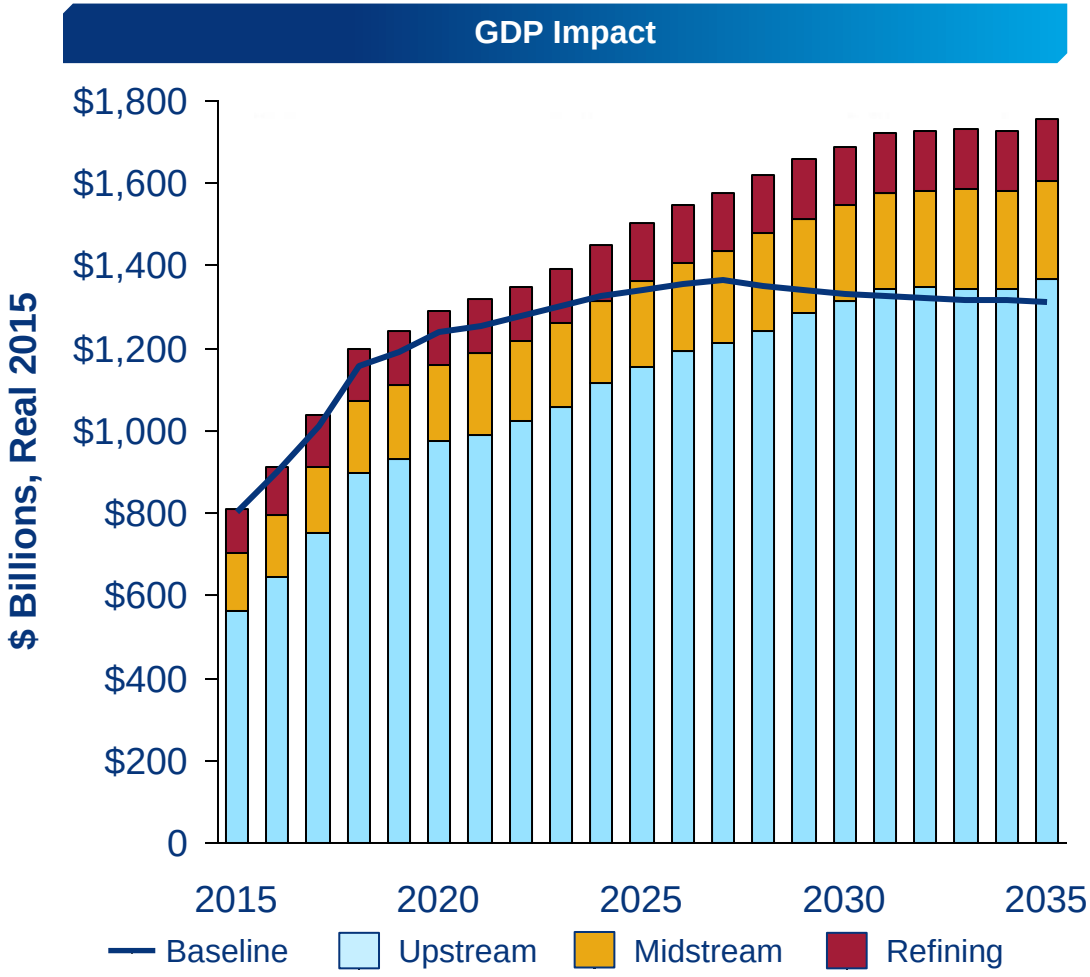
*Refer to Appendix for direct, indirect and induced jobs breakout.

Pro-development policies could contribute an additional $440 billion per year to US GDP

- Annual GDP is approx. $198 billion higher on average (2016 – 2035) under the pro-development policies
- Towards the end of the forecast period, national GDP supported by the oil and gas industry is about $440 billion higher

GDP ($ Billions, Real 2015)

	2025	2035	Max differential in 2035
Pro-development	1,502	1,755	1,755
Baseline	1,339	1,312	1,312
Difference	163	443	443



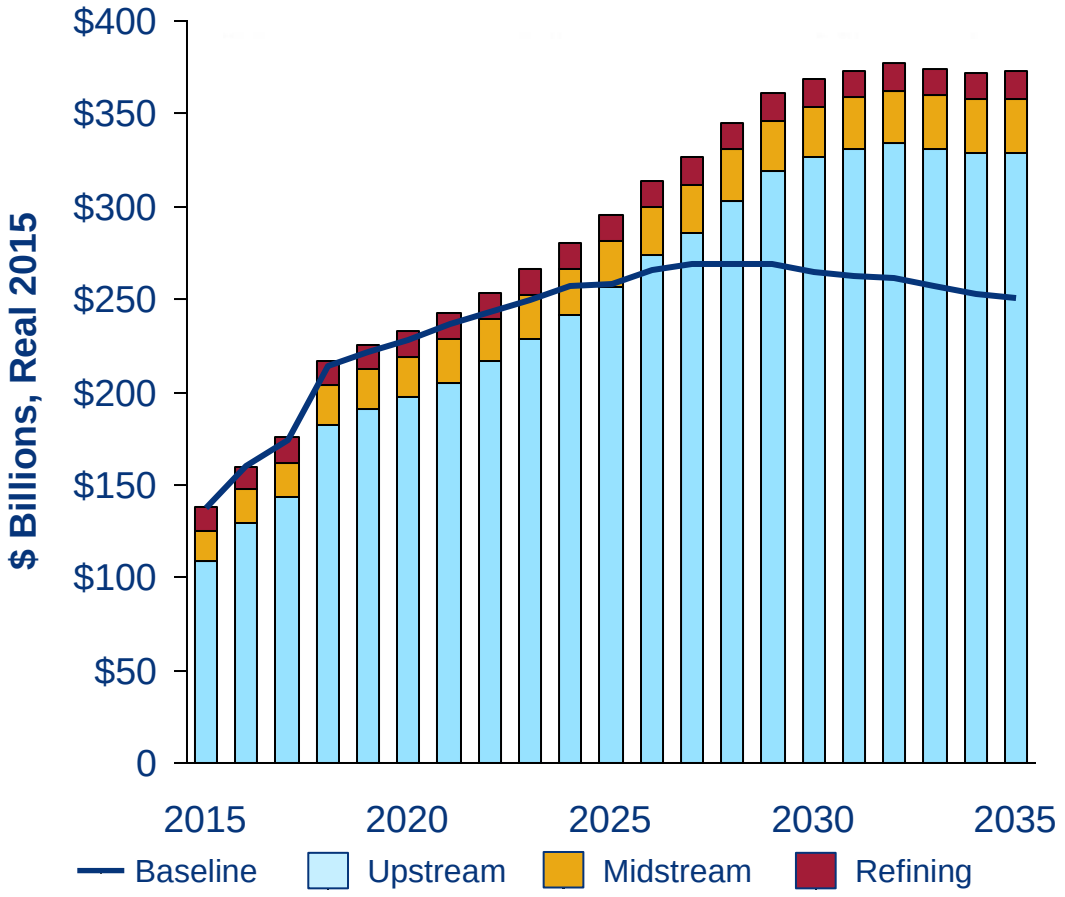
Pro-development policies could increase government tax revenues* by $122 billion per year

- **Pro-development policies generate an additional one trillion dollars of government revenues over 20 years**
  - » Federal tax revenue gain, $584 billion
  - » State/local tax revenue gain, $494 billion

Government Tax Revenue ($ Billions, Real 2015)

	2025	2035	Max differential in 2035
Pro-development	295	373	373
Baseline	257	250	250
Difference	38	122	122
Cumulative Difference (From 2016)	111	1,078	1,078

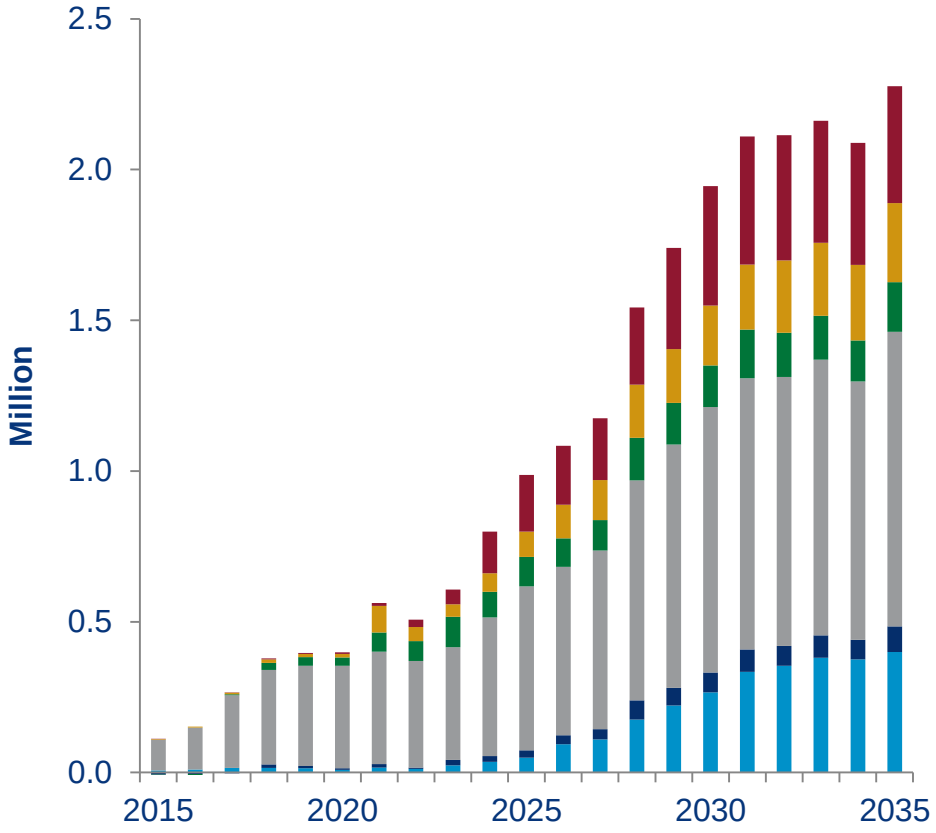
Government Tax Revenue Impact



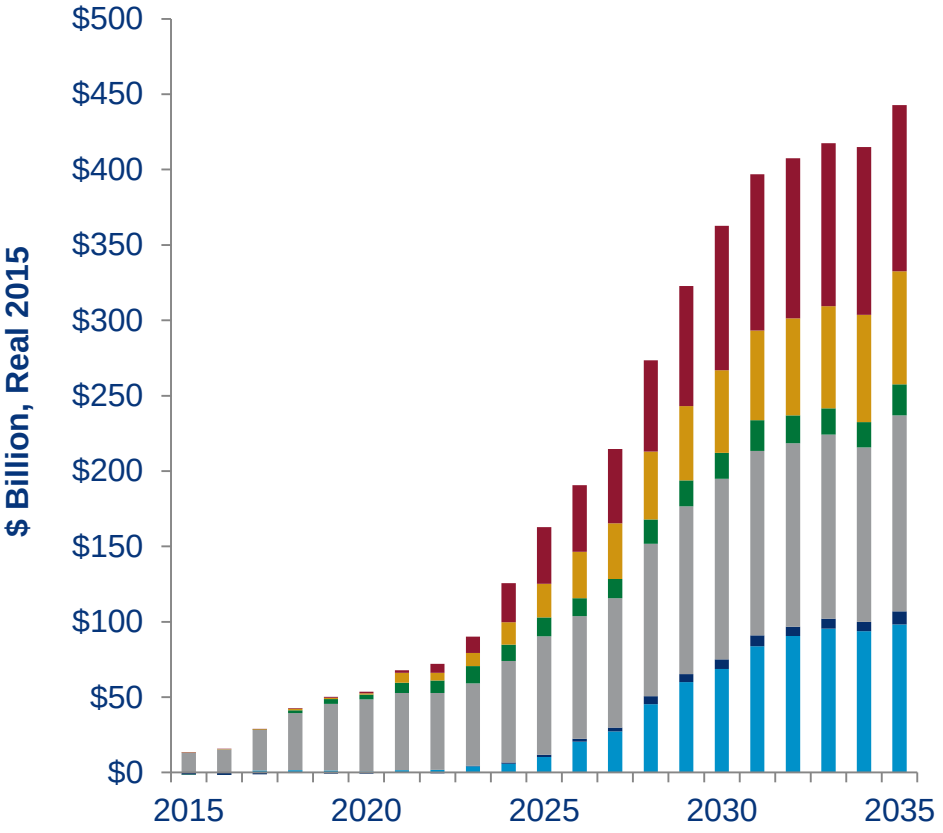
*Federal and local/state tax revenue, including government lease royalties, rent and bonus payments.

Economic benefits of pro-development policies are expected to be concentrated in areas close to new offshore fields

Incremental Jobs vs Baseline



Incremental GDP vs Baseline



East Coast | North Central | South Central | Rockies | West Coast | Alaska

East Coast: ME, NH, VT, MA, CT, RI, NY, PA, NJ, MD, DC, DE, VA, WV, NC, SC, GA, FL; North Central: ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, IN, OH; South Central: TX, OK, AR, LA, KY, TN, MS, AL; Rockies: MT, ID, WY, NV, UT, CO, AZ, NM; West Coast: WA, OR, CA

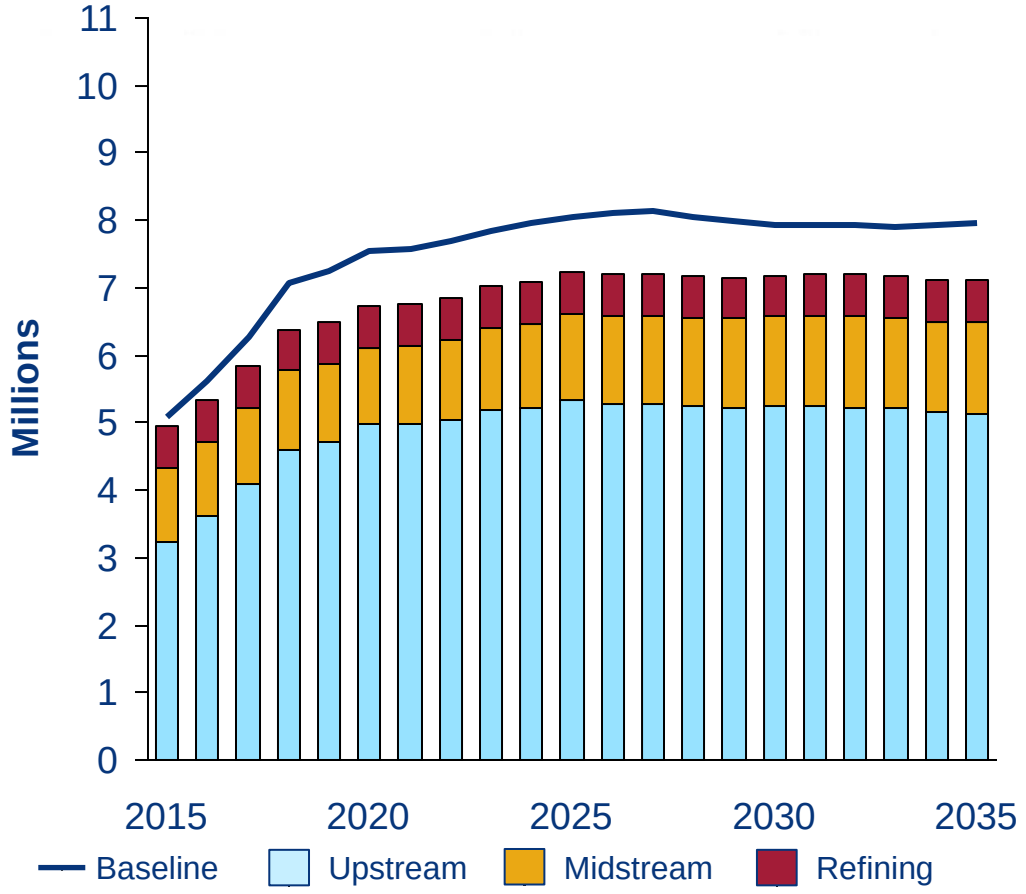
Regulatory constraints could cost up to 900,000 US jobs

- Regulatory constraints result in average 720 thousand fewer jobs per year (2016-2035) than in the Baseline. This includes direct, indirect and induced jobs
- Reduced employment is significant across the forecast period, primarily reflecting lower oil production

Jobs (Millions)

	2025	2035	Max differential in 2027
Regulatory constraints	7.23	7.11	7.21
Baseline	8.03	7.94	8.12
Difference	-0.80	-0.83	-0.91

Jobs Impacts



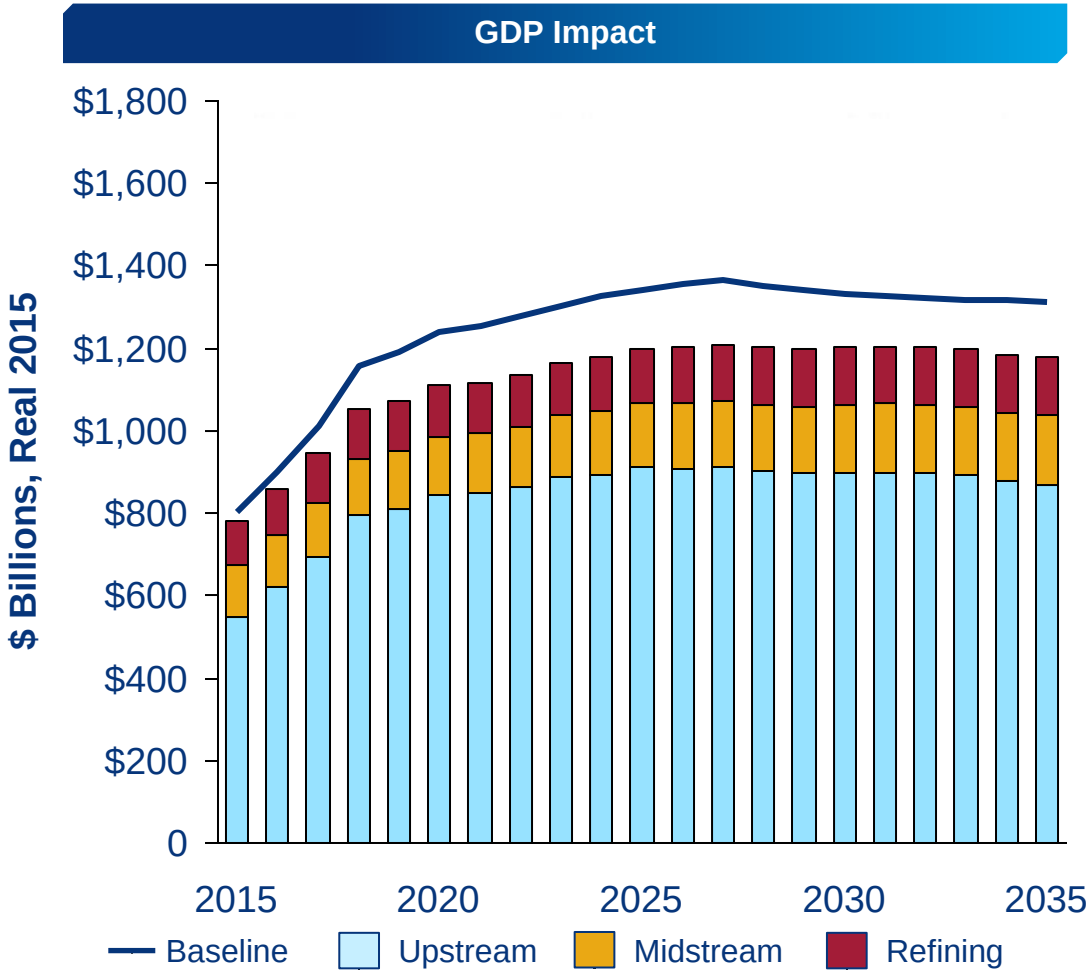
*Refer to Appendix for direct, indirect and induced jobs breakout.

Regulatory constraints could reduce US GDP by $154 billion per year

- Annual GDP is approx. $120 billion lower on average under regulatory constraints
- Decreased oil and gas production under the regulatory constraints could cost the US economy up to $500 billion per year when compared with pro-development policies

GDP ($ Billions, Real 2015)

	2025	2035	Max differential in 2027
Regulatory constraints	1,201	1,179	1,207
Baseline	1,339	1,312	1,361
Difference	-138	-133	-154



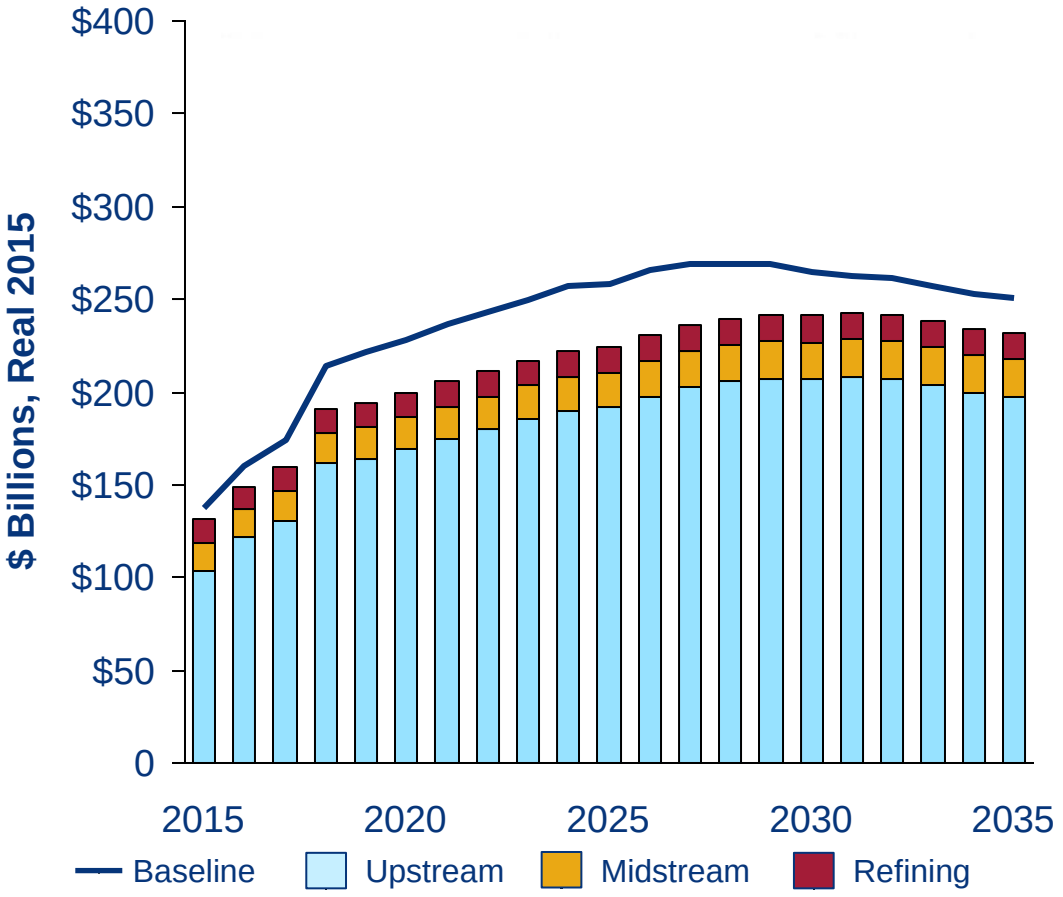
Regulatory constraints could reduce tax revenues by $500 billion over the next 20 years

- **Regulatory constraints could costs the government almost $500 billion in lost revenues over 20 years when compared with the Baseline**
  - » Federal tax revenue loss, $262 billion
  - » State/local tax revenue loss, $236 billion

Government Tax Revenue ($ Billions, Real 2015)

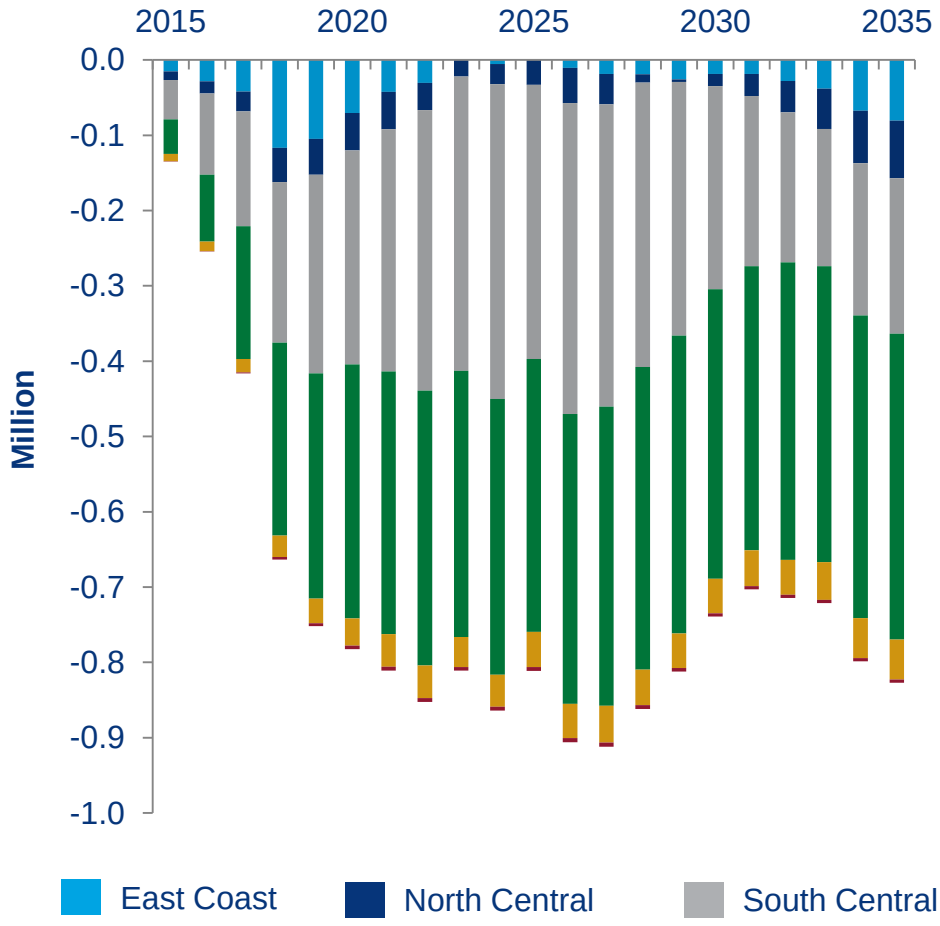
	2025	2035	Max differential* in 2026
Regulatory constraints	224	232	231
Baseline	257	250	266
Difference	-33	-18	-35
Cumulative Difference (From 2016)	-262	-499	-297

Government Tax Revenue Impact

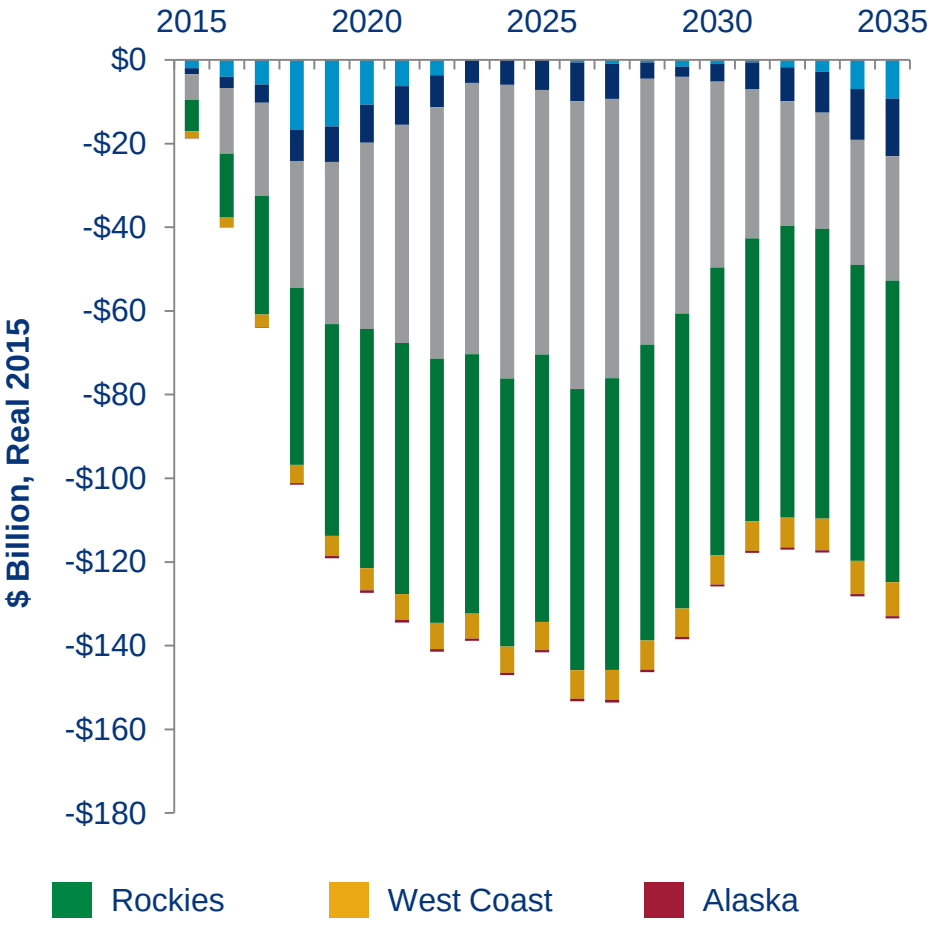


Regulatory constraints are expected to be felt most heavily in the Rockies and Gulf Coast

Incremental Jobs vs Baseline



Incremental GDP vs Baseline



East Coast | North Central | South Central | Rockies | West Coast | Alaska

East Coast: ME, NH, VT, MA, CT, RI, NY, PA, NJ, MD, DC, DE, VA, WV, NC, SC, GA, FL; North Central: ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, IN, OH; South Central: TX, OK, AR, LA, KY, TN, MS, AL; Rockies: MT, ID, WY, NV, UT, CO, AZ, NM; West Coast: WA, OR, CA

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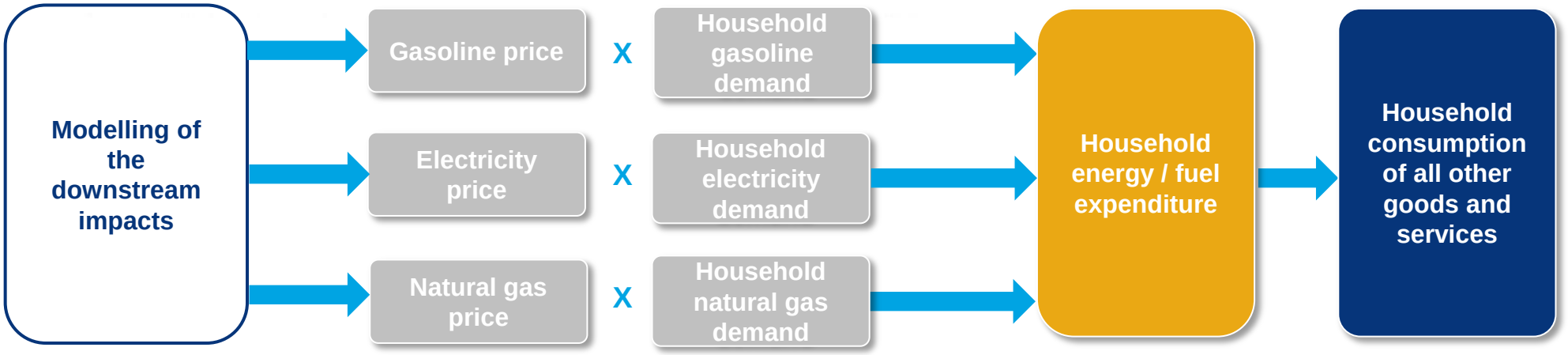
Wood Mackenzie assessed direct impacts of gasoline, electricity and natural gas price changes on household consumption of other goods and services

Approach to Determining Direct Impacts on Household Consumption

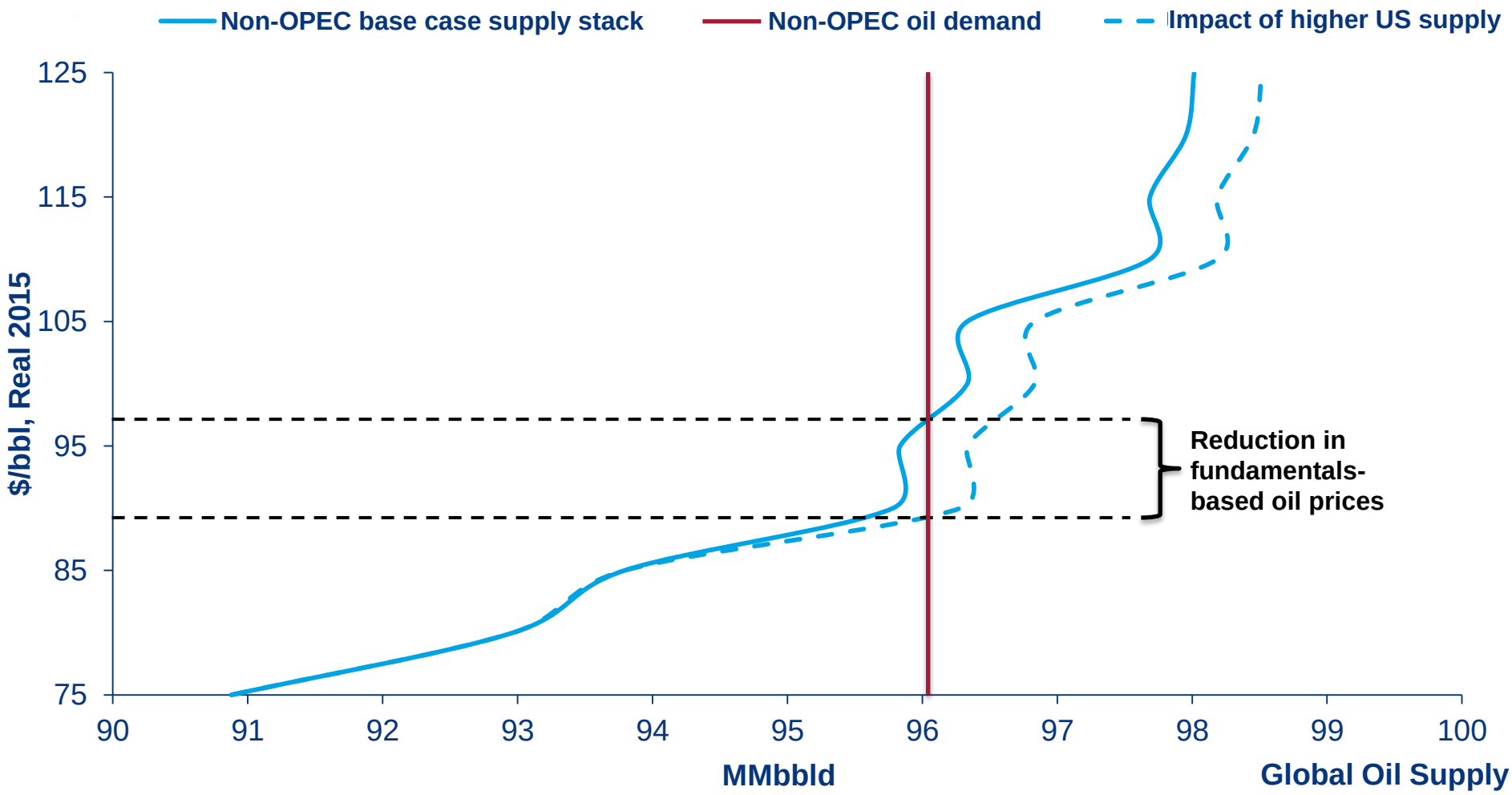


Assumptions

- Methodology repeated for Pro-development, Baseline and Regulatory constraints
- Henry Hub gas price converted to residential delivered price
- Demand assumed to be insensitive to price in all three cases
- Net savings/ gains on energy and fuel expenditure assumed to be spent on other goods and services. No impact on household savings rate

Wood Mackenzie used an assessment of marginal supply economics to estimate Brent price impacts of incremental US oil supply

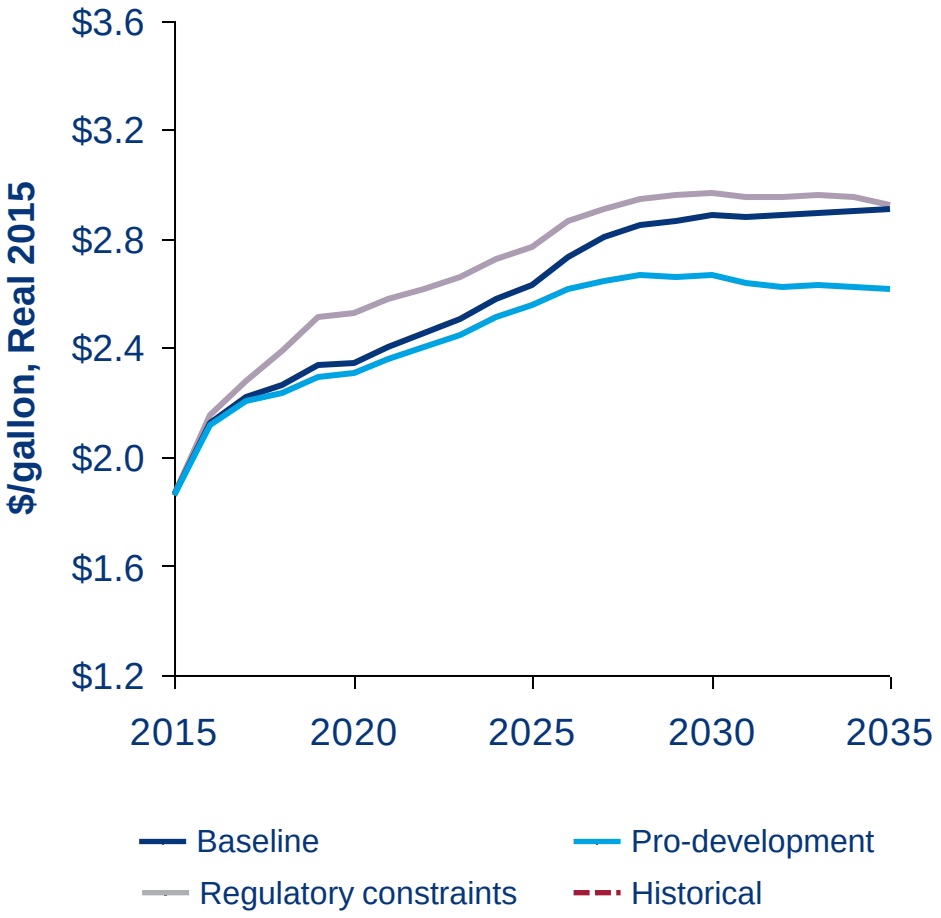
Illustrative Approach to Evaluating impacts on Brent Price



Impacts on gasoline prices to consumers are evaluated based on estimated global oil increases/decreases resulting from changes in US oil supply*

Gulf Coast FOB Gasoline Price

$/gallon, Real 2015	2025	2035
Baseline gasoline price	$2.63	$2.91
Pro-development gasoline price	$2.55	$2.63
Regulatory constraints gasoline price	$2.77	$2.93
Pro-development change from Baseline	-$0.08	-$0.28
Regulatory constraints change from Baseline	$0.22	$0.02

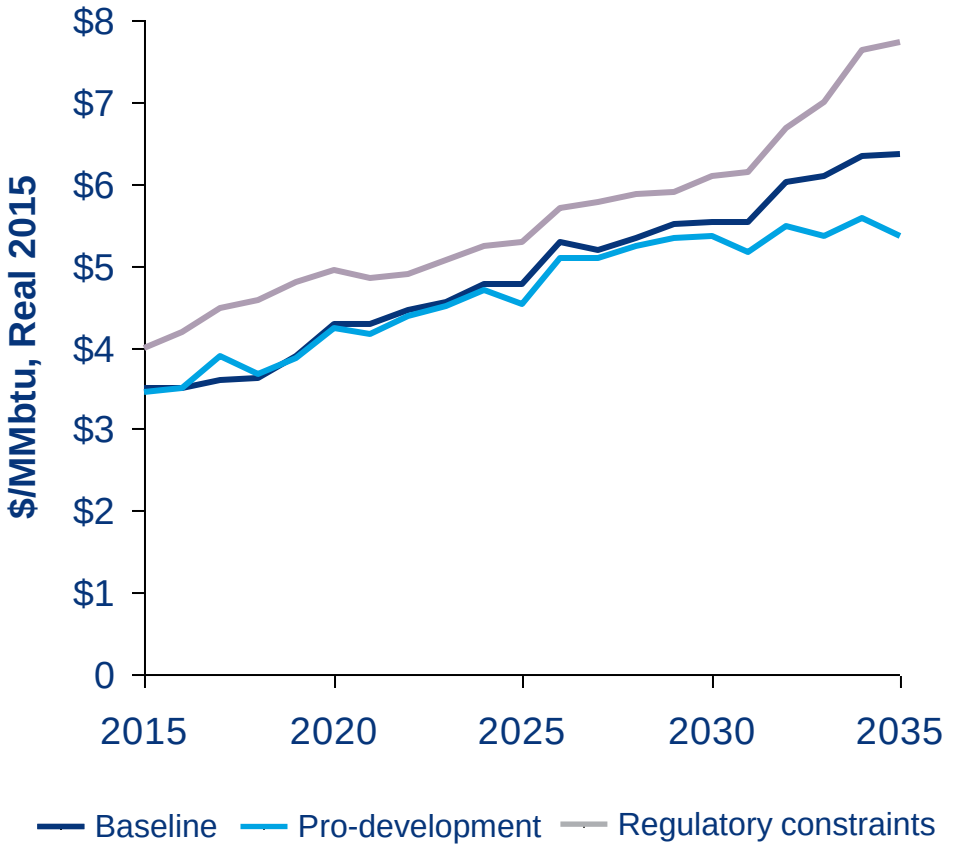


*FOB Gulf Coast wholesale prices as proxy incremental consumer prices

Impacts on natural gas prices to consumers are evaluated using Wood Mackenzie's proprietary supply/demand balancing models

Henry Hub Natural Gas Price

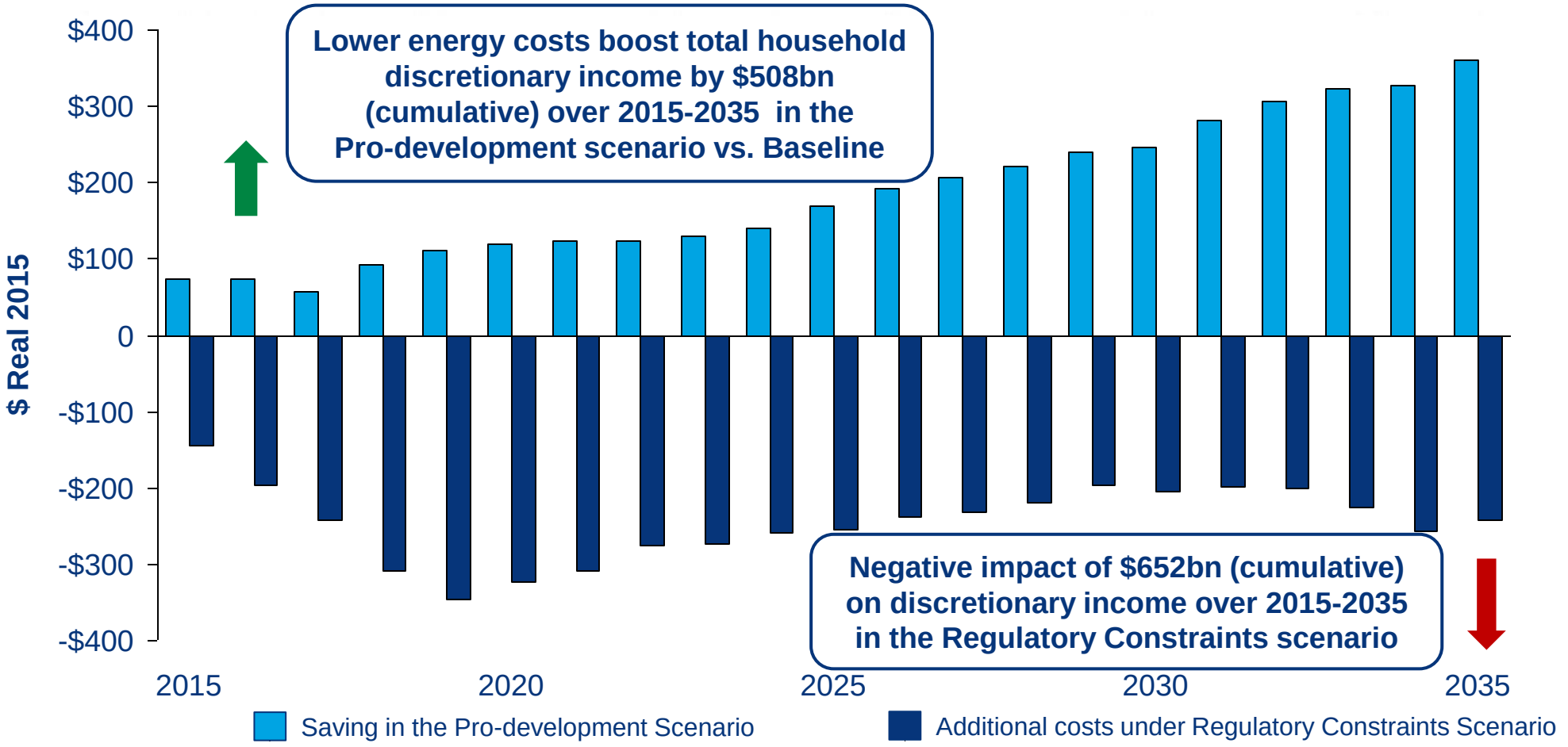
$/MMbtu*, Real 2015	2025	2035
Baseline natural gas price	$4.77	$6.37
Pro-development natural gas price	$4.52	$5.36
Regulatory constraints natural gas price	$5.28	$7.72
Pro-development change from Baseline	-$0.25	-$1.01
Regulatory constraints change from Baseline	$0.76	$2.36



*MMbtu is million British thermal unit

Policy decisions could lead to $600/ year difference in average household energy spending between Pro-development and Regulatory Constraints

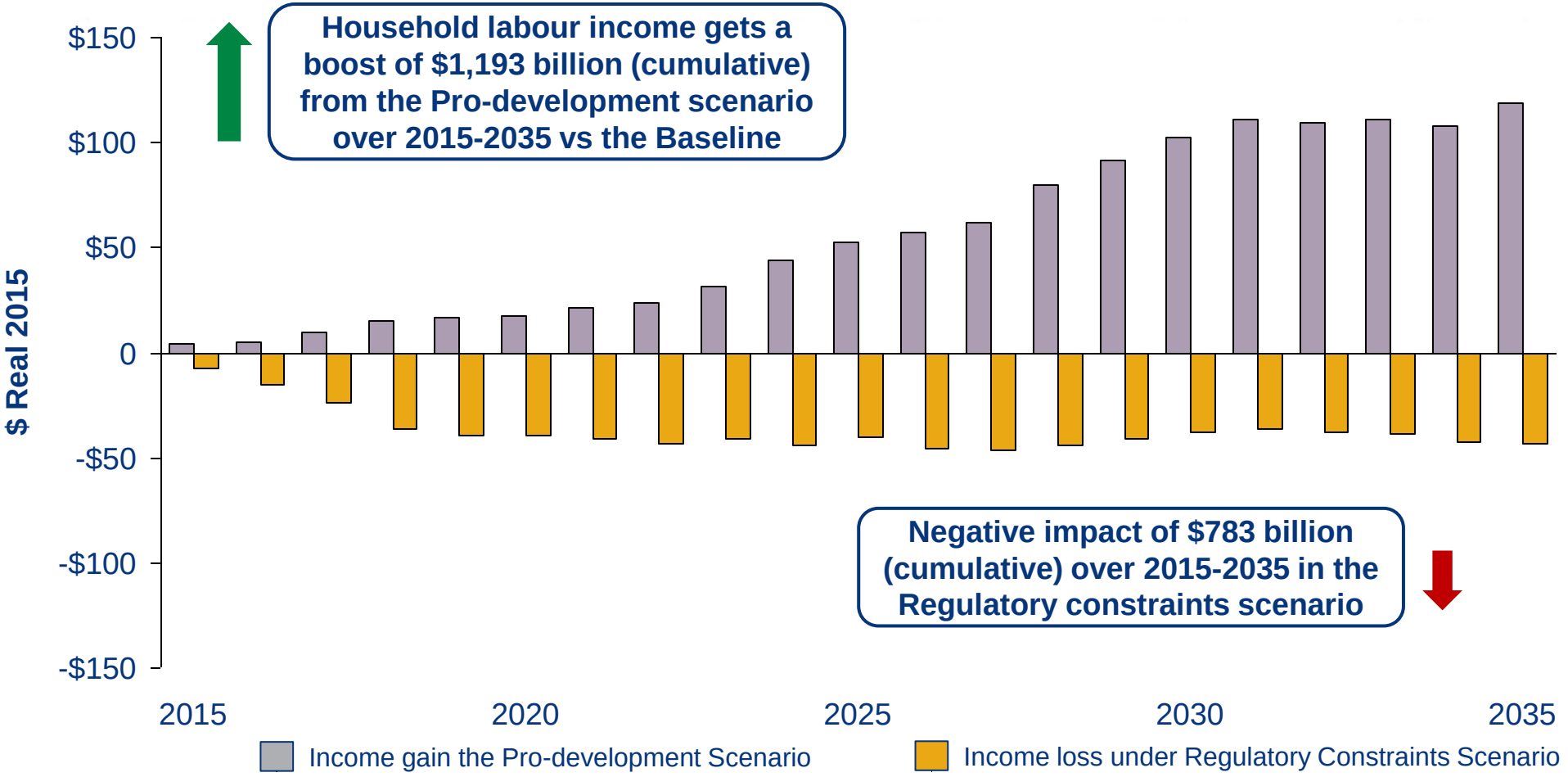
Average Net Savings on Energy Spending per Household



*Impact was assessed for expenditure on gasoline (excl. ethanol), natural gas and electricity only

Significant difference in labour income; post-2020 labour income ramps up in Pro-development scenario

Annual Net Gain in Labour Income (after tax) vs Baseline



*Includes labor income from direct, indirect and induced employment

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US policies and regulations are expected to have significant impacts on oil and natural gas production, jobs, GDP, government revenue and consumer energy costs

Study Conclusions

- **If enacted, Pro-development policies could have the following impact by 2035***
  - » increase US energy security by increasing US oil and natural gas production by an additional 8 MMboed
  - » support US employment by an additional 2.3 million US jobs throughout the economy
  - » contribute to US GDP by an additional $443 billion /year
  - » increase total local, state, and federal government revenue by $122 billion / year, a cumulative increase of $1.1 trillion from 2015 to 2035
  - » save the average US household $360 / year on energy expenses
- **Recent and proposed regulatory constraints are projected to by 2035***
  - » decrease US energy security by reducing US oil and natural gas production by 3.4 MMboed
  - » reduce the total employment supported by the oil and natural gas industry by 830 thousand jobs
  - » reduce contributions to the US economy by $133 billion / year (-$138 billion in 2025)
  - » decrease total local, state, and federal government revenue by $18 billion / year (-$33 billion in 2015), a cumulative reduction of $500 billion from 2016 to 2035
  - » increase average US household energy expenses by $255 / year

* Relative to a Baseline forecast without these policies

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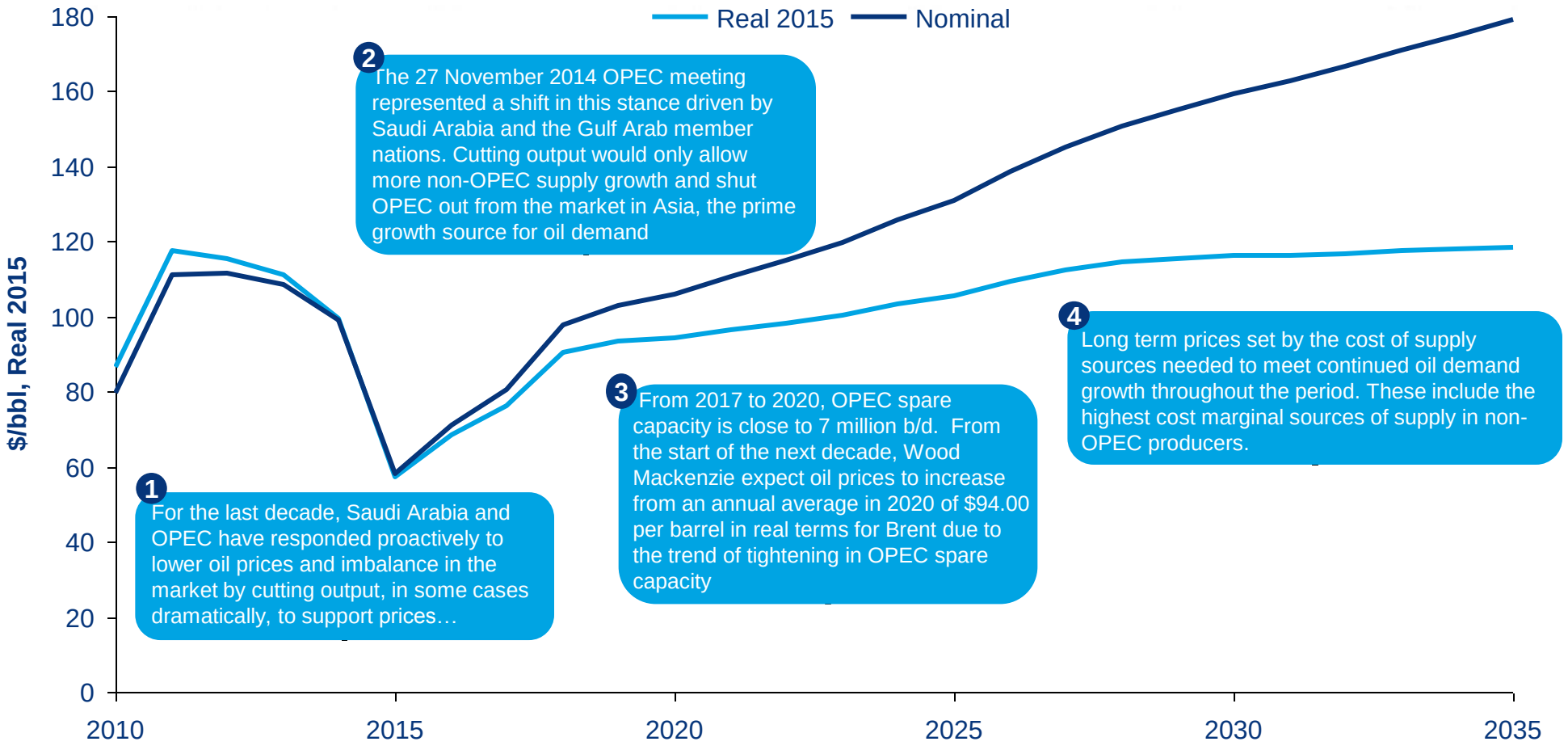
Wood Mackenzie used our January 2015 forecast for Brent throughout in this study

Brent Forecast*



* This outlook reflects the basis for this study in January 2015 and hence may not be consistent with Wood Mackenzie's most current projections

The Baseline case assumes the following policy and regulatory initiatives

Baseline – Detailed Assumptions

- The US DOE has a “sweet spot” of US LNG export of 6 bcfd
  - » Once 6 bcfd of US LNG export capacity has been sanctioned all future approvals for US LNG export facilities are expected to be denied. This is expected to lead to a reduction in gas development and pricing
- Oil pricing declines have been factored in to reduced 2015-17 capital spending plans but Wood Mackenzie assumes will recover to prior levels by 2018
- No lifting of the current crude ban on crude exports
- No opening of new areas for exploration and development
  - » No new exploration and development in frontier areas of Alaska, Eastern Gulf of Mexico, Atlantic and Pacific offshore, and Federal Rockies
- Restrictions on new pipeline development from Canada
  - » Curtailment of oil sands pipeline infrastructure into the U.S. means no development of the Keystone XL pipeline or other future Canada to U.S. pipelines

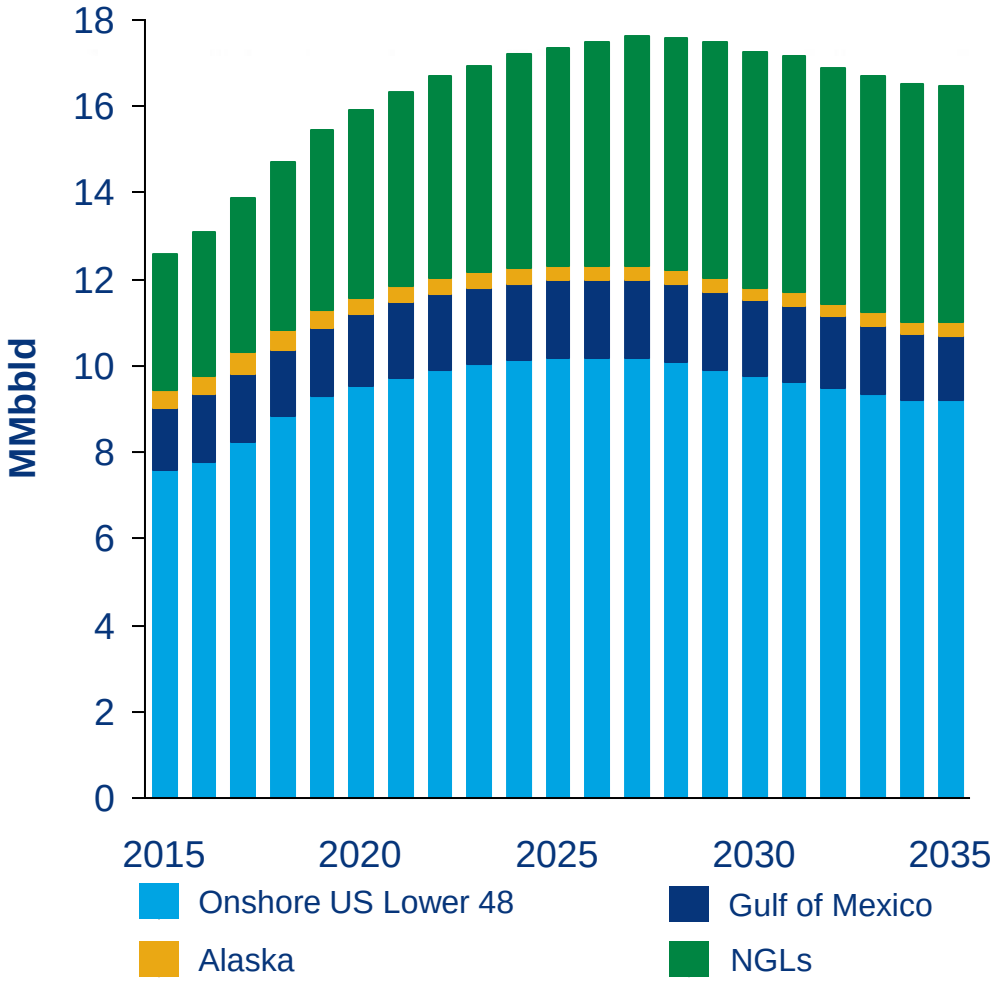
The resultant detailed assumptions are our application of the Baseline case

Baseline Assumptions – Detailed Assumptions

- Onshore U.S.
  - » No federal level regulations limiting the use of hydraulic fracturing and water disposal on private or state lands.
  - » Wood Mackenzie assume the BLM will institute additional regulations for hydraulic fracturing on federal lands. This is expected to add additional delays to development of federal lands and additional cost increases above current levels
  - » Due to regulatory costs and in-action, Wood Mackenzie assume that no new major Federal lands oil & gas developments will be sanctioned by firms before 2020. Regulatory delays and additional permitting requirements are expected to add an expected $20/mcf to play development on federal lands
  - » No lifting of moratorium on unconventional oil & gas development in New York as well as limited local bans from municipalities for unconventional gas development. This is expected to limit development in these select areas, but is not expected to lower overall onshore US unconventional oil & gas development
- Gulf of Mexico
  - » Development and exploration activity remains at current levels and is expected to be dictated by commodity prices and available opportunities for companies. Wood Mackenzie assume that no new areas of offshore lands are opened for exploration or development
- Alaska
  - » No drilling activity offshore Alaska, ANWR or the NPRA
  - » No future development activity in the currently closed areas

Our US liquids supply Baseline forecast peaks in the late 2020s as oil supply begins to decline while NGLs continue to grow through the forecast

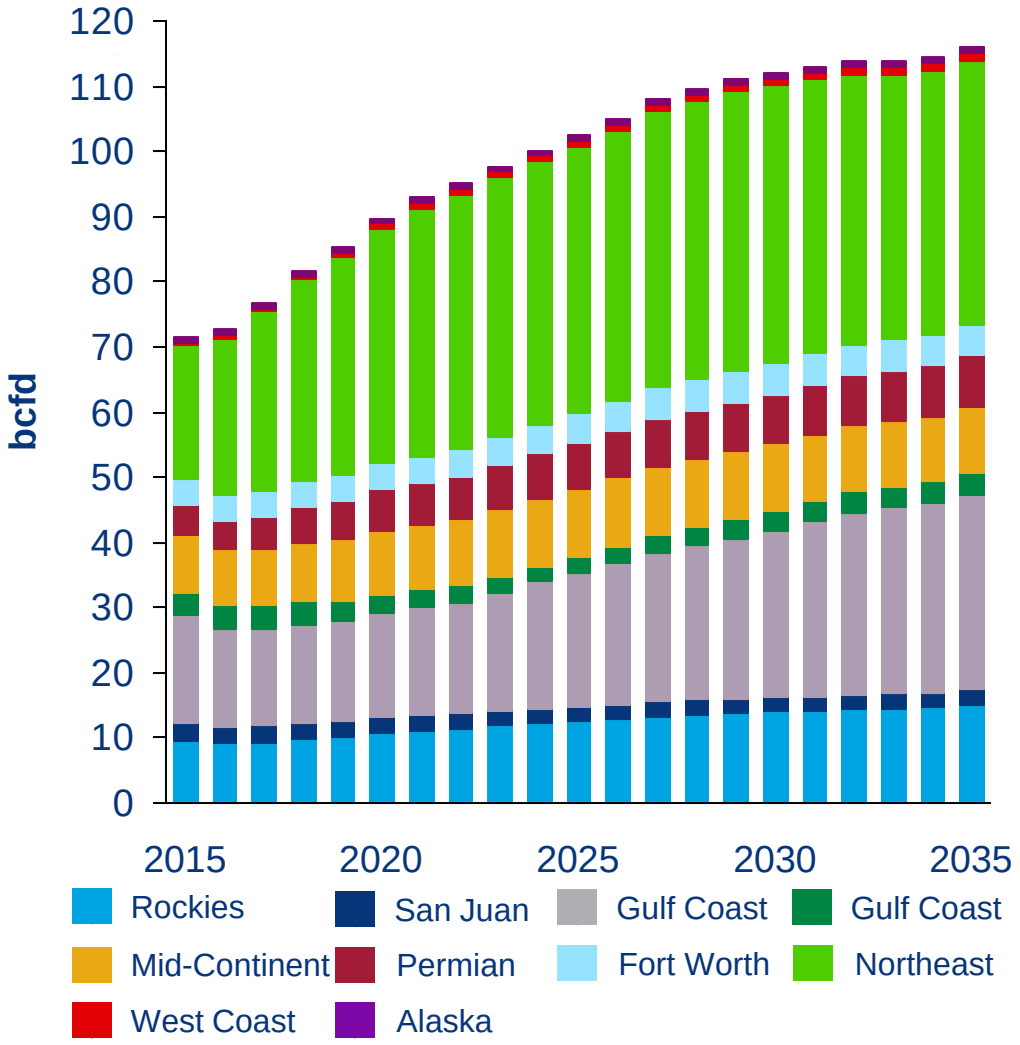
US Liquids Outlook by Area



- Following recent price declines, the US liquids production is expected to increase by 0.53 and 0.79 MMbbld in 2016 and 2017
- While the Gulf of Mexico deepwater remains a higher cost operating area, Wood Mackenzie expects oil production to increase to 1.8 MMbbld in 2025, as the province remains an attractive deepwater investment relative to other provinces globally due to a favorable fiscal regime and stable regulatory environments
- Peak US oil production has been pushed out several years following an expansion of US tight oil reserves with oil production reaching 12.3 MMbbld in 2025

Our US gas supply Baseline outlook expects production to accelerate over the next 5 years then continue to grow throughout the forecast period

US Gas Production Outlook by Region



- Future US gas production is expected to be driven primarily by low-cost shale gas resources and increases to associated gas from oil production
- The Northeast has become the largest producing region and is expected to continue to grow supported by low-cost resources in the Marcellus and Utica shales
- The US is expected to remain one of the lowest cost sources of gas globally, even as low gas prices lead to a dramatic increase in gas demand from sources like LNG exports, growing industrial demand, and gas exports to Mexico
- Cheap US gas is well served to play a larger role in power markets as the industry copes with increasing federal regulations of power plant emissions

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In the pro-development scenario, Wood Mackenzie assumes a number of Federal areas become open for exploration and development

US Oil and Gas Production Outlook by Region

Source: Wood Mackenzie

- The areas that are opened for oil and gas production are: Pacific, Atlantic, Eastern GOM, portions of the Rockies, ANWR, NPRA and the Chukchi Sea
  - » Wood Mackenzie has assumed that the New York drilling moratorium and other local municipal bans do not survive legal challenges
- Under this case, the permit and regulatory policies encourage development of both currently permitted onshore areas and open new federal lands to oil & gas development
- Permit and regulatory policies allow for relatively faster development of the Gulf of Mexico
- Canadian oil sands pipelines into the U.S. are fully developed (e.g., Keystone XL)

The pro-development scenario assumes the following policy and regulatory initiatives

Pro-development Scenario – Detailed Assumptions

- Opening of Offshore Federal areas that are currently “off limits” to exploration and development
  - » Commencement of leasing, drilling and development activity in currently closed regions. Regions to be opened include: Eastern Gulf of Mexico, portions of the Rocky Mountains, Atlantic OCS, Pacific OCS, Alaska National Wildlife Refuge (ANWR) – 1002 Area, National Petroleum Reserve, Alaska (NPRA) and Alaska offshore
- Lifting of drilling moratorium in New York State
  - » Commencement of drilling and development of Marcellus shale in New York State
- Approval of the Keystone XL and other future Canada to U.S. oil pipelines
  - » Facilitates additional Canadian oil sands development, thereby increasing the demand for U.S. supplied equipment and infrastructure
- Regulation of unconventional oil & gas resources remains predominately at the state level
  - » Environmental regulation of shale gas and tight oil plays are not duplicative or unduly burdensome permitting levels are at sufficient rates to develop resources in a timely manner

The following detailed assumptions are our suggested application of the pro-development case

Pro-development Scenario – Detailed Assumptions

- Onshore U.S.
  - » Ongoing development of state and federal lands with development dictated by company plans and commodity prices
  - » Leasing and permitting rates do not significantly hinder current company plans
  - » No restrictions of shale development in New York state
  - » New federal lands are opened for oil & gas developments with a pro-development approach from the regulatory agencies
- Gulf of Mexico
  - » Leasing of deep water acreage returns to pre-Moratorium rates
  - » Exploration activity recovers to pre-Moratorium drilling rates, approximately 40 wildcat wells per year
- Alaska
  - » Resources offshore Alaska and NPRA are developed
  - » Access is allowed in current and previously restricted areas
- Atlantic Coast – activity begins 2016
- Pacific Coast – activity begins 2016
- Eastern Gulf of Mexico – activity begins 2016
- ANWR – activity begins 2016
- Portions of the Rocky Mountains – activity begins 2016

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The proposed Ozone legislation is expected to have far-reaching implications on the US energy industries

1

1 Ozone Legislation

EPA's proposal to update the air quality standards to reduce the limit on ground-level ozone from 75ppm to between 65-70 ppb*

Overall Objective

- Improve public health protection by providing a greater margin between future air quality and recognized safe levels of ozone exposure

Anticipated Means of Compliance

- Retrofitting of combustion equipment with 'clean burn' technologies
- Retirement of aged combustion equipment where uneconomic to retrofit

Implications Considered in this Study

- Increased demand for natural gas in power generation as proportion of current coal-fired capacity is retired
- Reduced acreage available for natural gas production as nonattainment expands into rural areas where shortage of potential offsets may translate into a significant barrier to obtaining permits for the new wells
- Increased pipeline tariffs to recover control costs for reductions in NOx emissions in the pipeline system
- Increased natural gas prices resulting from need to exploit higher cost reserves with higher costs to market
- Increased gas supply required to meet increased demand from the power sector
- Higher costs to US utility consumers as both natural gas and electrical power costs rise
- Potential for reduced competitiveness of US LNG export projects

* Federal Register / Vol. 79, No. 242 / Wednesday, December 17, 2014 / Proposed Rules

The proposed Rail legislation is expected to increase the cost of transporting crude oil and ethanol by rail

2

2 Tighter Specifications for Rail Tank Car Fleet

The Pipeline Hazardous Materials Safety Administration has proposed a tighter set of standards for transportation by rail of flammable liquids, including crude oil and ethanol

Overall Objective

- Address the safety concerns associated with growing volumes of crude oil transported by rail

Anticipated Means of Compliance

- Retrofitting of existing railcar fleet to meet new specifications
- Carriers will be required to perform a safety and security analysis to select “high-hazard flammable train” (HHFT) routes
- Operating speeds will be reduced and all HHFT trains will be required to be equipped with enhanced braking systems

Implications Considered in this Study

- Increased cost of railcar leasing and purchasing adding to cost of transportation by rail
- Constraints on railcars available based on ability of existing facilities to retrofit before standards are in effect
- Increased transit time adding to cost of transportation by rail
- Total increases in transportation cost reducing the netbacks to producers and impacting production
- Limitations in railcar availability requiring trucking to fill the gap, potentially further constraining production
- Increase in cost of transportation of ethanol adding to cost and ultimately impacting consumers at the pump

*PMHSA: Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains

The proposed Refining Sector legislation is expected to increase cost of compliance for domestic refineries and may result in activity reductions

3

3 Refining Sector Review — Amendments to the emission standards for hazardous air pollutants for petroleum refineries including new monitoring, recordkeeping and reporting requirements*

Overall Objective

- Reductions of 1,760 tons per year of hazardous air pollutions are projected which will reduce cancer risk and chronic health effects

Anticipated Means of Compliance

- Emissions reductions from delayed coking units venting
- Emission limits to CRU depressurizing procedures
- Amended operating and monitoring requirements for refinery flares
- Amended classification of storage vessels and reduced equipment and connector leaks
- Fenceline monitoring on a continuous basis

Implications Considered in this Study

- Total capital costs nationwide are estimated at approx. $240MM
- Total annualized costs are estimated at approx. $57MM per annum
- These increased costs may be mitigated through or result in capacity reductions
- Competitive position of marginal refineries competing in the Atlantic basis may be affected

* Environmental Protection Agency 40 CFR Parts 60 and 63

The RFS is expected to impact both refiners and consumers as refinery-produced transportation fuels are replaced by higher cost biofuels

4

4 Renewable Fuels Standard

The renewable fuels standard in its current form was the result of the Energy Independence and Security Act, which was passed in 2007

Overall Objective

- Encourage North American energy independence, reduce greenhouse gas emissions, and support the renewable fuel industry

Anticipated Means of Compliance

- Increasing volumes of biofuel (conventional ethanol, biodiesel, cellulosic) to be used in the transportation sector in replacement of petroleum-based fuels

Implications Considered in this Study

- Impact on demand for refinery production of gasoline and diesel
- Decreases in margin and utilization for US refiners as result of lower demand for US gasoline
- Decreases in margin and utilization for US refiners as a result of RFS compliance costs
- Increased requirement for export capability as a result of lowered demand and resultant cost to US refiners
- Pump price impacts to consumers

Amended classification of 'Waters of the USA' is expected to have far reaching impacts on availability and costs associated with the use/disposal of water

5

5 Waters of the USA

Definition of "Water of the United States" under the Clean Water Act*

Overall Objective

- Enhance protection for the nation's public health and aquatic resources and increase CWA program predictability and consistency

Anticipated Means of Compliance

- Amended definitions for 'waters of the United States' and 'other waters'
- Introduction of a concept called 'significant nexus' to classify certain water resources under 'waters of the United States'

Implications Considered in this Study

- Large water resources currently regulated by the individual states could fall under federal regulations
- The broadening of the definition of waters of the United States and the application of the 'significant nexus' concept will result in regulatory restrictions and costs associated with the use of water resources not currently covered by the Clean Water Act
- Disposal of used process water may be severely restricted by the broadening proposed by the EPA rule
- Permitting will require an increased federal oversight resulting in delays, cost increases and perhaps even outright cancellations of projects requiring substantial amounts of local water resources or disposal thereof
- Sectors most exposed may included power generation and oil and gas production and processing, including hydraulic fracturing

* EPA 40 CFR Parts 110, 112, 116, et al.

The proposed methane regulations is expected to introduce a significant cost burden on both newly drilled and existing wells

6

6 Methane Regulations

Extend current air emissions regulations for new unconventional gas wells to include all new and existing (producing) wells

Overall Objective

- Address climate change and help ensure a cleaner, more stable environment for future generations by implementing a set of actions to cut methane emissions from the oil and gas sector by 40 – 45 percent from 2012 levels by 2025

Anticipated Means of Compliance

- Expansion of current leak detection and repair methods currently used at gas processing plant to all production sites (from well sites to compressor stations)
- Prevent of venting to atmosphere, including cessation of blowdowns during equipment maintenance
- More stringent leak detection and controls on storage vessels, pneumatic controllers, compressors, and liquids unloading facilities

Implications Considered in this Study

- Incremental upfront capex of between $100,000-200,000 for new wells, depending on the type of well and producing region
- Incremental gas capture to partly offset incremental costs
- Incremental cost to existing wells of between $50,000-150,000 depending on the type of well and producing region
- Potential for equipment bottlenecks at some producing sites to result in some wells being shut-in
- Potential for compliance costs to retrofit some older, lower volume wells to be to exceed future value of production, resulting in wells being shut-in

The proposed Hydraulic Fracturing on Federal and Indian Lands rule is expected to increase the cost of drilling and completion in impacted areas

7

7 BLM Hydraulic Fracking Rule

The Bureau of Land Management published a proposed rule in the Federal Register to further regulate hydraulic fracturing on Federal and Indian lands

Overall Objective

- To ensure the environmentally responsible development of oil and gas resources on Federal and Indian lands through requirements for environmentally responsible behaviour and public disclosure.

Anticipated Means of Compliance

- Requirements for well construction that protects water supplies
- Requirements for environmentally responsible management of chemicals in flow back fluids from hydraulic fracturing
- Public disclosure requirements for chemicals used in hydraulic fracturing fluids and other information on hydraulic fracturing activity

Implications Considered in this Study

- Increased costs for well drilling and completion
- Increased cost for management and storage of chemicals in flow back fluids
- Potential ramifications for increased reporting of hydraulic fracturing chemicals and activity
- Alignment of requirements with state and tribal authorities regarding protected water zones
- Increased coordination of standards and processes with individual states and tribes, which could result in more stringent standards by state and tribal governments

* Bureau of Land Management – 43 CFR part 3160

New standards for blowout preventers and well design and control is expected to result in cost and schedule increases offset by changes in testing schedule

8

8 OCS Blowout Rules — Blowout preventer requirements and reforms in the area of well design, control and monitoring*

Overall Objective

- Enhance well-control best practices to advance safety and protection of the environment

Anticipated Means of Compliance

- Incorporate various industry standards and revised requirements for blowout preventers and deepwater operations
- Revised design requirements for well completion, work-over and decommissioning activities
- Harmonization of the testing requirements for BOP systems with drilling and completion operations

Implications Considered in this Study

- Increased costs for the design, construction, installation and testing and monitoring of blowout preventers
- Increased reporting requirements resulting in additional time and resource requirements
- Reduced risk of blowouts with associated environmental impact and possible loss of life
- A number of technical standards are expected to reduce the number of feasible wells by 30%

* BSEE NPRM 2015

Addition of the Greater sage-grouse to the list of endangered species is expected to have a material impact on oil and gas production

9

9 Greater Sage-Grouse on the Endangered list

The U.S. Fish and Wildlife Service has added the Gunnison sage-grouse to the list of endangered and threatened wildlife*

Overall Objective

- Address the most substantial threats to Greater sage-grouse including habitat decline due to human disturbance, small population size, drought, climate change and disease

Anticipated Means of Compliance

- Protection of habitat that is currently occupied or through future expansion
- 4 mile restrictions on surface disturbance around a lake
- Measures to minimize the impact of existing disturbances, disruptive activities and valid mineral rights

Implications Considered in this Study

- Temporary road closures and / or timing restrictions during the breeding season
- Listing to include the Greater Sage-Grouse species could have a very material impact on the oil and gas industry
- Drilling could become severely restricted in a number of states which could otherwise deliver substantial supply growth

* Fish and Wildlife Service 50 CFR Part 17

CEQ's final guidance has potential to defer investment in oil and gas developments in new areas

10

10 CEQ and NEPA Guidance

Clarification on when and how Federal agencies should use programmatic NEPA reviews

Overall Objective

- To enforce use of programmatic (i.e. broad strategic level) reviews of any proposed development which could potentially affect the quality of the human environment *before* conducting project- or site-specific impact reviews

Anticipated Means of Compliance

- Requirement to consider alternatives to the proposed development as part of the programmatic review
- Proactive and robust public participation is encouraged and comment periods can be extended to ensure meaningful involvement of all stakeholders (including Federal and state agencies, tribes, local governments, private organizations, and individual citizens)

Implications Considered in this Study

- Potential for delays to proposed developments in new areas
- For the GOM, it is expected that unsanctioned projects will be delayed by on average 2 years
- For onshore production, new developments are expected to ramp up more slowly with a 2 year delay in the maximum well count

* Memorandum for Heads of Federal Departments and Agencies, dated December 18, 2014

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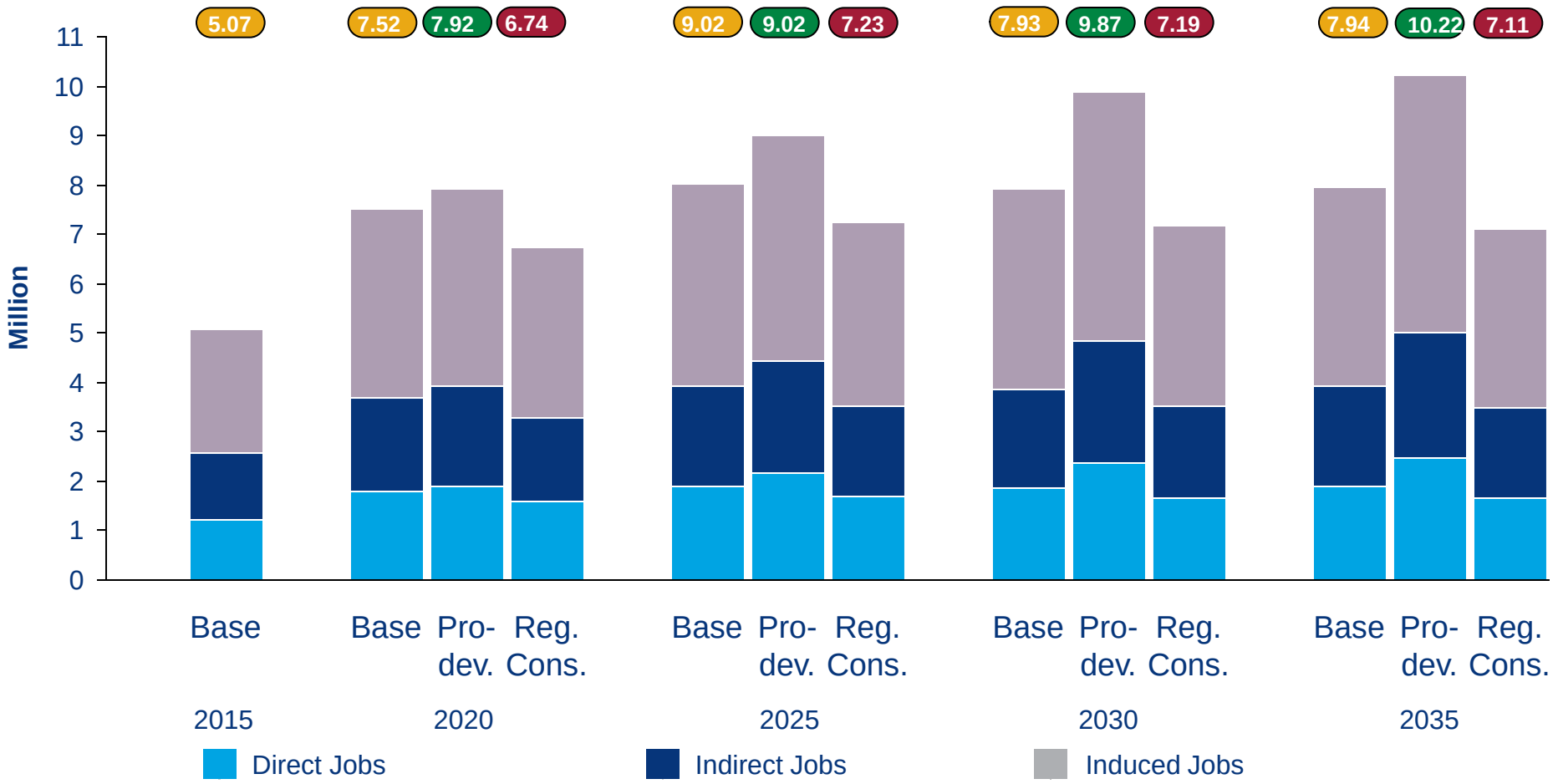
Total supported job projections include indirect and induced jobs at an average ~4x multiple on direct jobs through the upstream, midstream and refining sectors

Total Jobs Supported, Baseline, Pro-development Policies, Regulatory Constraints Scenarios



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Top 10 states with the largest incremental gains under pro-development policies

Rank	Jobs Supported in 2035	thousand	Cumulative GDP (2016-2035)	$ billion	Cumulative State Tax Revenue (2016-2035)	$ billion
1	Texas	+733	Texas	+$1167	Alaska	+$212
2	Alaska	+387	Alaska	+$953	California	+$94
3	California	+252	California	+$591	Florida	+$53
4	Florida	+183	Florida	+$440	Texas	+$52
5	Oklahoma	+118	Oklahoma	+$186	North Carolina	+$11
6	Colorado	+87	Louisiana	+$175	Colorado	+$11
7	Louisiana	+86	Colorado	+$120	Oklahoma	+$9
8	North Carolina	+46	North Carolina	+$84	Louisiana	+$9
9	West Virginia	+34	South Carolina	+$49	New Jersey	+$8
10	Pennsylvania	+31	New Jersey	+$41	South Carolina	+$7

Top 10 states with the largest incremental reductions under regulatory constraints

Rank	Jobs Supported in 2035	thousand	Cumulative GDP (2016-2035)	$ billion	Cumulative State Tax Revenue (2016-2035)	$ billion
1	Colorado	-226	Texas	-$818	Wyoming	-$86
2	Texas	-155	Colorado	-$598	Colorado	-$65
3	Wyoming	-91	Wyoming	-$314	Texas	-$24
4	Utah	-70	Utah	-$149	North Dakota	-$19
5	California	-49	Oklahoma	-$143	Utah	-$19
6	Oklahoma	-40	New Mexico	-$125	New Mexico	-$18
7	Pennsylvania	-27	California	-$112	California	-$9
8	West Virginia	-19	North Dakota	-$90	West Virginia	-$9
9	Kansas	-16	Kansas	-$32	Oklahoma	-$9
10	Ohio	-15	Illinois	-$24	Kansas	-$3

Alabama – Impacts Summary

Impact on Alabama	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	+2 kboed	-0 kboed	-1 kboed	59 kboed	47 kboed	40 kboed	36 kboed	+1 kboed	-1 kboed	-3 kboed	-4 kboed
Total Jobs Supported*	+2 thousand	+2 thousand	+3 thousand	+3 thousand	24 thousand	24 thousand	24 thousand	24 thousand	-1 thousand	-1 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.44 billion	+$0.43 billion	+$0.47 billion	+$0.43 billion	$3.23 billion	$3.23 billion	$3.20 billion	$3.15 billion	-$0.14 billion	-$0.17 billion	-$0.2 billion	-$0.26 billion
Government Revenue** / Year	+$0.03 billion	+$0.03 billion	+$0.03 billion	+$0.03 billion	$0.29 billion	$0.26 billion	$0.23 billion	$0.21 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.16 billion	+$0.32 billion	+$0.46 billion	+$0.6 billion	$1.43 billion	$2.82 billion	$4.03 billion	$5.10 billion	-$0.02 billion	-$0.05 billion	-$0.09 billion	-$0.15 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Alaska – Impacts Summary

Impact on Alaska	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+8 kboed	+570 kboed	+2117 kboed	+2751 kboed	538 kboed	501 kboed	470 kboed	447 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+5 thousand	+188 thousand	+396 thousand	+387 thousand	120 thousand	168 thousand	137 thousand	115 thousand	-5 thousand	-5 thousand	-4 thousand	-4 thousand
GDP / Year	+$1 billion	+$38 billion	+$96 billion	+$110 billion	$29 billion	$40 billion	$39 billion	$32 billion	-$1 billion	-$1 billion	-$0 billion	-$1 Billion
Government Revenue** / Year	+$0 Billion	+$7 billion	+$21 billion	+$27 billion	$7 billion	$9 billion	$9 billion	$8 billion	-$0 billion	-$0 billion	-$0 billion	-$0 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$15 billion	+$86 billion	+$212 billion	$30 billion	$71 billion	$120 billion	$163 billion	-$0 billion	-$0 billion	-$1 billion	-$1 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Alaska is expected to benefit from new development from Alaska ANWR, Alaska NPRA, Alaska Beaufort Sea and Alaska Chuckihi Sea under pro-development policies scenario

Arizona – Impacts Summary

Impact on Arizona	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	-2 thousand	-1 thousand	+3 thousand	+4 thousand	27 thousand	31 thousand	31 thousand	30 thousand	-2 thousand	-4 thousand	-3 thousand	-3 thousand
GDP / Year	-$0.13 billion	+$0.15 billion	+$0.77 billion	+$0.88 billion	$3.79 billion	$4.18 billion	$4.19 billion	$4.20 billion	-$0.44 billion	-$0.51 billion	-$0.36 billion	-$0.53 billion
Government Revenue** / Year	-$0.01 billion	+$0 Billion	+$0.02 billion	+$0.03 billion	$0.15 billion	$0.17 billion	$0.18 billion	$0.17 billion	-$0.01 billion	-$0.02 billion	-$0.02 billion	-$0.06 billion
Cumulative Gov't Revenue** (from 2016)	-$0.01 billion	+$0 billion	+$0.08 billion	+$0.23 billion	$0.66 billion	$1.49 billion	$2.38 billion	$3.25 billion	-$0.05 billion	-$0.13 billion	-$0.21 billion	-$0.3 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Arkansas – Impacts Summary

Impact on Alabama	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	+2 kboed	-0 kboed	-1 kboed	59 kboed	47 kboed	40 kboed	36 kboed	+1 kboed	-1 kboed	-3 kboed	-4 kboed
Total Jobs Supported*	+2 thousand	+2 thousand	+3 thousand	+3 thousand	24 thousand	24 thousand	24 thousand	24 thousand	-1 thousand	-1 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.44 billion	+$0.43 billion	+$0.47 billion	+$0.43 billion	$3.23 billion	$3.23 billion	$3.20 billion	$3.15 billion	-$0.14 billion	-$0.17 billion	-$0.2 billion	-$0.26 billion
Government Revenue** / Year	+$0.03 billion	+$0.03 billion	+$0.03 billion	+$0.03 billion	$0.29 billion	$0.26 billion	$0.23 billion	$0.21 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.16 billion	+$0.32 billion	+$0.46 billion	+$0.60 billion	$1.43 billion	$2.82 billion	$4.03 billion	$5.10 billion	-$0.02 billion	-$0.05 billion	-$0.09 billion	-$0.15 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

California – Impacts Summary

Impact on California	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+28 kboed	+573 kboed	+1216 kboed	+1677 kboed	734 kboed	755 kboed	763 kboed	775 kboed	-54 kboed	-93 kboed	-104 kboed	-113 kboed
Total Jobs Supported*	+10 thousand	+81 thousand	+190 thousand	+252 thousand	402 thousand	426 thousand	435 thousand	440 thousand	-33 thousand	-44 thousand	-42 thousand	-49 thousand
GDP / Year	+$1 billion	+$22 billion	+$53 billion	+$73 billion	$57 billion	$61 billion	$62 billion	$63 billion	-$5 billion	-$6 billion	-$6 billion	-$7 billion
Government Revenue** / Year	+$0 billion	+$4 billion	+$9 billion	+$11 billion	$5 billion	$5 billion	$5 billion	$5 billion	-$0 billion	-$0 billion	-$1 billion	-$1 billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	+$8 billion	+$42 billion	+$94 billion	$24 billion	$50 billion	$77 billion	$102 billion	-$1 billion	-$4 billion	-$6 billion	-$9 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***California is expected to benefit from Pacific coastal area offshore development under pro-development policies scenario

Colorado – Impacts Summary

Impact on Colorado	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+114 kboed	+221 kboed	+204 kboed	+122 kboed	1330 kboed	1410 kboed	1551 kboed	1731 kboed	-1125 kboed	-1244 kboed	-1411 kboed	-1428 kboed
Total Jobs Supported*	+22 thousand	+51 thousand	+63 thousand	+87 thousand	267 thousand	260 thousand	288 thousand	302 thousand	-186 thousand	-179 thousand	-210 thousand	-226 thousand
GDP / Year	+$3 billion	+$6 billion	+$7 billion	+$11 billion	$43 billion	$42 billion	$46 billion	$49 billion	-$30 billion	-$30 billion	-$35 billion	-$37 billion
Government Revenue** / Year	+$0 billion	+$1 billion	+$1 billion	+$1 billion	$4 billion	$4 billion	$5 billion	$5 billion	-$3 billion	-$3 billion	-$4 billion	-$7 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$3 billion	+$6 billion	+$11 billion	$18 billion	$39 billion	$61 billion	$85 billion	-$9 billion	-$26 billion	-$44 billion	-$65 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Listing sage grouse under Endangered Species Act (FWS) could severely restrict potential drilling in Colorado under regulatory constraints scenario

Connecticut – Impacts Summary

Impact on Connecticut	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+1 thousand	+2 thousand	7 thousand	8 thousand	8 thousand	8 thousand	-1 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.05 billion	+$0.09 billion	+$0.16 billion	+$0.18 billion	$0.81 billion	$0.91 billion	$0.95 billion	$0.97 billion	-$0.11 billion	-$0.11 billion	-$0.13 billion	-$0.16 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0.01 billion	+$0.01 billion	$0.05 billion	$0.06 billion	$0.06 billion	$0.06 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.03 billion	+$0.06 billion	+$0.1 billion	$0.23 billion	$0.50 billion	$0.80 billion	$1.11 billion	-$0.02 billion	-$0.06 billion	-$0.11 billion	-$0.16 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Delaware – Impacts Summary

Impact on Delaware	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+24 kboed	+31 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+3 thousand	+4 thousand	4 thousand	5 thousand	5 thousand	5 thousand	-0 thousand	-0 thousand	-0 thousand	-0 thousand
GDP / Year	+$0.01 billion	+$0.02 billion	+$0.87 billion	+$1.16 billion	$0.67 billion	$0.73 billion	$0.76 billion	$0.77 billion	-$0.04 billion	-$0.05 billion	-$0.06 billion	-$0.07 billion
Government Revenue** / Year	+$0 billion	+$0 Billion	+$0.16 billion	+$0.19 billion	$0.04 billion	$0.04 billion	$0.05 billion	$0.05 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$0.01 billion	+$0.41 billion	+$1.4 billion	$0.19 billion	$0.41 billion	$0.63 billion	$0.86 billion	-$0.01 billion	-$0.02 billion	-$0.03 billion	-$0.04 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Delaware is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

Florida – Impacts Summary

Impact on Florida	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+327 kboed	+1196 kboed	+1505 kboed	6 kboed	6 kboed	6 kboed	6 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+3 thousand	+40 thousand	+153 thousand	+183 thousand	27 thousand	30 thousand	32 thousand	32 thousand	-3 thousand	-3 thousand	-4 thousand	-5 thousand
GDP / Year	+$0.35 billion	+$10.62 billion	+$42.34 billion	+$53.12 billion	$2.99 billion	$3.32 billion	$3.47 billion	$3.51 billion	-$0.31 billion	-$0.33 billion	-$0.41 billion	-$0.48 billion
Government Revenue** / Year	+$0.03 billion	+$1.35 billion	+$5.1 billion	+$6.18 billion	$0.18 billion	$0.2 Billion	$0.2 billion	$0.2 billion	-$0.02 billion	-$0.02 billion	-$0.02 billion	-$0.06 billion
Cumulative Gov't Revenue** (from 2016)	+$0.15 billion	+$2.82 billion	+$22.58 billion	+$53 billion	$0.8 billion	$1.73 billion	$2.75 billion	$3.76 billion	-$0.05 billion	-$0.13 billion	-$0.23 billion	-$0.34 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Florida is expected to benefit from Eastern GoM coastal area offshore development under pro-development policies scenario

Georgia – Impacts Summary

Impact on Georgia	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+1 kboed	+86 kboed	+109 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+2 thousand	+12 thousand	+16 thousand	14 thousand	16 thousand	17 thousand	17 thousand	-1 thousand	-2 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.12 billion	+$0.19 billion	+$3.15 billion	+$4.16 billion	$1.54 billion	$1.75 billion	$1.83 billion	$1.87 billion	-$0.15 billion	-$0.17 billion	-$0.2 billion	-$0.24 billion
Government Revenue** / Year	+$0.01 billion	+$0.01 billion	+$0.46 billion	+$0.56 billion	$0.09 billion	$0.1 billion	$0.1 Billion	$0.11 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.06 billion	+$1.25 billion	+$4.1 billion	$0.41 billion	$0.89 billion	$1.4 \billion	$1.93 billion	-$0.02 billion	-$0.06 billion	-$0.11 billion	-$0.17 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Georgia is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

Hawaii – Impacts Summary

Impact on Hawaii	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+1 thousand	+1 thousand	7 thousand	8 thousand	8 thousand	8 thousand	-1 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.03 billion	+$0.07 billion	+$0.15 billion	+$0.17 billion	$1.12 billion	$1.2 billion	$1.23 billion	$1.24 billion	-$0.12 billion	-$0.13 billion	-$0.13 billion	-$0.15 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0.01 billion	+$0.01 billion	$0.04 billion	$0.04 billion	$0.04 billion	$0.04 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.02 billion	+$0.04 billion	+$0.1 billion	$0.16 billion	$0.35 billion	$0.54 billion	$0.74 billion	-$0.01 billion	-$0.03 billion	-$0.04 billion	-$0.06 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Idaho – Impacts Summary

Impact on Idaho	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+1 thousand	+1 thousand	3 thousand	3 thousand	3 thousand	4 thousand	-0 thousand	-0 thousand	-0 thousand	-1 thousand
GDP / Year	+$0.02 billion	+$0.03 billion	+$0.06 billion	+$0.07 billion	$0.31 billion	$0.34 billion	$0.36 billion	$0.36 billion	-$0.04 billion	-$0.04 billion	-$0.05 billion	-$0.05 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0 billion	$0.02 billion	$0.02 billion	$0.02 billion	$0.02 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$0.01 billion	+$0.02 billion	+$0 billion	$0.07 billion	$0.16 billion	$0.25 billion	$0.35 billion	-$0.01 billion	-$0.02 billion	-$0.03 billion	-$0.04 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Illinois – Impacts Summary

Impact on Illinois	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	-0 kboed	21 kboed	24 kboed	27 kboed	30 kboed	-1 kboed	-2 kboed	-3 kboed	-4 kboed
Total Jobs Supported*	+4 thousand	+7 thousand	+12 thousand	+13 thousand	67 thousand	72 thousand	74 thousand	74 thousand	-6 thousand	-7 thousand	-6 thousand	-7 thousand
GDP / Year	+$0.09 billion	+$0.31 billion	+$1 billion	+$1.15 billion	$13.05 billion	$14.45 billion	$15.51 billion	$15.69 billion	-$1.09 billion	-$1.33 billion	-$1.24 billion	-$1.55 billion
Government Revenue** / Year	+$0.01 billion	+$0.03 billion	+$0.08 billion	+$0.08 billion	$0.66 billion	$0.72 billion	$0.75 billion	$0.76 billion	-$0.06 billion	-$0.07 billion	-$0.06 billion	-$0.16 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.16 billion	+$0.43 billion	+$0.8 billion	$3.03 billion	$6.44 billion	$10.19 billion	$13.98 billion	-$0.18 billion	-$0.49 billion	-$0.83 billion	-$1.16 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Indiana – Impacts Summary

Impact on Indiana	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	-0 kboed	-0 kboed	-0 kboed	12 kboed	12 kboed	12 kboed	12 kboed	+0 kboed	+0 kboed	-0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+2 thousand	+4 thousand	+5 thousand	38 thousand	40 thousand	41 thousand	42 thousand	-2 thousand	-3 thousand	-3 thousand	-4 thousand
GDP / Year	-$0.02 billion	+$0.12 billion	+$0.38 billion	+$0.43 billion	$6.61 billion	$7.17 billion	$7.58 billion	$7.65 billion	-$0.42 billion	-$0.47 billion	-$0.51 billion	-$0.65 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.03 billion	+$0.03 billion	$0.26 billion	$0.28 billion	$0.29 billion	$0.29 billion	-$0.02 billion	-$0.02 billion	-$0.02 billion	-$0.06 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.05 billion	+$0.15 billion	+$0.3 billion	$1.2 billion	$2.55 billion	$3.97 billion	$5.42 billion	-$0.06 billion	-$0.15 billion	-$0.26 billion	-$0.38 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Iowa – Impacts Summary

Impact on Iowa	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+1 thousand	+2 thousand	9 thousand	10 thousand	10 thousand	10 thousand	-1 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.05 billion	+$0.08 billion	+$0.16 billion	+$0.18 billion	$0.9 billion	$1.02 billion	$1.07 billion	$1.08 billion	-$0.09 billion	-$0.1 billion	-$0.11 billion	-$0.13 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0.01 billion	+$0.01 billion	$0.05 billion	$0.06 billion	$0.06 billion	$0.06 billion	-$0 billion	-$0 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.03 billion	+$0.06 billion	+$0.1 billion	$0.24 billion	$0.53 billion	$0.84 billion	$1.16 billion	-$0.01 billion	-$0.04 billion	-$0.06 billion	-$0.09 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Kansas – Impacts Summary

Impact on Kansas	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-32 kboed	-27 kboed	-25 kboed	-26 kboed	227 kboed	207 kboed	205 kboed	207 kboed	-18 kboed	-33 kboed	-49 kboed	-63 kboed
Total Jobs Supported*	-4 thousand	+1 thousand	+8 thousand	+9 thousand	75 thousand	79 thousand	85 thousand	89 thousand	-9 thousand	-11 thousand	-13 thousand	-16 thousand
GDP / Year	-$1.14 billion	-$0.72 billion	-$0.07 billion	+$0.07 billion	$11.56 billion	$11.97 billion	$12.63 billion	$13.04 billion	-$1.15 billion	-$1.54 billion	-$1.93 billion	-$2.4 billion
Government Revenue** / Year	-$0.11 billion	-$0.08 billion	-$0.04 billion	-$0.03 billion	$1.14 billion	$1.14 billion	$1.17 billion	$1.14 billion	-$0.09 billion	-$0.13 billion	-$0.17 billion	-$0.39 billion
Cumulative Gov't Revenue** (from 2016)	-$0.54 billion	-$0.96 billion	-$1.21 billion	-$1.3 billion	$5.47 billion	$11.16 billion	$16.97 billion	$22.88 billion	-$0.32 billion	-$0.89 billion	-$1.68 billion	-$2.71 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Kentucky – Impacts Summary

Impact on Kentucky	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	-0 kboed	-0 kboed	-0 kboed	64 kboed	65 kboed	64 kboed	64 kboed	+1 kboed	+0 kboed	-0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+3 thousand	+3 thousand	24 thousand	26 thousand	26 thousand	27 thousand	-2 thousand	-2 thousand	-2 thousand	-3 thousand
GDP / Year	+$0.03 billion	+$0.1 billion	+$0.26 billion	+$0.27 billion	$3.33 billion	$3.59 billion	$3.76 billion	$3.78 billion	-$0.23 billion	-$0.24 billion	-$0.3 billion	-$0.38 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.01 billion	+$0.01 billion	$0.23 billion	$0.24 billion	$0.24 billion	$0.24 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion	-$0.06 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.03 billion	+$0.08 billion	+$0.2 billion	$1.03 billion	$2.2 billion	$3.42 billion	$4.63 billion	-$0.04 billion	-$0.11 billion	-$0.21 billion	-$0.32 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Louisiana – Impacts Summary

Impact on Louisiana	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+44 kboed	+10 kboed	-365 kboed	-204 kboed	2046 kboed	2575 kboed	3336 kboed	3430 kboed	+718 kboed	+436 kboed	+160 kboed	+161 kboed
Total Jobs Supported*	+27 thousand	+81 thousand	+107 thousand	+86 thousand	499 thousand	566 thousand	565 thousand	548 thousand	+41 thousand	+37 thousand	+12 thousand	+10 thousand
GDP / Year	+$5 billion	+$13 billion	+$15 billion	+$12 billion	$87 billion	$101 billion	$98 billion	$91 billion	+$7 billion	+$4 billion	+$1 billion	+1 Billion
Government Revenue** / Year	+$0 billion	+$1 billion	+$1 billion	+$1 billion	$5 billion	$7 billion	$7 billion	$6 Billion	+$1 billion	+$1 billion	+$1 billion	+$3 billion
Cumulative Gov't Revenue** (from 2016)	+$1 billion	+$3 billion	+$6 billion	+$9 billion	$25 billion	$57 billion	$90 billion	$122 billion	+$2 billion	+$5 billion	+$9 billion	+$12 billion

*Jobs supported include direct, indirect and induced job creation

**Does not include federal government tax revenue

***Total production decline under pro-development policies scenario is driven by expected lower natural gas production as more economic sources of supply become available in Eastern GOM. Economic impact upsides are driven by expected sustained increases in oil production. Gas production increase under regulatory constraints scenario is caused by expected rocky mountain region gas supply loss

Maine – Impacts Summary

Impact on Maine	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+1 thousand	+1 thousand	4 thousand	4 thousand	4 thousand	4 thousand	-0 thousand	-0 thousand	-0 thousand	-1 thousand
GDP / Year	+$0.02 billion	+$0.06 billion	+$0.14 billion	+$0.14 billion	$0.54 billion	$0.6 billion	$0.61 billion	$0.62 billion	-$0.07 billion	-$0.06 billion	-$0.06 billion	-$0.09 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0.01 billion	$0.03 billion	$0.03 billion	$0.03 billion	$0.03 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$0.01 billion	+$0.03 billion	+$0.1 billion	$0.12 billion	$0.27 billion	$0.43 billion	$0.59 billion	-$0.01 billion	-$0.02 billion	-$0.03 billion	-$0.05 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Maryland – Impacts Summary

Impact on Maryland	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+2 thousand	+3 thousand	+4 thousand	+4 thousand	10 thousand	11 thousand	11 thousand	12 thousand	-1 thousand	-1 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.28 billion	+$0.41 billion	+$0.52 billion	+$0.56 billion	$1.04 billion	$1.17 billion	$1.22 billion	$1.24 billion	-$0.14 billion	-$0.15 billion	-$0.19 billion	-$0.22 billion
Government Revenue** / Year	+$0.02 billion	+$0.03 billion	+$0.03 billion	+$0.04 billion	$0.06 billion	$0.06 billion	$0.07 billion	$0.07 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.17 billion	+$0.29 billion	+$0.45 billion	+$0.6 billion	$0.25 billion	$0.55 billion	$0.87 billion	$1.2 billion	-$0.02 billion	-$0.06 billion	-$0.11 billion	-$0.16 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Maryland is expected to benefit from Cove Point LNG project under pro-development policies scenario

Massachusetts – Impacts Summary

Impact on Massachusetts	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	-2 thousand	-1 thousand	+0 thousand	+1 thousand	15 thousand	16 thousand	17 thousand	17 thousand	-1 thousand	-2 thousand	-2 thousand	-2 thousand
GDP / Year	-$0.11 billion	-$0.02 billion	+$0.14 billion	+$0.2 billion	$1.75 billion	$1.91 billion	$1.97 billion	$1.98 billion	-$0.17 billion	-$0.18 billion	-$0.21 billion	-$0.25 billion
Government Revenue** / Year	-$0.01 billion	-$0 billion	+$0.01 billion	+$0.01 billion	$0.09 billion	$0.1 billion	$0.11 billion	$0.11 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	-$0.03 billion	-$0.05 billion	-$0.03 billion	+$0 billion	$0.43 billion	$0.93 billion	$1.46 billion	$2 billion	-$0.03 billion	-$0.08 billion	-$0.13 billion	-$0.19 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Michigan – Impacts Summary

Impact on Michigan	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+4 kboed	+2 kboed	+3 kboed	71 kboed	101 kboed	125 kboed	157 kboed	-1 kboed	-8 kboed	-14 kboed	-20 kboed
Total Jobs Supported*	+1 thousand	+4 thousand	+7 thousand	+7 thousand	36 thousand	43 thousand	48 thousand	53 thousand	-3 thousand	-4 thousand	-5 thousand	-7 thousand
GDP / Year	+$0.1 billion	+$0.38 billion	+$0.68 billion	+$0.74 billion	$5.03 billion	$5.98 billion	$6.71 billion	$7.37 billion	-$0.44 billion	-$0.55 billion	-$0.71 billion	-$0.94 billion
Government Revenue** / Year	+$0.01 billion	+$0.03 billion	+$0.05 billion	+$0.05 billion	$0.32 billion	$0.39 billion	$0.45 billion	$0.5 billion	-$0.02 billion	-$0.03 billion	-$0.04 billion	-$0.11 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.1 billion	+$0.28 billion	+$0.6 billion	$1.46 billion	$3.27 billion	$5.39 billion	$7.82 billion	-$0.09 billion	-$0.23 billion	-$0.42 billion	-$0.66 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Minnesota – Impacts Summary

Impact on Minnesota	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+2 thousand	+3 thousand	+3 thousand	36 thousand	39 thousand	41 thousand	41 thousand	-4 thousand	-4 thousand	-5 thousand	-6 thousand
GDP / Year	+$0.09 billion	+$0.17 billion	+$0.28 billion	+$0.31 billion	$6.69 billion	$7.35 billion	$7.88 billion	$7.99 billion	-$0.56 billion	-$0.66 billion	-$0.72 billion	-$0.88 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.01 billion	+$0.02 billion	$0.27 billion	$0.29 billion	$0.3 billion	$0.31 billion	-$0.02 billion	-$0.03 billion	-$0.03 billion	-$0.09 billion
Cumulative Gov't Revenue** (from 2016)	+$0.03 billion	+$0.07 billion	+$0.13 billion	+$0.2 billion	$1.24 billion	$2.64 billion	$4.13 billion	$5.64 billion	-$0.08 billion	-$0.21 billion	-$0.36 billion	-$0.53 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Mississippi – Impacts Summary

Impact on Mississippi	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-3 kboed	+6 kboed	+34 kboed	+43 kboed	151 kboed	251 kboed	286 kboed	312 kboed	-18 kboed	-40 kboed	-48 kboed	-52 kboed
Total Jobs Supported*	-2 thousand	+1 thousand	+10 thousand	+10 thousand	57 thousand	72 thousand	77 thousand	80 thousand	-5 thousand	-7 thousand	-9 thousand	-10 thousand
GDP / Year	-$0.29 billion	+$0.1 billion	+$1.18 billion	+$1.23 billion	$8.58 billion	$10.9 billion	$11.91 billion	$12.2 billion	-$0.68 billion	-$1.1 billion	-$1.29 billion	-$1.46 billion
Government Revenue** / Year	+$0.02 billion	+$0.08 billion	+$0.18 billion	+$0.21 billion	$0.78 billion	$1.1 billion	$1.24 billion	$1.28 billion	-$0.05 billion	-$0.09 billion	-$0.12 billion	-$0.28 billion
Cumulative Gov't Revenue** (from 2016)	+$0.06 billion	+$0.31 billion	+$1.03 billion	+$2.1 billion	$3.25 billion	$8.18 billion	$14.17 billion	$20.52 billion	-$0.18 billion	-$0.57 billion	-$1.12 billion	-$1.76 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Mississippi is expected to benefit from Eastern GoM coastal area offshore development under pro-development policies scenario

Missouri – Impacts Summary

Impact on Missouri	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	1 kboed	1 kboed	1 kboed	1 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+2 thousand	+2 thousand	10 thousand	11 thousand	12 thousand	12 thousand	-1 thousand	-1 thousand	-1 thousand	-2 thousand
GDP / Year	+$0.07 billion	+$0.11 billion	+$0.19 billion	+$0.22 billion	$1.03 billion	$1.15 billion	$1.21 billion	$1.23 billion	-$0.11 billion	-$0.12 billion	-$0.15 billion	-$0.18 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.01 billion	+$0.01 billion	$0.06 billion	$0.07 billion	$0.07 billion	$0.07 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.04 billion	+$0.08 billion	+$0.1 billion	$0.27 billion	$0.59 billion	$0.93 billion	$1.28 billion	-$0.02 billion	-$0.05 billion	-$0.08 billion	-$0.13 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Montana – Impacts Summary

Impact on Montana	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+1 kboed	+0 kboed	+0 kboed	91 kboed	108 kboed	118 kboed	120 kboed	-3 kboed	-3 kboed	-2 kboed	-1 kboed
Total Jobs Supported*	+1 thousand	+3 thousand	+5 thousand	+5 thousand	34 thousand	38 thousand	40 thousand	41 thousand	-3 thousand	-3 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.02 billion	+$0.17 billion	+$0.48 billion	+$0.5 billion	$6.41 billion	$7.25 billion	$7.76 billion	$7.94 billion	-$0.42 billion	-$0.42 billion	-$0.35 billion	-$0.39 billion
Government Revenue** / Year	+$0.01 billion	+$0.02 billion	+$0.05 billion	+$0.04 billion	$0.72 billion	$0.89 billion	$0.99 billion	$1.04 billion	-$0.05 billion	-$0.05 billion	-$0.04 billion	-$0.06 billion
Cumulative Gov't Revenue** (from 2016)	+$0.04 billion	+$0.11 billion	+$0.28 billion	+$0.5 billion	$3.11 billion	$7.23 billion	$11.99 billion	$17.11 billion	-$0.15 billion	-$0.41 billion	-$0.64 billion	-$0.82 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Nebraska – Impacts Summary

Impact on Nebraska	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+3 kboed	+3 kboed	+3 kboed	+3 kboed	19 kboed	23 kboed	20 kboed	17 kboed	-2 kboed	-3 kboed	-1 kboed	-0 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+2 thousand	+2 thousand	17 thousand	20 thousand	21 thousand	20 thousand	-1 thousand	-2 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.14 billion	+$0.19 billion	+$0.26 billion	+$0.26 billion	$2.32 billion	$2.68 billion	$2.71 billion	$2.64 billion	-$0.2 billion	-$0.26 billion	-$0.23 billion	-$0.23 billion
Government Revenue** / Year	+$0.01 billion	+$0.02 billion	+$0.02 billion	+$0.02 billion	$0.2 billion	$0.24 billion	$0.22 billion	$0.19 billion	-$0.01 billion	-$0.02 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.08 billion	+$0.16 billion	+$0.24 billion	+$0.3 billion	$0.81 billion	$1.96 billion	$3.12 billion	$4.15 billion	-$0.04 billion	-$0.12 billion	-$0.2 billion	-$0.25 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Nevada – Impacts Summary

Impact on Nevada	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+2 thousand	+2 thousand	7 thousand	8 thousand	8 thousand	8 thousand	-1 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.04 billion	+$0.09 billion	+$0.18 billion	+$0.2 billion	$0.82 billion	$0.91 billion	$0.94 billion	$0.95 billion	-$0.09 billion	-$0.1 billion	-$0.1 billion	-$0.13 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0.01 billion	+$0.01 billion	$0.04 billion	$0.04 billion	$0.04 billion	$0.04 billion	-$0 billion	-$0 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.02 billion	+$0.06 billion	+$0.1 billion	$0.17 billion	$0.38 billion	$0.6 billion	$0.83 billion	-$0.01 billion	-$0.04 billion	-$0.06 billion	-$0.09 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

New Hampshire – Impacts Summary

Impact on New Hampshire	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+1 thousand	+1 thousand	4 thousand	4 thousand	4 thousand	4 thousand	-0 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.03 billion	+$0.04 billion	+$0.06 billion	+$0.07 billion	$0.42 billion	$0.47 billion	$0.5 billion	$0.51 billion	-$0.05 billion	-$0.06 billion	-$0.07 billion	-$0.08 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0 billion	$0.02 billion	$0.02 billion	$0.02 billion	$0.03 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.02 billion	+$0.03 billion	+$0 billion	$0.09 billion	$0.2 billion	$0.32 billion	$0.45 billion	-$0.01 billion	-$0.02 billion	-$0.04 billion	-$0.06 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

New Jersey – Impacts Summary

Impact on New Jersey	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+2 kboed	+112 kboed	+142 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+2 thousand	+16 thousand	+21 thousand	33 thousand	35 thousand	36 thousand	36 thousand	-2 thousand	-2 thousand	-3 thousand	-3 thousand
GDP / Year	+$0.1 billion	+$0.24 billion	+$4.34 billion	+$5.74 billion	$4.07 billion	$4.44 billion	$4.61 billion	$4.64 billion	-$0.34 billion	-$0.36 billion	-$0.4 billion	-$0.48 billion
Government Revenue** / Year	+$0.01 billion	+$0.01 billion	+$0.9 billion	+$1.11 billion	$0.32 billion	$0.35 billion	$0.37 billion	$0.37 billion	-$0.02 billion	-$0.02 billion	-$0.02 billion	-$0.05 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.07 billion	+$2.39 billion	+$8 billion	$1.5 billion	$3.2 billion	$5.01 billion	$6.85 billion	-$0.06 billion	-$0.14 billion	-$0.24 billion	-$0.35 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***New Jersey is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

New Mexico – Impacts Summary

Impact on New Mexico	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+21 kboed	+104 kboed	+122 kboed	+89 kboed	1154 kboed	1203 kboed	1218 kboed	1216 kboed	-276 kboed	-428 kboed	-389 kboed	-302 kboed
Total Jobs Supported*	+3 thousand	+14 thousand	+23 thousand	+18 thousand	175 thousand	183 thousand	180 thousand	182 thousand	-49 thousand	-56 thousand	-20 thousand	-12 thousand
GDP / Year	+$0 billion	+$2 billion	+$3 billion	+$2 billion	$29 billion	$31 billion	$31 billion	$31 billion	-$8 billion	-$10 billion	-$5 billion	-$2 Billion
Government Revenue** / Year	-$0 billion	+$0 billion	+$0 billion	+$0 Billion	$4 billion	$5 billion	$5 billion	$5 billion	-$1 billion	-$2 billion	-$1 billion	-$0 billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	-$0 billion	+$1 billion	+$1 billion	$19 billion	$41 billion	$65 billion	$89 billion	-$3 billion	-$11 billion	-$18 billion	-$18 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

New York – Impacts Summary

Impact on New York	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+14 kboed	+26 kboed	+29 kboed	+30 kboed	12 kboed	10 kboed	8 kboed	5 kboed	+0 kboed	+0 kboed	-0 kboed	+0 kboed
Total Jobs Supported*	+2 thousand	+5 thousand	+9 thousand	+12 thousand	42 thousand	47 thousand	49 thousand	49 thousand	-5 thousand	-6 thousand	-7 thousand	-8 thousand
GDP / Year	+$0.25 billion	+$0.5 billion	+$1.03 billion	+$1.3 billion	$4.72 billion	$5.28 billion	$5.44 billion	$5.43 billion	-$0.59 billion	-$0.64 billion	-$0.75 billion	-$0.91 billion
Government Revenue** / Year	+$0.02 billion	+$0.03 billion	+$0.06 billion	+$0.07 billion	$0.28 billion	$0.31 billion	$0.32 billion	$0.32 billion	-$0.04 billion	-$0.04 billion	-$0.05 billion	-$0.12 billion
Cumulative Gov't Revenue** (from 2016)	+$0.05 billion	+$0.18 billion	+$0.43 billion	+$0.8 billion	$1.27 billion	$2.78 billion	$4.38 billion	$5.97 billion	-$0.13 billion	-$0.34 billion	-$0.58 billion	-$0.86 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***New York is expected to benefit from repealing New York State hydraulic fracturing ban

North Carolina – Impacts Summary

Impact on North Carolina	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+4 kboed	+258 kboed	+330 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+2 thousand	+34 thousand	+46 thousand	14 thousand	16 thousand	16 thousand	17 thousand	-2 thousand	-2 thousand	-2 thousand	-3 thousand
GDP / Year	+$0.08 billion	+$0.17 billion	+$9.15 billion	+$12.27 billion	$1.45 billion	$1.64 billion	$1.71 billion	$1.73 billion	-$0.18 billion	-$0.19 billion	-$0.23 billion	-$0.27 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$1.29 billion	+$1.58 billion	$0.08 billion	$0.09 billion	$0.09 billion	$0.09 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.05 billion	+$3.35 billion	+$11.4 billion	$0.35 billion	$0.77 billion	$1.22 billion	$1.68 billion	-$0.03 billion	-$0.08 billion	-$0.13 billion	-$0.2 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***North Carolina is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

North Dakota – Impacts Summary

Impact on North Dakota	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+32 kboed	+92 kboed	+105 kboed	+100 kboed	2236 kboed	2579 kboed	2607 kboed	2519 kboed	-159 kboed	-161 kboed	-91 kboed	-72 kboed
Total Jobs Supported*	-1 thousand	+1 thousand	+14 thousand	+15 thousand	215 thousand	241 thousand	241 thousand	238 thousand	-24 thousand	-24 thousand	-15 thousand	-15 thousand
GDP / Year	-$0 billion	+$0 billion	+$2 billion	+$2 billion	$53 billion	$60 billion	$61 billion	$59 billion	-$5 billion	-$6 billion	-$4 billion	-$4 billion
Government Revenue** / Year	-$0 billion	-$0 billion	+$0 billion	+$0 billion	$16 billion	$19 billion	$20 billion	$20 billion	-$1 billion	-$1 billion	-$1 billion	-$1 billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	-$0 billion	-$0 billion	+$0 billion	$66 billion	$155 billion	$253 billion	$352 billion	-$3 billion	-$10 billion	-$15 billion	-$19 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Ohio – Impacts Summary

Impact on Ohio	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-8 kboed	-11 kboed	-9 kboed	-48 kboed	1684 kboed	2030 kboed	2089 kboed	2330 kboed	+197 kboed	+347 kboed	+524 kboed	+92 kboed
Total Jobs Supported*	-0 thousand	+3 thousand	+10 thousand	+25 thousand	198 thousand	226 thousand	222 thousand	243 thousand	+2 thousand	+26 thousand	+38 thousand	-15 thousand
GDP / Year	-$0 billion	+$0 billion	+$1 billion	+$3 billion	$30 billion	$34 billion	$34 billion	$37 billion	+$0 billion	+$4 billion	+$6 billion	-$3 billion
Government Revenue** / Year	-$0 billion	+$0 \billion	+$0 billion	+$0 billion	$3 billion	$4 billion	$4 billion	$4 billion	+$0 billion	+$1 billion	+$2 billion	+$3 billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	-$0 billion	+$0 billion	+$0 billion	$13 billion	$29 billion	$48 billion	$67 billion	-$0 billion	+$5 billion	+$14 billion	+$25 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Gas production increase under regulatory constraints scenario is caused by expected rocky mountain region gas supply loss

Oklahoma – Impacts Summary

Impact on Oklahoma	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+289 kboed	+426 kboed	+419 kboed	+331 kboed	2147 kboed	2437 kboed	2121 kboed	1794 kboed	-26 kboed	-231 kboed	-140 kboed	-68 kboed
Total Jobs Supported*	+32 thousand	+63 thousand	+95 thousand	+118 thousand	586 thousand	586 thousand	499 thousand	470 thousand	-37 thousand	-80 thousand	-48 thousand	-40 thousand
GDP / Year	+$5 billion	+$9 billion	+$13 billion	+$15 billion	$84 billion	$87 billion	$75 billion	$69 billion	-$5 billion	-$11 billion	-$7 billion	-$6 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$1 billion	+$1 billion	$6 billion	$7 billion	$7 billion	$6 billion	-$0 billion	-$1 billion	-$1 billion	-$1 billion
Cumulative Gov't Revenue** (from 2016)	+$1 billion	+$3 billion	+$6 billion	+$9 billion	$24 billion	$59 billion	$95 billion	$127 billion	-$1 billion	-$4 billion	-$7 billion	-$9 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Oregon – Impacts Summary

Impact on Oregon	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	-0 kboed	-0 kboed	-0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	-0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+6 thousand	+6 thousand	9 thousand	10 thousand	10 thousand	11 thousand	-1 thousand	-1 thousand	-1 thousand	-2 thousand
GDP / Year	+$0.07 billion	+$0.22 billion	+$1.02 billion	+$1.08 billion	$1.26 billion	$1.39 billion	$1.42 billion	$1.43 billion	-$0.17 billion	-$0.15 billion	-$0.15 billion	-$0.21 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.1 billion	+$0.1 billion	$0.07 billion	$0.08 billion	$0.08 billion	$0.08 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.65 billion	+$1.14 billion	+$1.7 billion	$0.31 billion	$0.67 billion	$1.06 billion	$1.45 billion	-$0.03 billion	-$0.07 billion	-$0.12 billion	-$0.16 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Oregon is expected to benefit from Oregon LNG project under pro-development policies scenario

Pennsylvania – Impacts Summary

Impact on Pennsylvania	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-20 kboed	-229 kboed	-403 kboed	-294 kboed	5084 kboed	5696 kboed	5837 kboed	5411 kboed	-196 kboed	+701 kboed	+422 kboed	+57 kboed
Total Jobs Supported*	+0 thousand	-1 thousand	+0 thousand	+31 thousand	504 thousand	521 thousand	519 thousand	509 thousand	-37 thousand	+44 thousand	+6 thousand	-27 thousand
GDP / Year	+$0 billion	-$1 billion	-$1 billion	+$3 billion	$83 billion	$87 billion	$87 billion	$84 billion	-$6 billion	+$7 billion	+$2 billion	-$4 billion
Government Revenue** / Year	+$0 billion	-$0 billion	-$0 billion	+$0 billion	$5 billion	$6 billion	$6 billion	$5 billion	-$0 billion	+$0 billion	-$0 billion	+$1 Billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	-$0 billion	-$1 billion	-$1 billion	$20 billion	$48 billion	$76 billion	$103 billion	-$2 billion	-$2 billion	-$2 billion	-$2 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Gas production increase under regulatory constraints scenario is caused by expected rocky mountain region gas supply loss

Rhode Island – Impacts Summary

Impact on Rhode Island	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+0 thousand	+0 thousand	1 thousand	2 thousand	2 thousand	2 thousand	-0 thousand	-0 thousand	-0 thousand	-0 thousand
GDP / Year	+$0.01 billion	+$0.01 billion	+$0.03 billion	+$0.03 billion	$0.16 billion	$0.18 billion	$0.19 billion	$0.19 billion	-$0.02 billion	-$0.02 billion	-$0.03 billion	-$0.03 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0 billion	$0.01 billion	$0.01 billion	$0.01 billion	$0.01 billion	-$0 billion	-$0 billion	-$0 billion	-$0 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$0 billion	+$0.01 billion	+$0 billion	$0.04 billion	$0.08 billion	$0.13 billion	$0.18 billion	-$0 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

South Carolina – Impacts Summary

Impact on South Carolina	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+2 Kboed	+161 kboed	+205 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+1 thousand	+19 thousand	+26 thousand	7 thousand	8 thousand	8 thousand	8 thousand	-1 thousand	-1 thousand	-1 thousand	-1 thousand
GDP / Year	+$0.04 billion	+$0.08 billion	+$5.38 billion	+$7.22 billion	$0.74 billion	$0.84 billion	$0.87 billion	$0.88 billion	-$0.09 billion	-$0.1 billion	-$0.12 billion	-$0.14 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.8 billion	+$1 billion	$0.04 billion	$0.04 billion	$0.05 billion	$0.05 billion	-$0 billion	-$0 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.01 billion	+$0.02 billion	+$2.07 billion	+$7.1 billion	$0.18 billion	$0.39 billion	$0.62 billion	$0.86 billion	-$0.01 billion	-$0.04 billion	-$0.07 billion	-$0.1 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***South Carolina is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

South Dakota – Impacts Summary

Impact on South Dakota	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	-0 kboed	-0 kboed	-0 kboed	10 kboed	10 kboed	10 kboed	10 kboed	+0 kboed	+0 kboed	-0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+0 thousand	+0 thousand	4 thousand	4 thousand	5 thousand	5 thousand	-0 thousand	-0 thousand	-0 thousand	-1 thousand
GDP / Year	+$0.01 billion	+$0.04 billion	+$0.09 billion	+$0.08 billion	$0.67 billion	$0.72 billion	$0.73 billion	$0.75 billion	-$0.08 billion	-$0.07 billion	-$0.06 billion	-$0.09 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0 billion	$0.04 billion	$0.05 billion	$0.05 billion	$0.05 billion	-$0 billion	-$0 billion	-$0 billion	-$0.01 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.02 billion	+$0.04 billion	+$0.1 billion	$0.19 billion	$0.4 billion	$0.64 billion	$0.89 billion	-$0.01 billion	-$0.02 billion	-$0.03 billion	-$0.04 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Tennessee – Impacts Summary

Impact on Tennessee	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+1 kboed	+1 kboed	+2 kboed	+2 kboed	4 kboed	7 kboed	10 kboed	14 kboed	-0 kboed	-1 kboed	-2 kboed	-2 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+3 thousand	+3 thousand	17 thousand	19 thousand	20 thousand	20 thousand	-2 thousand	-2 thousand	-3 thousand	-3 thousand
GDP / Year	+$0.1 billion	+$0.14 billion	+$0.29 billion	+$0.37 billion	$2 billion	$2.21 billion	$2.31 billion	$2.38 billion	-$0.19 billion	-$0.21 billion	-$0.27 billion	-$0.32 billion
Government Revenue** / Year	+$0.01 billion	+$0.01 billion	+$0.01 billion	+$0.02 billion	$0.1 billion	$0.11 billion	$0.11 billion	$0.12 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.04 billion
Cumulative Gov't Revenue** (from 2016)	+$0.03 billion	+$0.06 billion	+$0.12 billion	+$0.2 billion	$0.43 billion	$0.95 billion	$1.51 billion	$2.1 billion	-$0.03 billion	-$0.08 billion	-$0.15 billion	-$0.23 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Texas – Impacts Summary

Impact on Texas	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+478 kboed	+485 kboed	+586 kboed	+513 kboed	10407 kboed	11144 kboed	11440 kboed	11739 kboed	+72 kboed	-186 kboed	-64 kboed	+506 kboed
Total Jobs Supported*	+273 thousand	+383 thousand	+650 thousand	+733 thousand	3461 thousand	3645 thousand	3552 thousand	3589 thousand	-281 thousand	-307 thousand	-212 thousand	-155 thousand
GDP / Year	+$36 billion	+$54 billion	+$88 billion	+$98 billion	$576 billion	$613 billion	$599 billion	$599 billion	-$46 billion	-$54 billion	-$37 billion	-$23 Billion
Government Revenue** / Year	+$2 billion	+$2 billion	+$4 billion	+$4 billion	$41 Billion	$45 billion	$45 billion	$46 billion	-$2 billion	-$2 billion	-$0 billion	+$2 billion
Cumulative Gov't Revenue** (from 2016)	+$6 billion	+$15 billion	+$32 billion	+$52 billion	$179 billion	$394 billion	$621 billion	$848 billion	-$9 billion	-$21 billion	-$30 billion	-$24 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Gas production increase under regulatory constraints scenario is caused by expected rocky mountain region gas supply loss. However, Texas could be adversely affected economically under regulatory constraints

Utah – Impacts Summary

Impact on Utah	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-1 kboed	+114 kboed	+82 kboed	+57 kboed	319 kboed	334 kboed	477 kboed	530 kboed	-243 kboed	-286 kboed	-433 kboed	-493 Kboed
Total Jobs Supported*	-1 thousand	+19 thousand	+20 thousand	+23 thousand	68 thousand	75 thousand	95 thousand	98 thousand	-39 thousand	-47 thousand	-66 thousand	-70 thousand
GDP / Year	-$0 billion	+$3 billion	+$3 billion	+$3 billion	$11 billion	$12 billion	$15 billion	$16 billion	-$6 billion	-$7 billion	-$10 billion	-$10 billion
Government Revenue** / Year	-$0 billion	+$0 billion	+$0 billion	+$0 billion	$1 billion	$1 billion	$2 billion	$2 billion	-$1 billion	-$1 billion	-$1 billion	-$3 Billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	+$1 billion	+$3 billion	+$5 billion	$5 billion	$11 billion	$18 billion	$26 billion	-$2 billion	-$7 billion	-$12 billion	-$19 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Listing sage grouse listed under Endangered Species Act (FWS) could severely restrict potential drilling in Utah under regulatory constraints scenario

Vermont – Impacts Summary

Impact on Vermont	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+0 thousand	+0 thousand	+0 thousand	+0 thousand	1 thousand	2 thousand	2 thousand	2 thousand	-0 thousand	-0 thousand	-0 thousand	-0 thousand
GDP / Year	+$0.01 billion	+$0.01 billion	+$0.03 billion	+$0.03 billion	$0.16 billion	$0.18 billion	$0.19 billion	$0.19 billion	-$0.02 billion	-$0.02 billion	-$0.03 billion	-$0.04 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	+$0 billion	$0.01 billion	$0.01 billion	$0.01 billion	$0.01 billion	-$0 billion	-$0 billion	-$0 billion	-$0 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$0.01 billion	+$0.01 billion	+$0 billion	$0.04 billion	$0.08 billion	$0.13 billion	$0.18 billion	-$0 billion	-$0.01 billion	-$0.02 billion	-$0.02 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Virginia – Impacts Summary

Impact on Virginia	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-0 kboed	+1 kboed	+96 kboed	+123 kboed	33 kboed	21 kboed	13 kboed	8 kboed	+1 kboed	+0 kboed	-0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+3 thousand	+14 thousand	+18 thousand	20 thousand	22 thousand	23 thousand	23 thousand	-3 thousand	-3 thousand	-4 thousand	-5 thousand
GDP / Year	+$0.12 billion	+$0.28 billion	+$3.54 billion	+$4.61 billion	$2.25 billion	$2.35 billion	$2.38 billion	$2.37 billion	-$0.29 billion	-$0.3 billion	-$0.42 billion	-$0.52 billion
Government Revenue** / Year	+$0.01 billion	+$0.02 billion	+$0.51 billion	+$0.62 billion	$0.17 billion	$0.16 billion	$0.15 billion	$0.15 billion	-$0.02 billion	-$0.02 billion	-$0.03 billion	-$0.07 billion
Cumulative Gov't Revenue** (from 2016)	+$0.04 billion	+$0.11 billion	+$1.48 billion	+$4.7 billion	$0.79 billion	$1.6 billion	$2.38 billion	$3.13 billion	-$0.07 billion	-$0.17 billion	-$0.29 billion	-$0.44 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Virginia is expected to benefit from Atlantic coastal area offshore development under pro-development policies scenario

Washington – Impacts Summary

Impact on Washington	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+2 thousand	+3 thousand	26 thousand	28 thousand	28 thousand	29 thousand	-1 thousand	-2 thousand	-2 thousand	-2 thousand
GDP / Year	+$0.09 billion	+$0.12 billion	+$0.24 billion	+$0.3 billion	$3.4 billion	$3.7 billion	$3.89 billion	$3.94 billion	-$0.25 billion	-$0.27 billion	-$0.32 billion	-$0.37 billion
Government Revenue** / Year	+$0 billion	+$0.01 billion	+$0.01 billion	+$0.01 billion	$0.14 billion	$0.15 billion	$0.16 billion	$0.16 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.03 billion
Cumulative Gov't Revenue** (from 2016)	+$0.02 billion	+$0.05 billion	+$0.09 billion	+$0.2 billion	$0.65 billion	$1.38 billion	$2.15 billion	$2.94 billion	-$0.03 billion	-$0.07 billion	-$0.13 billion	-$0.19 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

West Virginia – Impacts Summary

Impact on West Virginia	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	-87 kboed	-155 kboed	-261 kboed	+200 kboed	928 kboed	1059 kboed	1121 kboed	783 kboed	-180 kboed	-175 kboed	+2 kboed	-33 kboed
Total Jobs Supported*	-3 thousand	-7 thousand	-4 thousand	+34 thousand	106 thousand	103 thousand	115 thousand	102 thousand	-10 thousand	-6 thousand	+5 thousand	-19 thousand
GDP / Year	-$1 billion	-$2 billion	-$1 billion	+$4 billion	$14 billion	$14 billion	$16 billion	$13 billion	-$2 billion	-$1 billion	+$1 billion	-$2 billion
Government Revenue** / Year	-$0 billion	-$0 billion	+$0 billion	+$0 billion	$2 billion	$2 billion	$2 billion	$2 billion	-$0 billion	-$1 billion	-$0 billion	-$1 billion
Cumulative Gov't Revenue** (from 2016)	-$0 billion	-$1 billion	-$2 billion	-$0 billion	$7 billion	$17 billion	$27 billion	$36 billion	-$1 billion	-$4 billion	-$6 billion	-$9 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Wisconsin – Impacts Summary

Impact on Wisconsin	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+0 kboed	+0 kboed	+0 kboed	+0 kboed	0 kboed	0 kboed	0 kboed	0 kboed	+0 kboed	+0 kboed	+0 kboed	+0 kboed
Total Jobs Supported*	+1 thousand	+1 thousand	+2 thousand	+2 thousand	12 thousand	13 thousand	14 thousand	14 thousand	-1 thousand	-1 thousand	-1 thousand	-2 thousand
GDP / Year	+$0.08 billion	+$0.11 billion	+$0.21 billion	+$0.26 billion	$1.41 billion	$1.57 billion	$1.66 billion	$1.68 billion	-$0.12 billion	-$0.14 billion	-$0.16 billion	-$0.19 billion
Government Revenue** / Year	+$0.01 billion	+$0.01 billion	+$0.01 billion	+$0.02 billion	$0.08 billion	$0.09 billion	$0.1 billion	$0.1 billion	-$0.01 billion	-$0.01 billion	-$0.01 billion	-$0.02 billion
Cumulative Gov't Revenue** (from 2016)	+$0.03 billion	+$0.07 billion	+$0.13 billion	+$0.2 billion	$0.38 billion	$0.84 billion	$1.33 billion	$1.83 billion	-$0.02 billion	-$0.05 billion	-$0.09 billion	-$0.13 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue

Wyoming – Impacts Summary

Impact on Wyoming	Pro-development Policies (incremental)				Baseline (absolute)				Regulatory Constraints (incremental)			
	2020	2025	2030	2035	2020	2025	2030	2035	2020	2025	2030	2035
Oil and Natural Gas Production	+32 kboed	+118 kboed	+173 kboed	+50 kboed	1400 kboed	1689 kboed	1806 kboed	1868 kboed	-877 kboed	-1245 kboed	-1461 kboed	-1581 kboed
Total Jobs Supported*	+5 thousand	+11 thousand	+22 thousand	+25 thousand	112 thousand	126 thousand	132 thousand	135 thousand	-57 thousand	-72 thousand	-82 thousand	-91 thousand
GDP / Year	+$0 billion	+$1 billion	+$3 billion	+$3 billion	$24 billion	$27 billion	$28 billion	$29 billion	-$12 billion	-$16 billion	-$19 billion	-$21 billion
Government Revenue** / Year	+$0 billion	+$0 billion	+$0 billion	-$0 billion	$5 billion	$6 billion	$6 billion	$7 billion	-$3 billion	-$5 billion	-$5 billion	-$12 billion
Cumulative Gov't Revenue** (from 2016)	+$0 billion	+$1 billion	+$1 billion	+$1 billion	$21 billion	$48 billion	$79 billion	$113 billion	-$11 billion	-$31 billion	-$57 billion	-$86 billion

*Jobs supported include direct, indirect and induced job creation
**Does not include federal government tax revenue
***Listing sage grouse listed under Endangered Species Act (FWS) could severely restrict potential drilling in Wyoming under regulatory constraints scenario

Appendices

A1. Baseline assumptions

A2. Pro-development scenario assumptions

A3. Regulatory constraints assumptions

A4. Summary job impacts

A5. State-level impacts

A6. Data for key charts

Chart data (1 of 4)

Page Number	Legend Category	Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Page 9	Regulatory constraints	MMbbld	25	25	26	27	28	29	30	30	31	32	32	33	33	34	34	34	34	34	33	33	33
	Baseline	MMbbld	25	26	27	29	30	31	32	33	34	35	35	36	36	36	37	37	37	37	36	36	36
	Pro-development	MMbbld	25	26	27	29	31	32	33	34	35	37	38	39	40	41	42	43	44	44	44	44	44
Page 10	Regulatory constraints	Million	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Baseline	Million	5	6	6	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Pro-development	Million	5	6	7	7	8	8	8	8	8	9	9	9	9	10	10	10	10	10	10	10	10
Page 11	Regulatory constraints	$ Billion	781	858	945	1,054	1,071	1,109	1,117	1,135	1,166	1,178	1,201	1,201	1,207	1,203	1,199	1,202	1,205	1,203	1,197	1,184	1,179
	Baseline	$ Billion	800	898	1,009	1,155	1,191	1,236	1,252	1,277	1,302	1,325	1,339	1,355	1,361	1,349	1,338	1,328	1,323	1,320	1,314	1,312	1,312
	Pro-development	$ Billion	812	911	1,037	1,198	1,240	1,289	1,320	1,348	1,392	1,450	1,502	1,545	1,576	1,622	1,660	1,691	1,720	1,728	1,732	1,727	1,755
Page 12	Regulatory constraints	$ Billion	131	149	160	191	194	200	206	211	217	222	224	231	237	240	242	241	243	242	239	234	232
	Baseline	$ Billion	136	159	173	213	221	228	236	243	249	256	257	266	268	269	268	264	262	261	256	252	250
	Pro-development	$ Billion	138	160	175	216	226	233	242	253	266	280	295	313	326	345	361	368	374	377	374	372	373
Page 13	Regulatory constraints	$	3,651	3,953	4,092	4,187	4,301	4,321	4,316	4,303	4,380	4,407	4,399	4,475	4,437	4,426	4,378	4,369	4,314	4,340	4,363	4,378	4,355
	Baseline	$	3,506	3,757	3,850	3,879	3,956	3,999	4,008	4,027	4,106	4,148	4,144	4,237	4,206	4,207	4,182	4,165	4,116	4,140	4,137	4,121	4,113
	Pro-development	$	3,433	3,682	3,792	3,787	3,844	3,879	3,885	3,903	3,976	4,008	3,975	4,046	3,999	3,985	3,943	3,919	3,833	3,833	3,814	3,793	3,753
Page 31 RHS	Regulatory constraints	MMbbld	9	10	10	11	11	12	12	12	12	12	12	12	12	12	12	12	12	11	11	11	11
	Baseline	MMbbld	9	10	10	11	12	12	13	13	13	14	14	15	15	16	16	16	17	17	17	17	17
	Pro-development	MMbbld	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	11	10	10	10	10
Page 32 RHS	Regulatory constraints	bcfd	70	69	72	77	81	86	89	91	95	98	99	101	104	105	105	105	105	105	105	104	105
	Baseline	bcfd	72	73	77	82	85	90	93	95	98	100	102	105	108	110	111	112	113	114	114	114	116
	Pro-development	bcfd	72	72	77	83	87	92	95	97	99	102	105	109	112	115	117	120	122	124	125	126	128
Page 33 RHS	Regulatory constraints	MMbbld	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Baseline	MMbbld	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	6	5
	Pro-development	MMbbld	3	3	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6
Page 34 RHS	Regulatory constraints	MMboed	25	25	26	27	28	29	30	30	31	32	32	33	33	34	34	34	34	34	33	33	33
	Baseline	MMboed	25	26	27	29	30	31	32	33	34	35	35	36	36	36	37	37	37	37	36	36	36
	Pro-development	MMboed	25	26	27	29	31	32	33	34	35	37	38	39	40	41	42	43	44	44	44	44	44
Page 35 RHS	Regulatory constraints	$ Billion	124	131	157	154	162	187	182	185	195	192	207	202	205	202	204	213	219	222	229	234	241
	Baseline	$ Billion	132	143	179	192	194	208	204	208	217	212	225	221	223	219	217	224	228	238	246	253	263
	Pro-development	$ Billion	133	146	186	201	206	225	224	234	244	273	285	294	295	303	322	335	354	346	349	354	349
Page 45 RHS	Regulatory constraints	$ Billion	37	40	41	39	37	35	34	35	36	37	37	38	36	36	36	36	36	36	36	36	38
	Baseline	$ Billion	38	41	43	43	43	43	42	43	43	44	45	46	47	47	47	47	48	48	48	48	50
	Pro-development	$ Billion	41	47	51	54	51	49	57	49	49	47	50	49	50	56	50	51	51	52	54	51	54

*RHS refers to the chart on the right hand side; LHS refers to the chart on the left hand side

Chart data (2 of 4)

Page Number	Legend Category	Unit	2015	2025			2035		
			Baseline	Baseline	Pro-dev.	Reg. Cons.	Baseline	Pro-dev.	Reg. Cons.
Page 31 LHS	Offshore (East & West Coast)	MMbbld	0.00	0.00	0.43		0.00	1.95	
	Alaska	MMbbld	0.41	0.35	0.86	0.35	0.29	2.19	0.29
	Gulf of Mexico	MMbbld	1.46	1.80	2.18	1.41	1.50	2.62	1.23
	Onshore US lower 48	MMbbld	7.58	10.18	11.01	8.61	9.20	9.95	8.45
Page 32 LHS	Offshore (East & West Coast)	bcfd		0.00	0.53		0.00	2.82	
	Alaska	bcfd	0.92	0.88	1.21	0.88	0.88	5.84	0.88
	Gulf of Mexico	bcfd	3.56	2.47	3.07	2.00	3.31	5.82	2.62
	Onshore US lower 48	bcfd	67.18	99.02	100.64	96.27	111.73	113.02	101.12
Page 33 LHS		MMbbld	3.12	5.05	5.17	4.94	5.47	5.78	5.09
Page 34 LHS		MMboed	24.93	35.02	37.83	32.41	36.46	44.47	33.11
Page 35 LHS	Offshore (East & West Coast)	$ Billion	0	0	10		0	28	
	Alaska	$ Billion	3	11	33	11	1	25	1
	Gulf of Mexico	$ Billion	17	11	19	8	2	17	1
	Onshore US lower 48	$ Billion	112	204	223	188	260	279	239
Page 45 LHS		$ Billion	38	45	50	37	50	54	38

*RHS refers to the chart on the right hand side; LHS refers to the chart on the left hand side

Chart data (3 of 4)

Page Number	Legend Category	Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Page 51	Baseline	Million	5.1	5.6	6.3	7.1	7.2	7.5	7.6	7.7	7.8	8.0	8.0	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.9	7.9	7.9
	Upstream	Million	3.3	3.8	4.5	5.3	5.5	5.8	5.8	6.0	6.2	6.5	6.7	6.8	6.9	7.0	7.3	7.4	7.6	7.5	7.5	7.5	7.7
	Midstream	Million	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.6	1.7	1.6	1.7	1.7	1.8	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9
	Refining	Million	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Page 52	Baseline	$ Billion	800	898	1,009	1,155	1,191	1,236	1,252	1,277	1,302	1,325	1,339	1,355	1,361	1,349	1,338	1,328	1,323	1,320	1,314	1,312	1,312
	Upstream	$ Billion	562	647	751	897	933	975	992	1,023	1,059	1,114	1,154	1,191	1,213	1,244	1,287	1,313	1,342	1,346	1,346	1,344	1,369
	Midstream	$ Billion	141	149	162	176	180	186	199	194	200	202	212	215	221	235	229	232	232	235	240	237	240
	Refining	$ Billion	109	115	124	125	127	128	129	131	133	134	136	139	142	144	145	145	145	146	146	146	147
Page 53	Baseline	$ Billion	136	159	173	213	221	228	236	243	249	256	257	266	268	269	268	264	262	261	256	252	250
	Upstream	$ Billion	109	130	143	183	191	197	205	216	229	242	256	274	286	303	319	326	331	334	331	329	329
	Midstream	$ Billion	17	18	19	21	21	22	23	23	24	24	25	25	26	28	27	28	28	28	29	28	29
	Refining	$ Billion	12	12	13	13	13	13	14	14	14	14	14	14	14	15	15	15	15	15	15	15	15
Page 55	Baseline	Million	5.1	5.6	6.3	7.1	7.2	7.5	7.6	7.7	7.8	8.0	8.0	8.1	8.1	8.0	8.0	7.9	7.9	7.9	7.9	7.9	7.9
	Upstream	Million	3.2	3.6	4.1	4.6	4.7	5.0	5.0	5.0	5.2	5.2	5.3	5.3	5.3	5.2	5.2	5.2	5.3	5.2	5.2	5.2	5.1
	Midstream	Million	1.1	1.1	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
	Refining	Million	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Page 56	Baseline	$ Billion	800	898	1,009	1,155	1,191	1,236	1,252	1,277	1,302	1,325	1,339	1,355	1,361	1,349	1,338	1,328	1,323	1,320	1,314	1,312	1,312
	Upstream	$ Billion	548	619	692	796	811	845	849	862	886	894	912	908	911	902	896	897	900	896	890	878	869
	Midstream	$ Billion	127	128	134	137	138	141	143	146	151	155	157	159	160	163	164	166	166	167	166	166	170
	Refining	$ Billion	107	111	119	121	122	124	125	127	128	130	132	134	136	139	139	140	139	140	140	140	140
Page 57	Baseline	$ Billion	136	159	173	213	221	228	236	243	249	256	257	266	268	269	268	264	262	261	256	252	250
	Upstream	$ Billion	104	121	131	161	164	170	175	180	185	190	191	197	203	206	207	207	209	207	204	200	197
	Midstream	$ Billion	15	15	16	16	17	17	17	18	18	19	19	19	19	20	20	20	20	20	20	20	20
	Refining	$ Billion	12	12	13	13	13	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14

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Chart data (4 of 4)

Page Number	Legend Category	Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Page 54 LHS	East Coast	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4
	North Central	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	South Central	Million	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.9	0.9	0.9	0.9	0.9	1.0
	Rockies	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2
	West Coast	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
	Alaska	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Page 54 RHS	East Coast	$ Billion	0	0	1	2	1	1	2	2	4	6	10	20	27	45	60	69	84	91	95	94	98
	North Central	$ Billion	-1	-2	-1	0	-1	-1	0	-1	1	1	1	2	2	5	5	6	7	6	7	6	9
	South Central	$ Billion	13	15	27	38	44	48	51	51	55	67	79	81	86	101	111	120	122	122	122	116	130
	Rockies	$ Billion	-1	-1	0	2	3	3	7	8	12	11	12	12	13	16	17	17	20	18	18	17	21
	West Coast	$ Billion	0	0	0	1	1	1	6	5	9	15	22	31	37	45	49	55	59	64	68	71	75
	Alaska	$ Billion	0	0	0	1	0	1	2	6	11	26	38	44	49	61	80	96	104	106	108	111	110
Page 58 LHS	East Coast	Million	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
	North Central	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
	South Central	Million	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2
	Rockies	Million	0.0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
	West Coast	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
	Alaska	Million	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Page 58 RHS	East Coast	$ Billion	-2	-4	-6	-17	-16	-11	-6	-4	3	1	3	-1	-1	-1	-2	-1	-1	-2	-3	-7	-9
	North Central	$ Billion	-2	-3	-4	-7	-8	-9	-9	-8	-5	-6	-7	-9	-8	-4	-2	-4	-6	-8	-10	-12	-14
	South Central	$ Billion	-6	-16	-22	-30	-39	-44	-52	-60	-65	-70	-63	-69	-67	-64	-57	-44	-36	-30	-28	-30	-30
	Rockies	$ Billion	-8	-15	-28	-42	-51	-57	-60	-63	-62	-64	-64	-67	-70	-71	-70	-69	-68	-70	-69	-71	-72
	West Coast	$ Billion	-2	-2	-3	-4	-5	-5	-6	-6	-6	-6	-7	-7	-7	-7	-7	-7	-7	-7	-8	-8	-8
	Alaska	$ Billion	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	-1	-1	-1	-1

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