

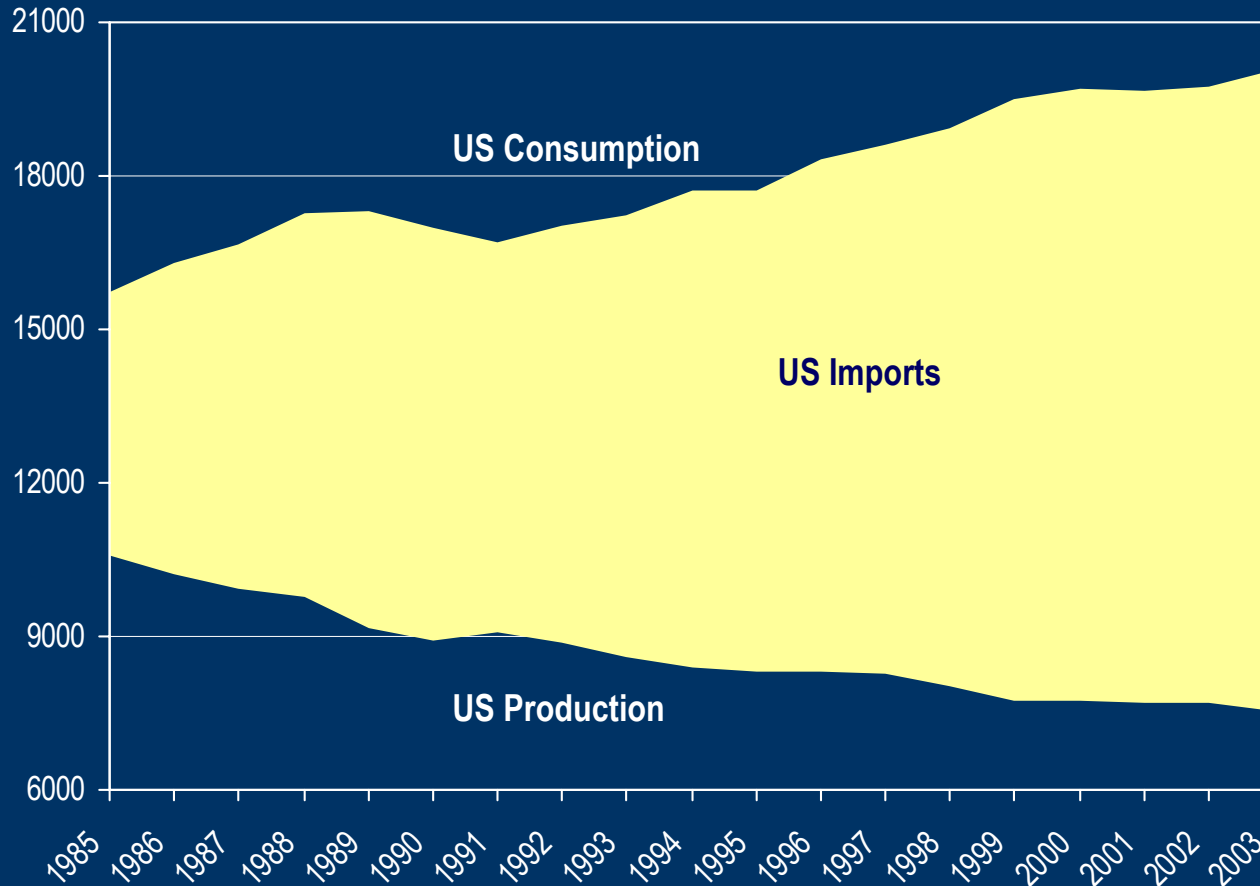
The future of the U.S. Oil Supply Security Strategy

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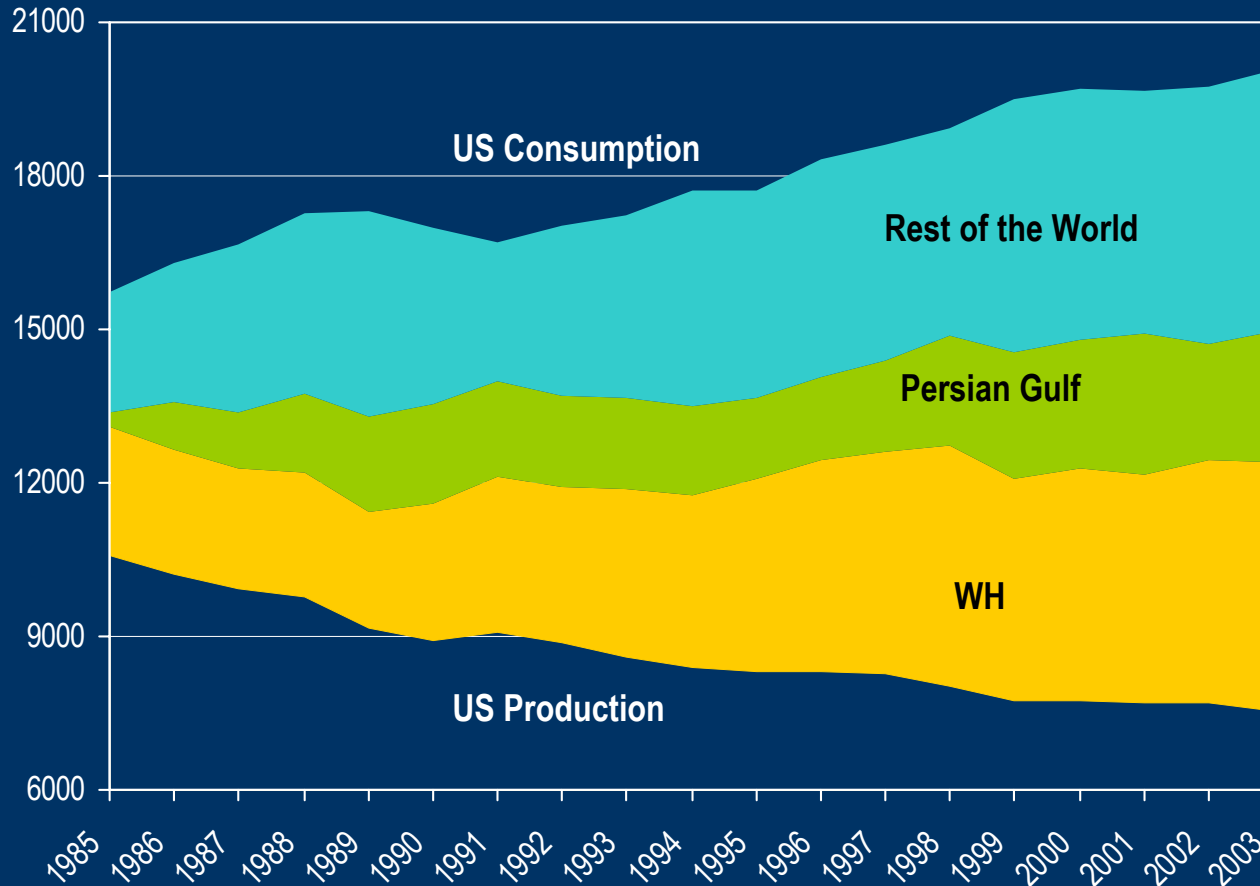
US imports have increased two and a half times over the last 15 years

US Crude Oil Balance (mbd)



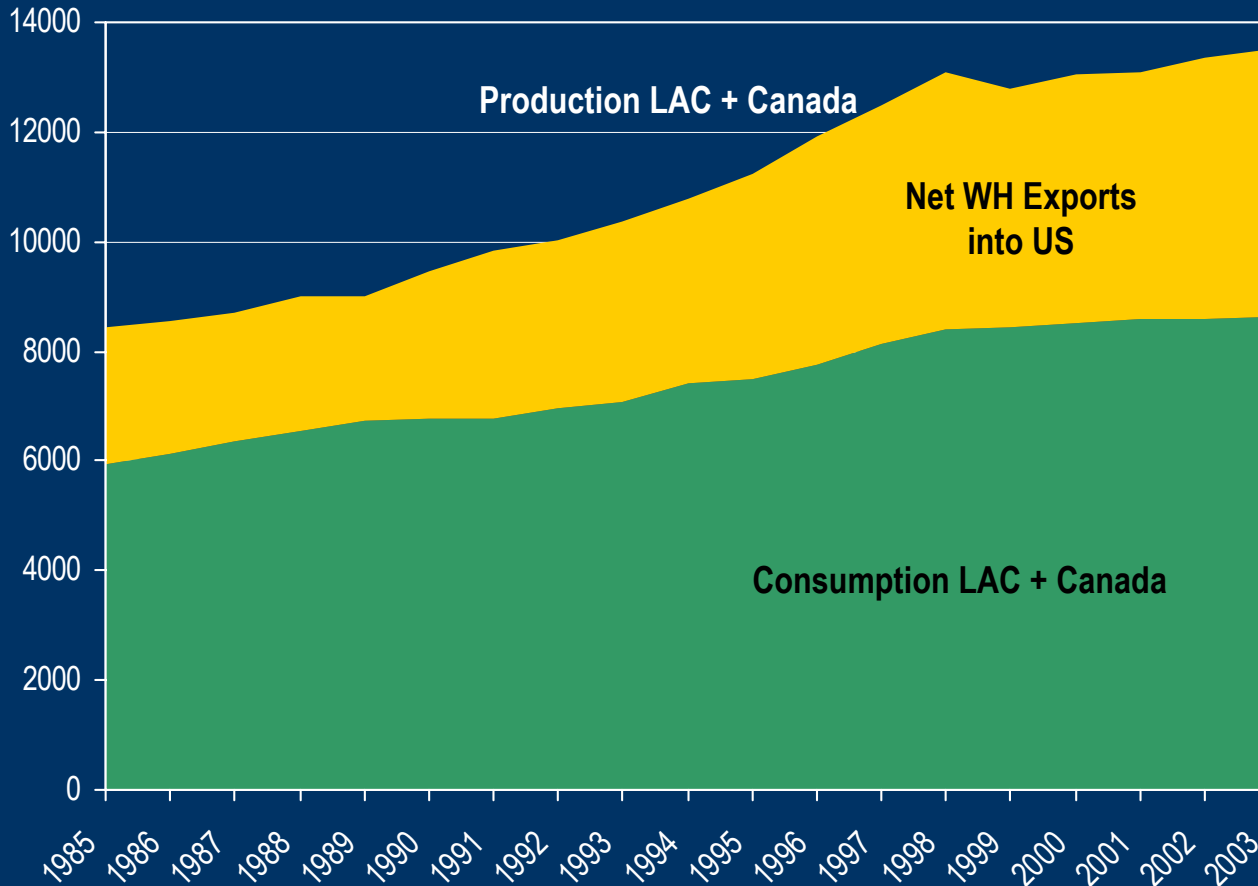
Four blocs: US, WH, PG, RoW

US Crude Oil Balance (mbd)



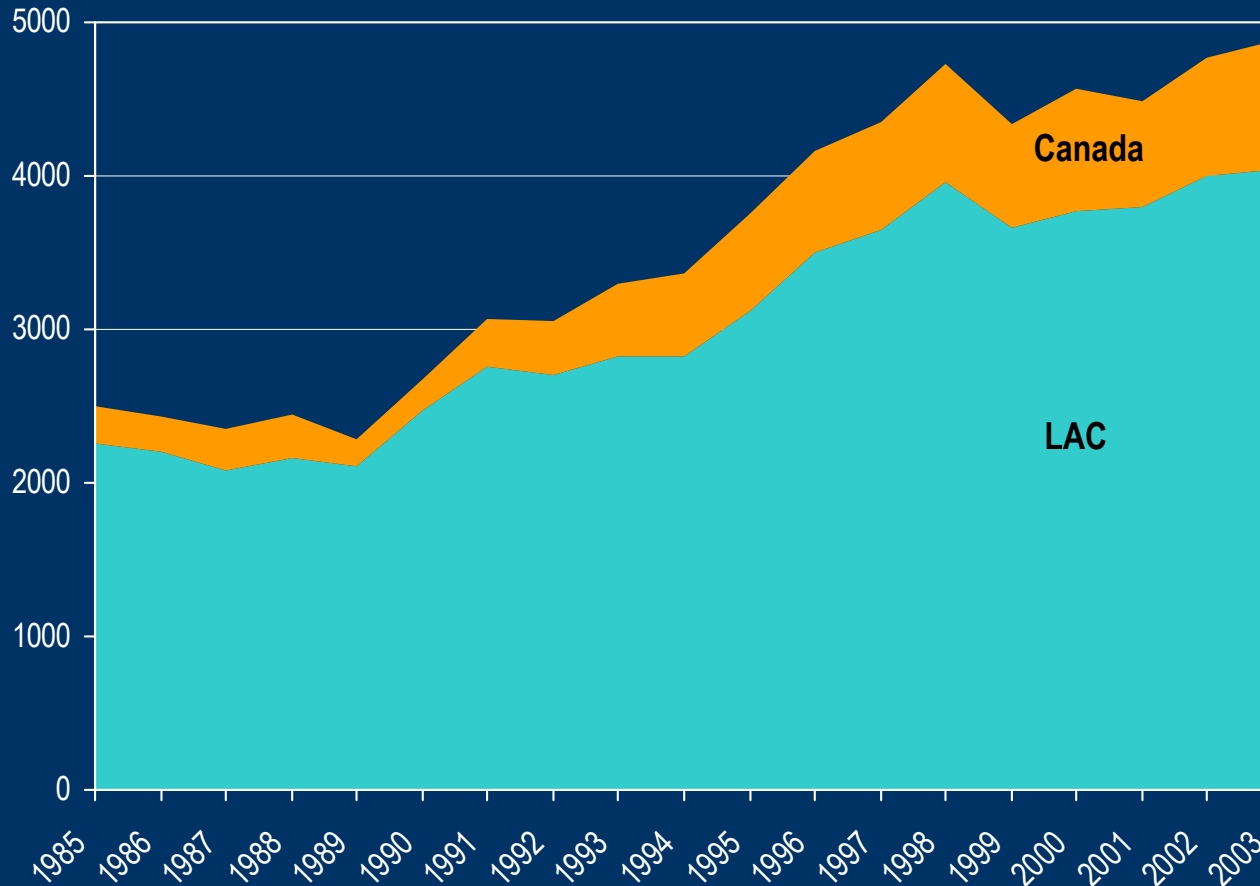
WH net exports into US have increased two fold since 1985

WH Crude Oil Balance (mbd)



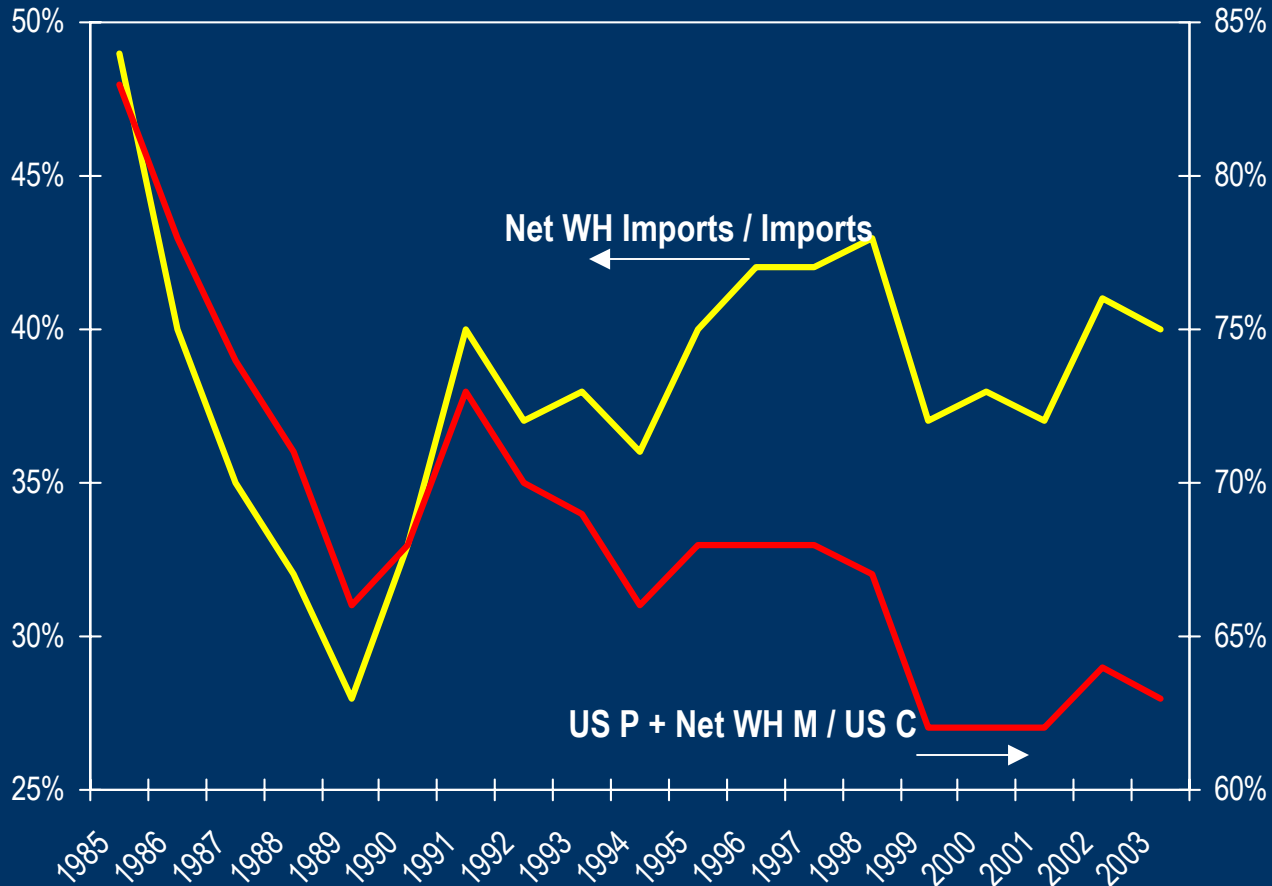
LAC exports amount 80% of WH exports into US

Net WH Oil exports into US (mbd)



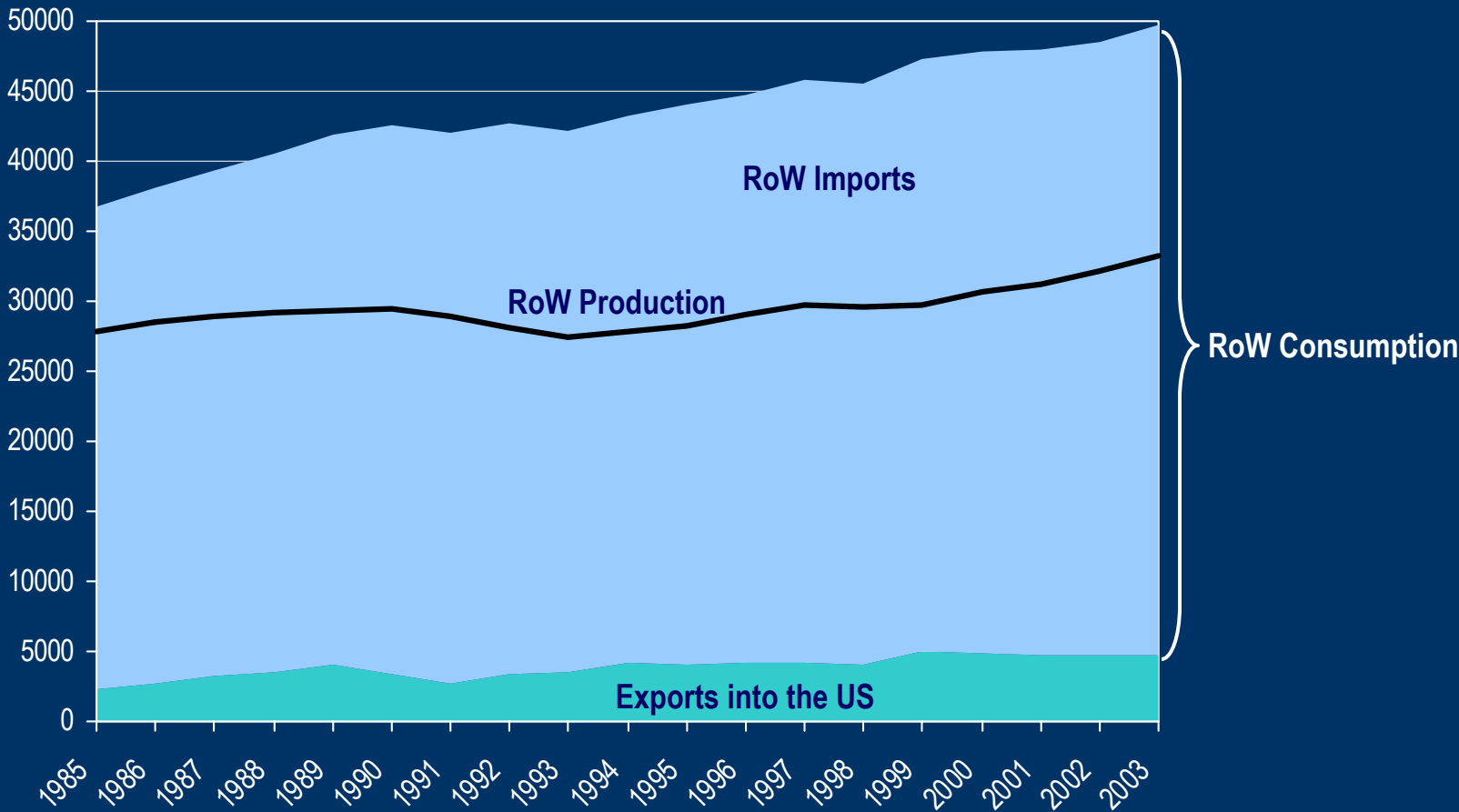
Net WH imports amount 40% total US imports and
 WH supplies amount 65% US Consumption

US Net M WH / Total M and US P + M WH / US C (%)



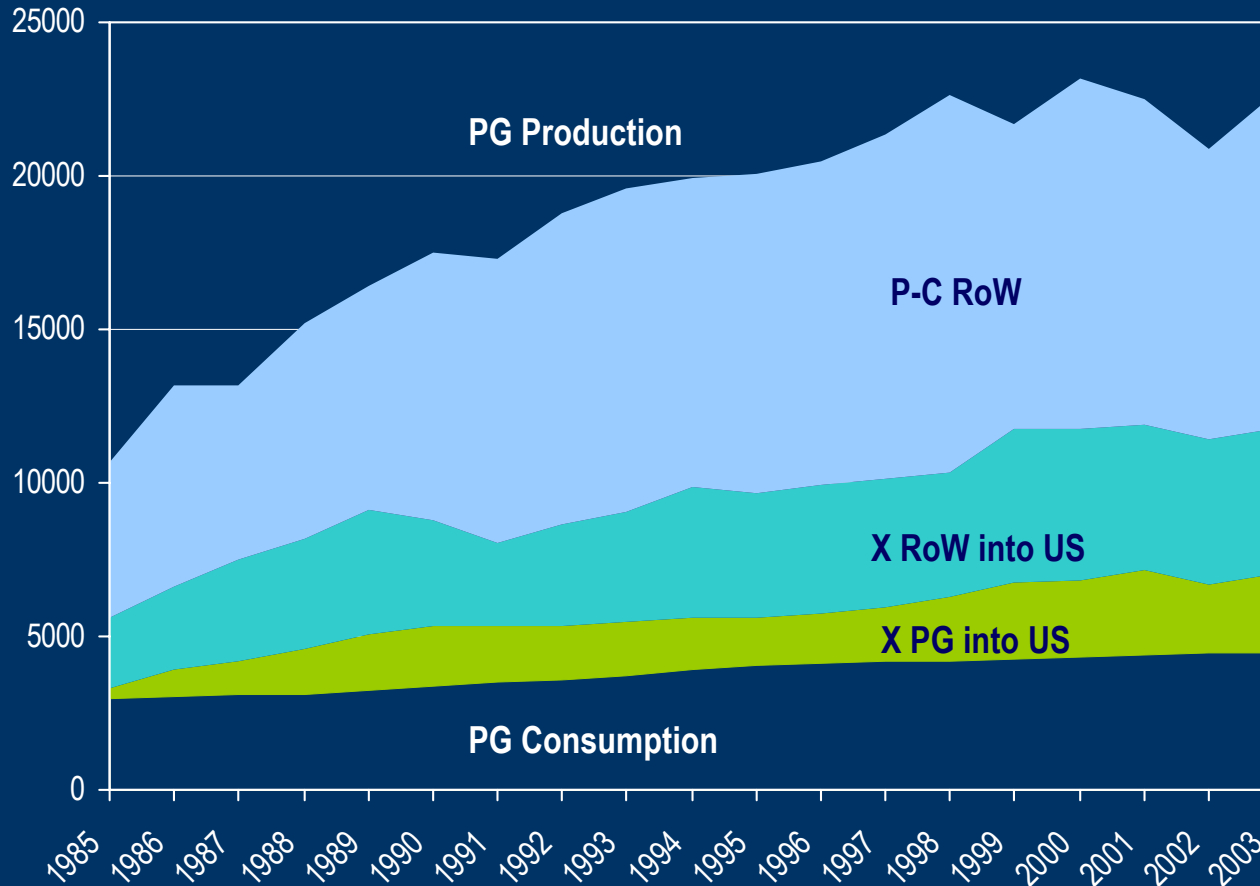
RoW imports 15.5 Mbd more than threefold what it exports into the US (4.7 Mbd)

RoW Crude Oil Balance (mbd)



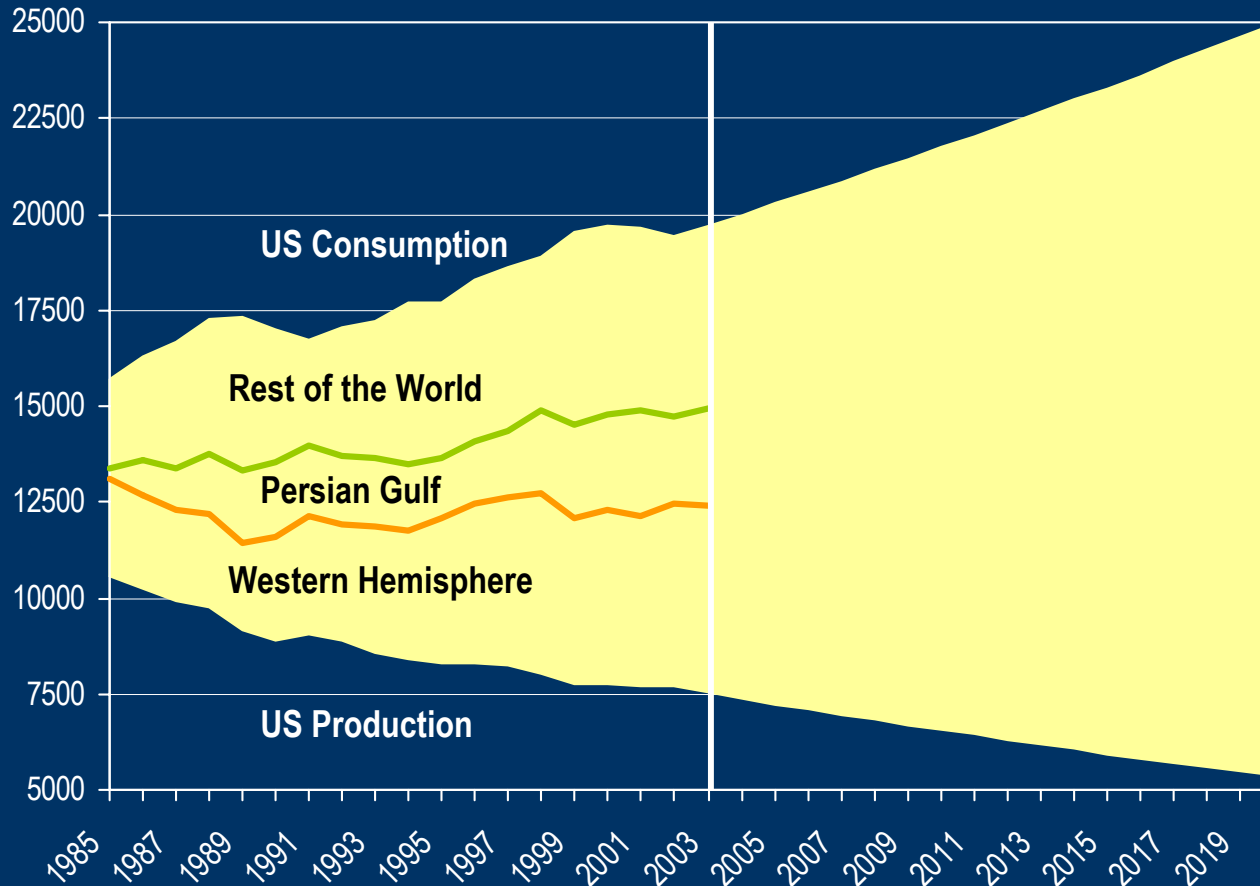
PG exports 15.5 Mbd to RoW, and 2.5 Mbd to the US
US dependence on PG supplies is much larger than what appears at first sight

PG Crude Oil Balance (mbd)



US imports could increase by 2/3 to 2020
from 12 Mbd up to 20 Mbd

US Crude Oil Balance (mbd)

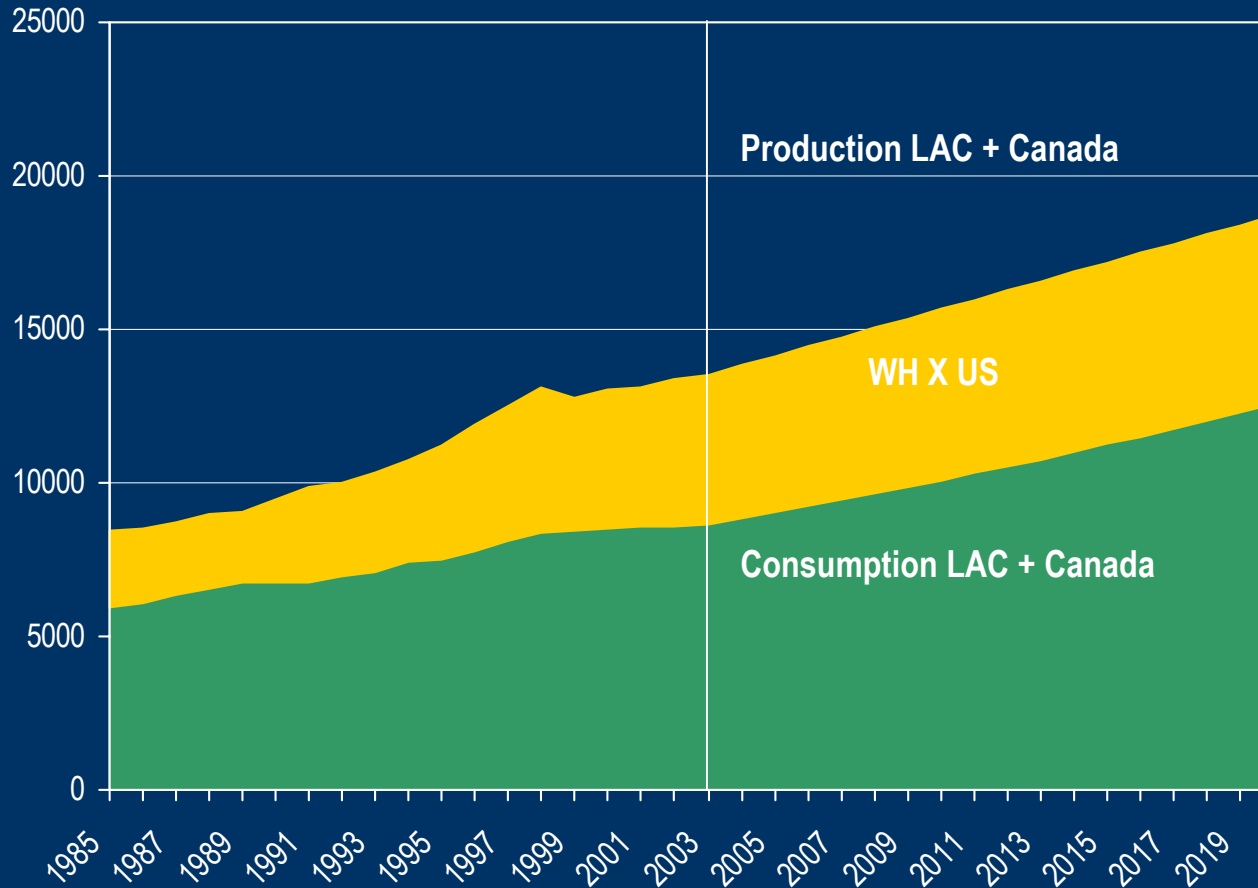


From the US perspective looking into the future there are two sources of supply: LAC and PG

	US	Canada	LAC	PG	RoW	World
Reserves mMbd	30	7	293	686	205	1221
Production mMby	2.8	1.0	3.9	8.1	11.4	27.2
P/R	9.3%	15.3%	1.3%	1.2%	5.6%	2.2%

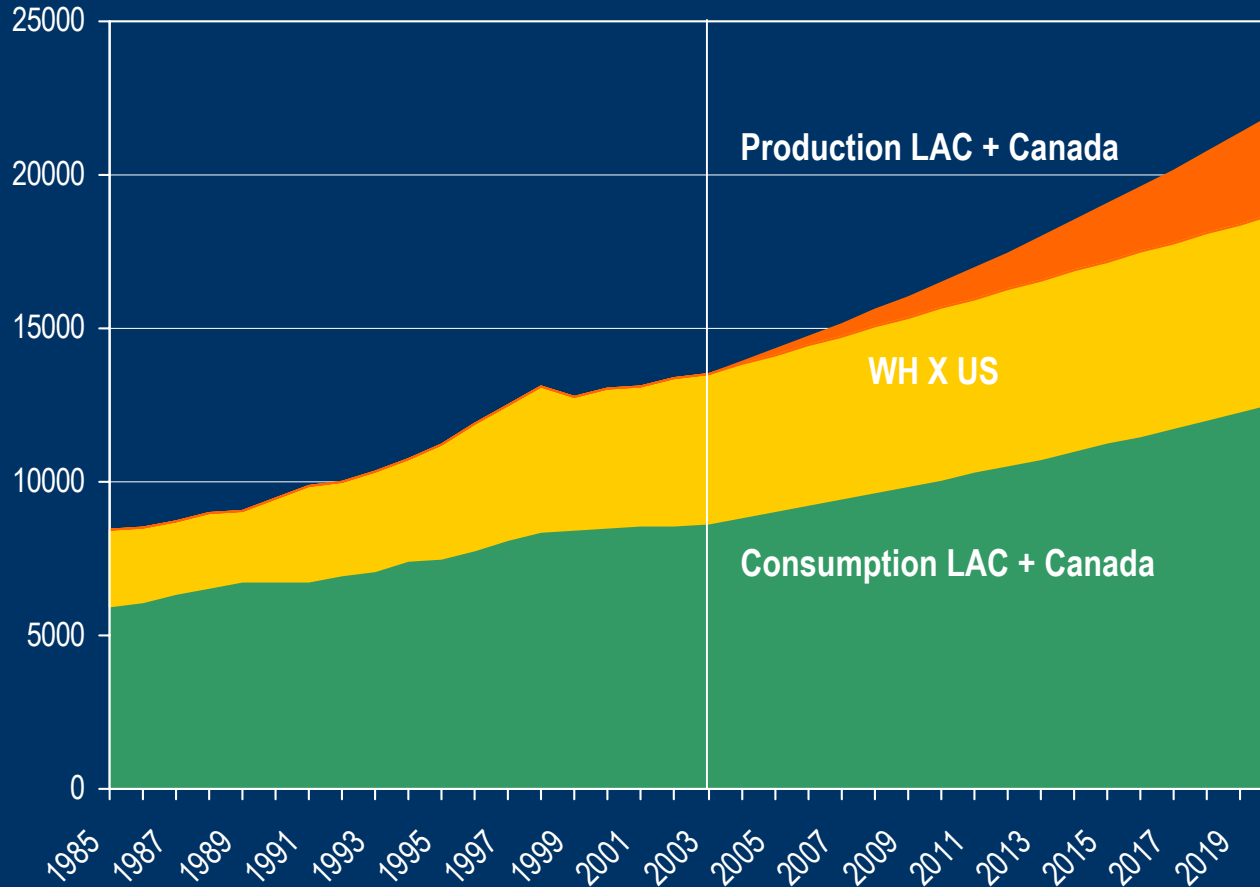
WH Growth: Production between 19 Mbd

WH Crude Oil Balance (mbd)



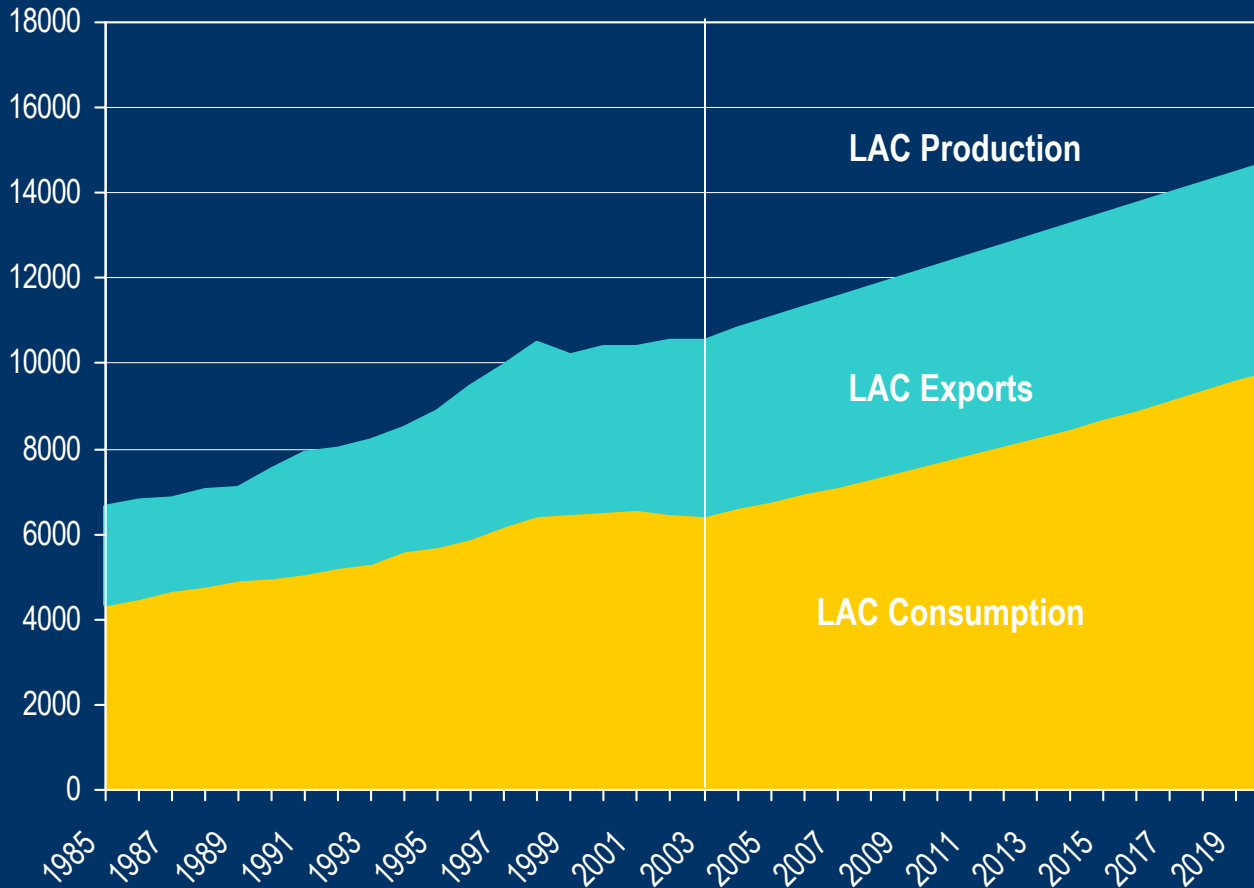
WH Growth: Production between 19 Mbd and 23 Mbd

WH Crude Oil Balance (mbd)



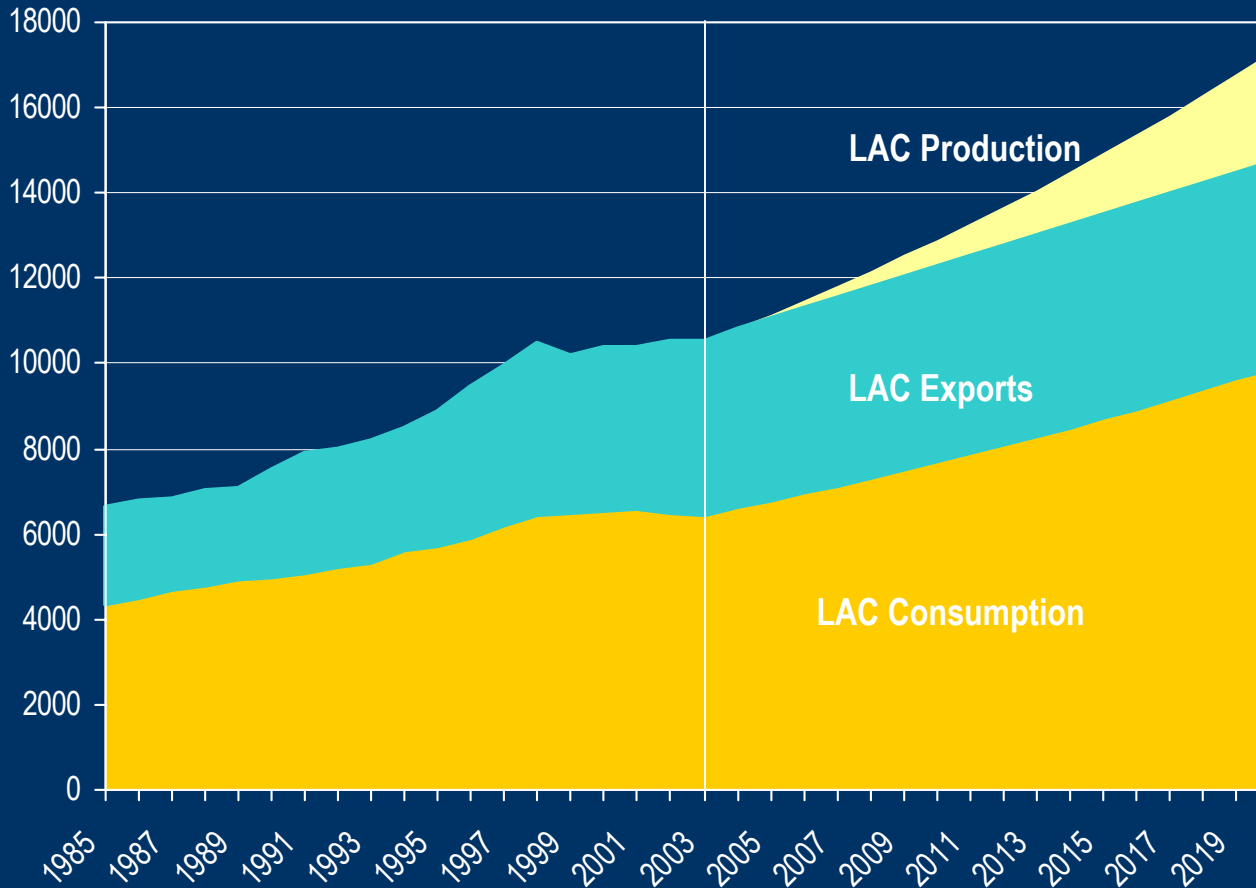
LAC Growth: Production between 15 Mbd

LAC Crude Oil Balance (mbd)



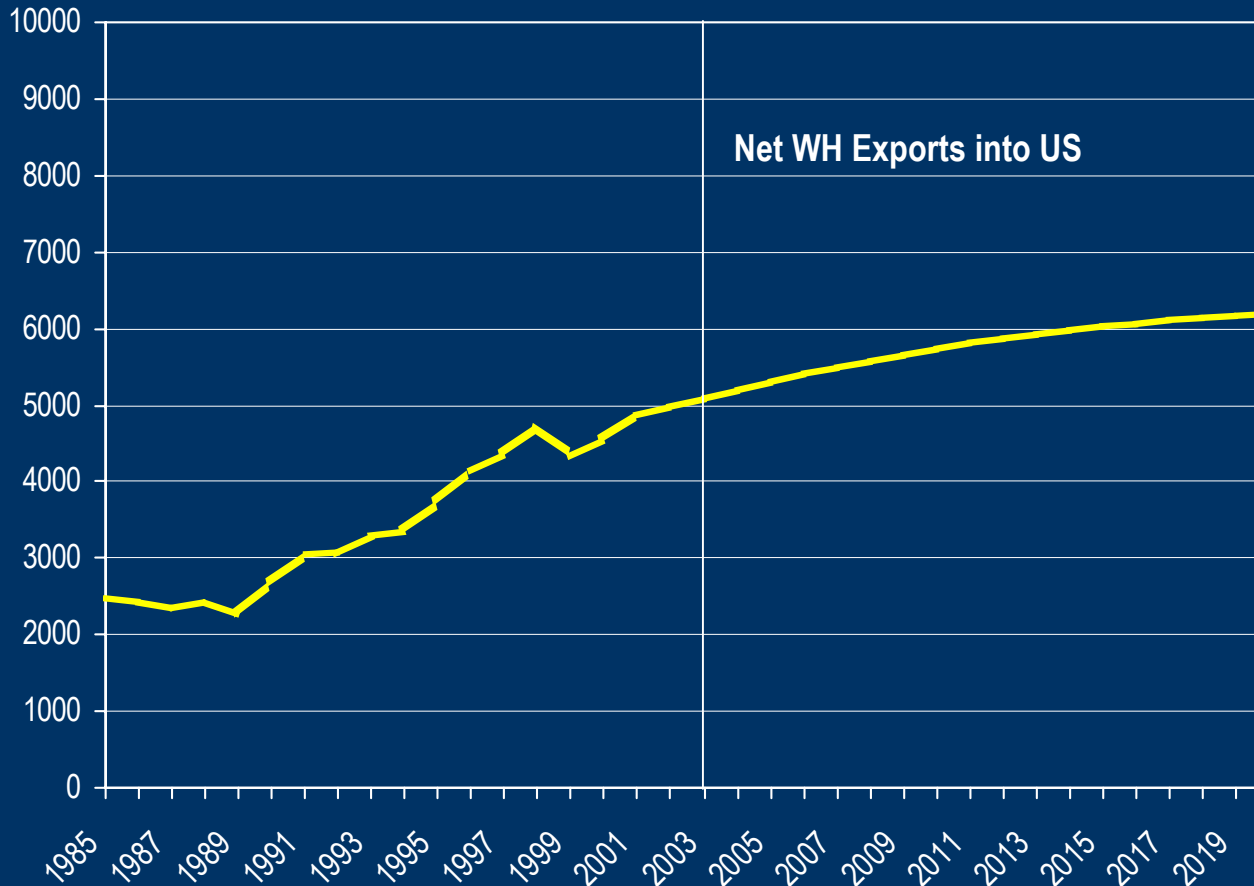
LAC Growth: Production between 15 Mbd and 17 Mbd

LAC Crude Oil Balance (mbd)



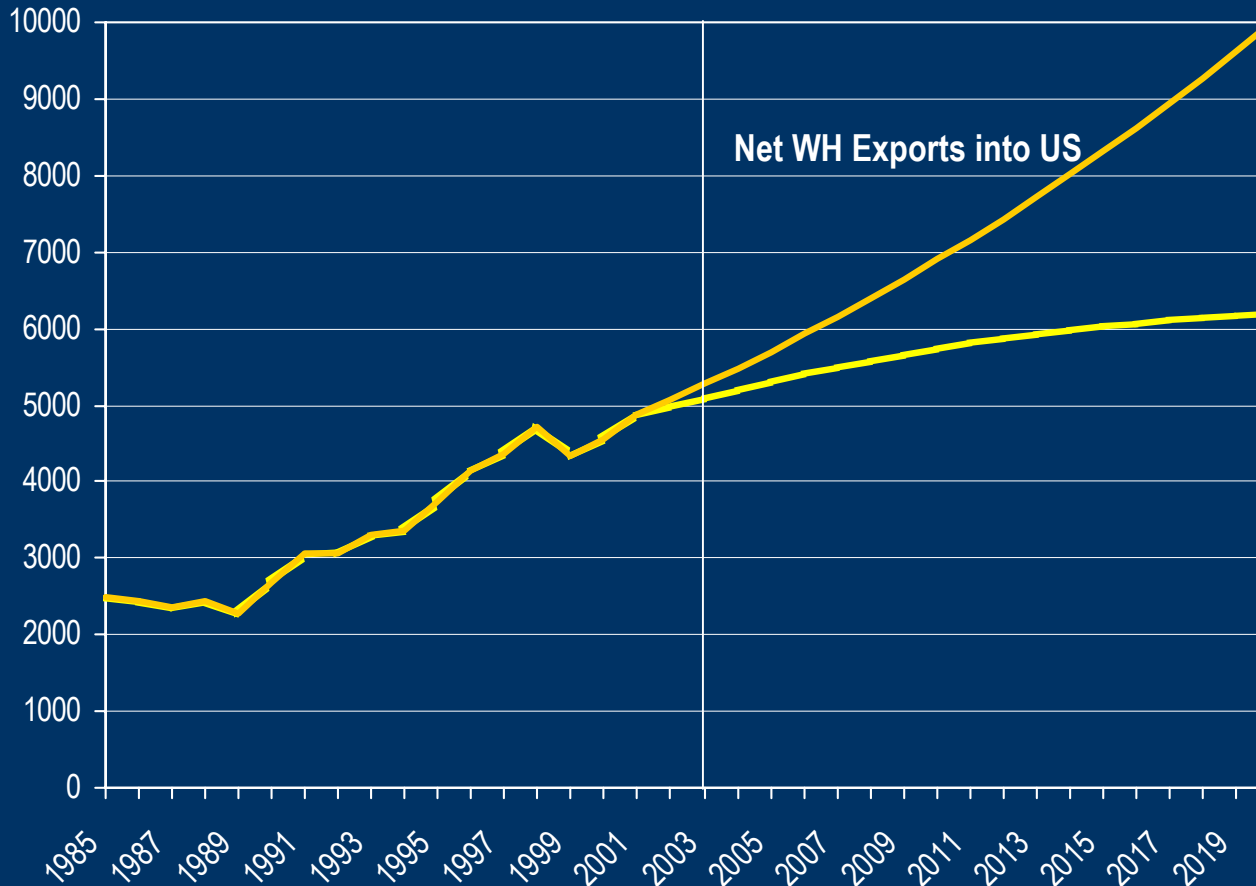
WH Growth: Exports between 1.2 Mbd

Net WH Exports into US (mbd)



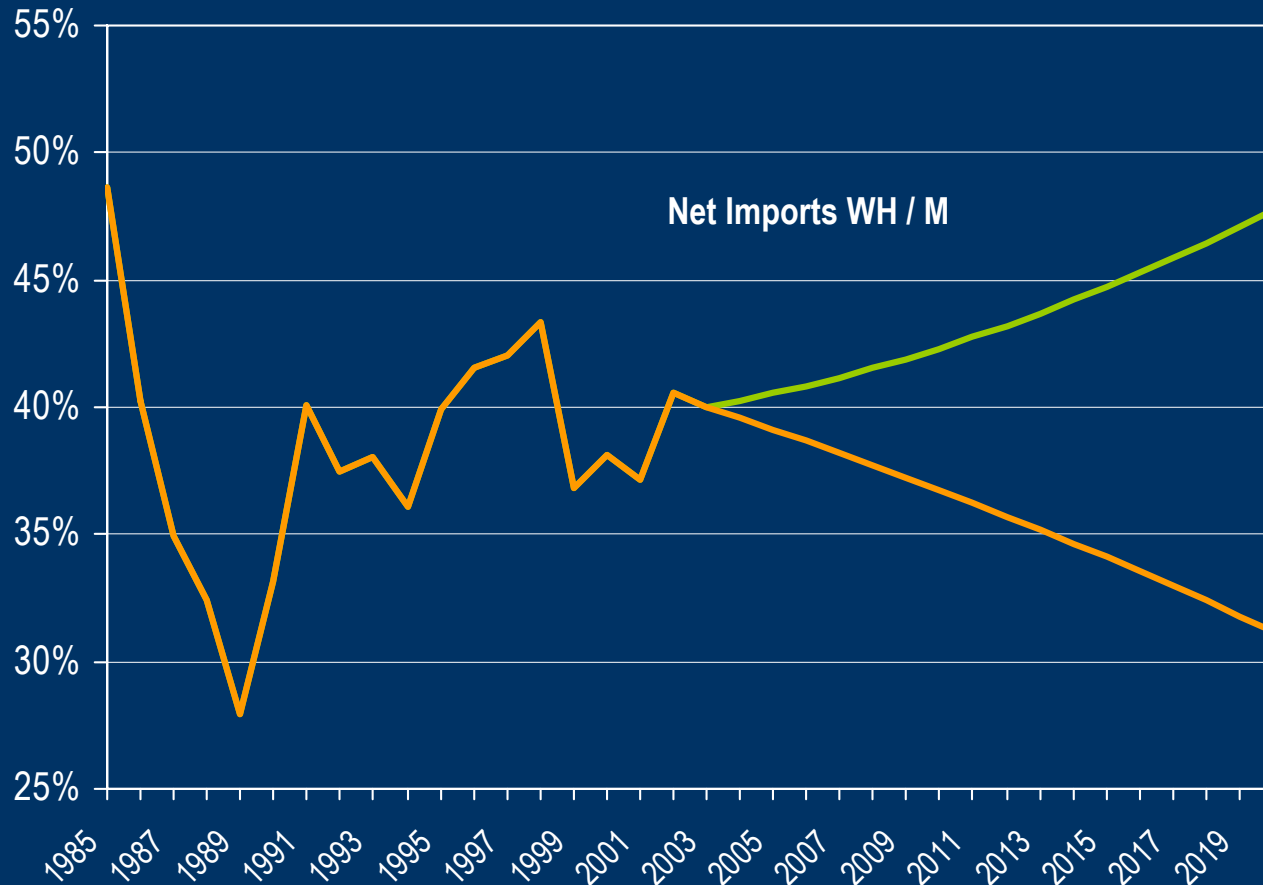
WH Growth: Exports between 1.2 Mbd and 5 Mbd

Net WH Exports into US (mbd)



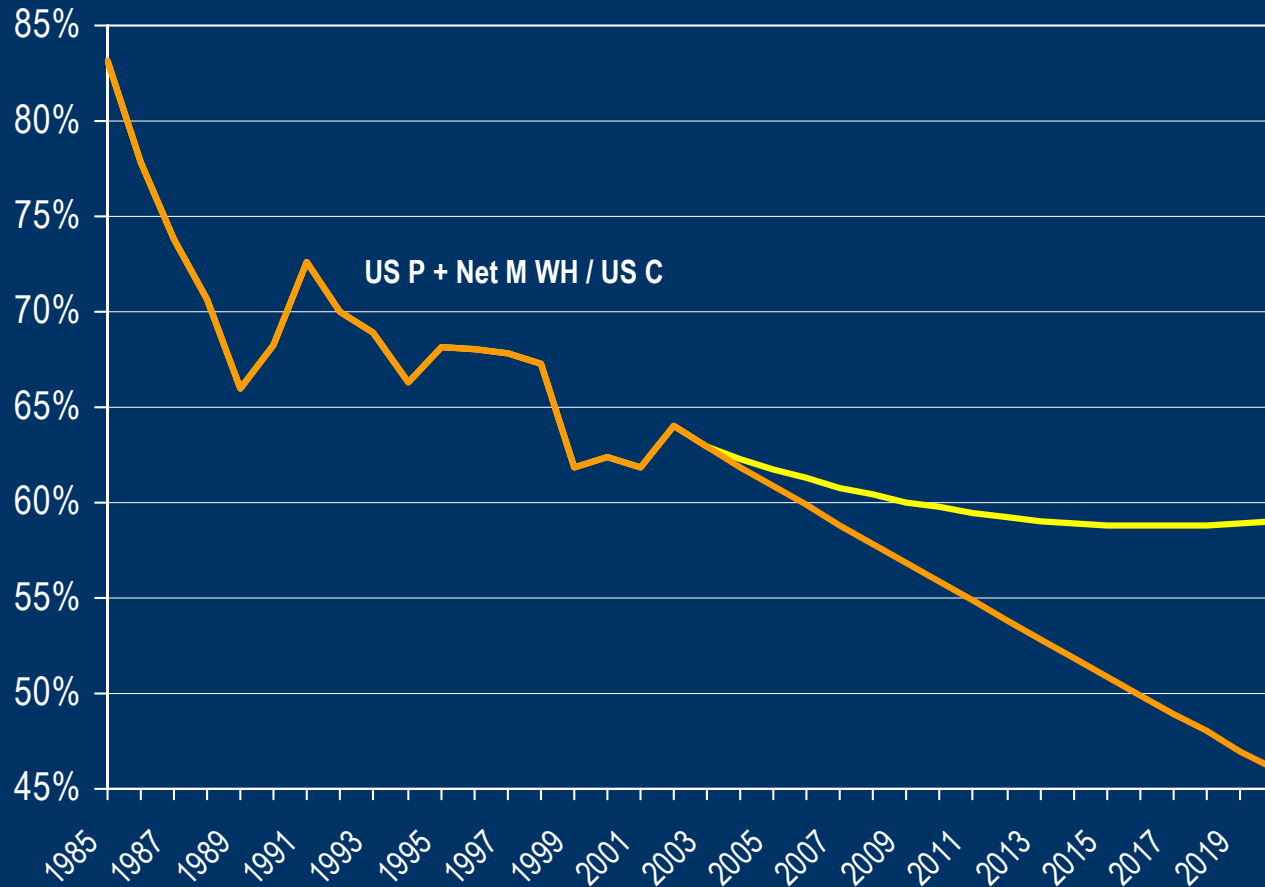
WH / US Imports between 33% and 50% at present 40%

US Net Imports WH / US Total Imports (%)



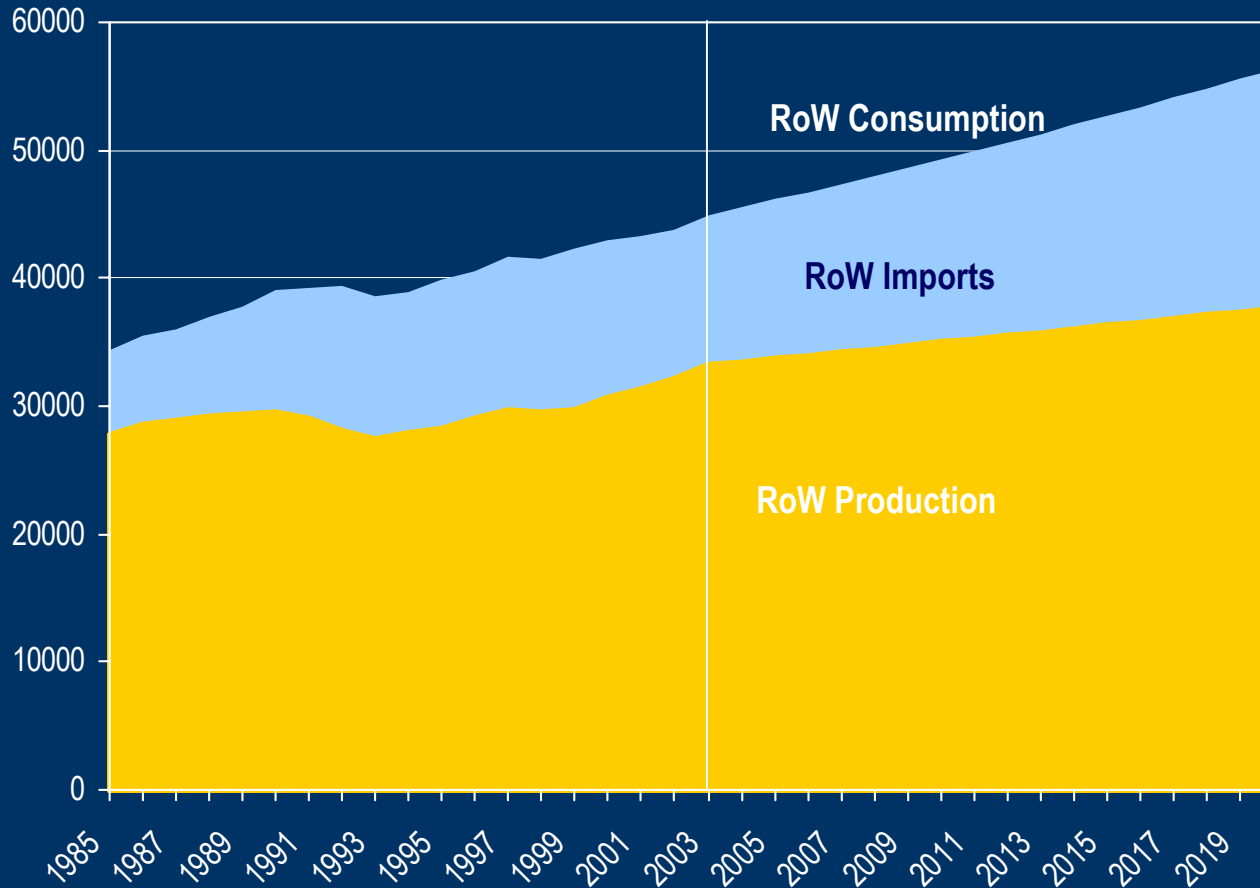
WH Supplies between 45% and 60% at present 65%

US Production + Imports WH / US Consumption (%)



RoW increases net imports by 8 Mbd (the same as the US)

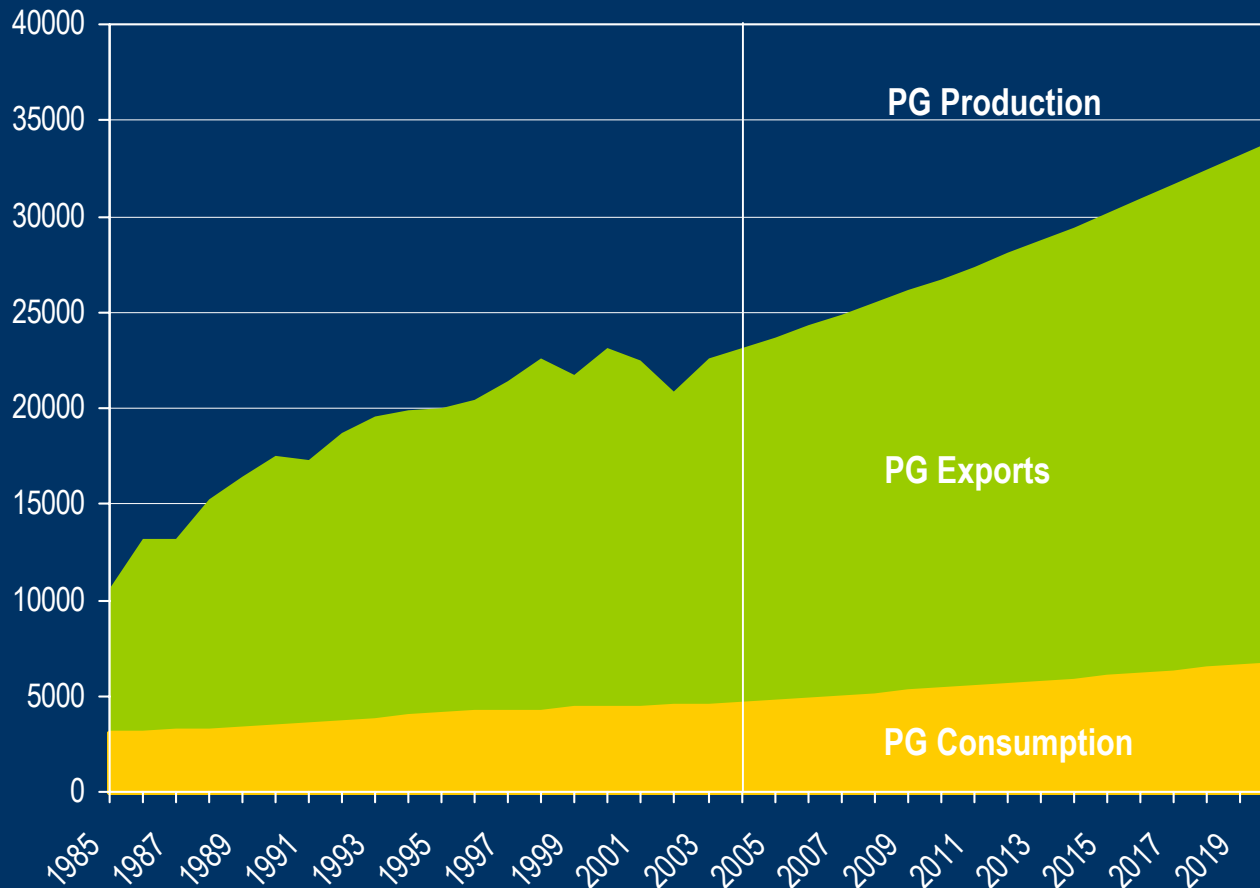
RoW Crude Oil Balance (mbd)



PG: World supplier of last resort

Production between 34 Mbd

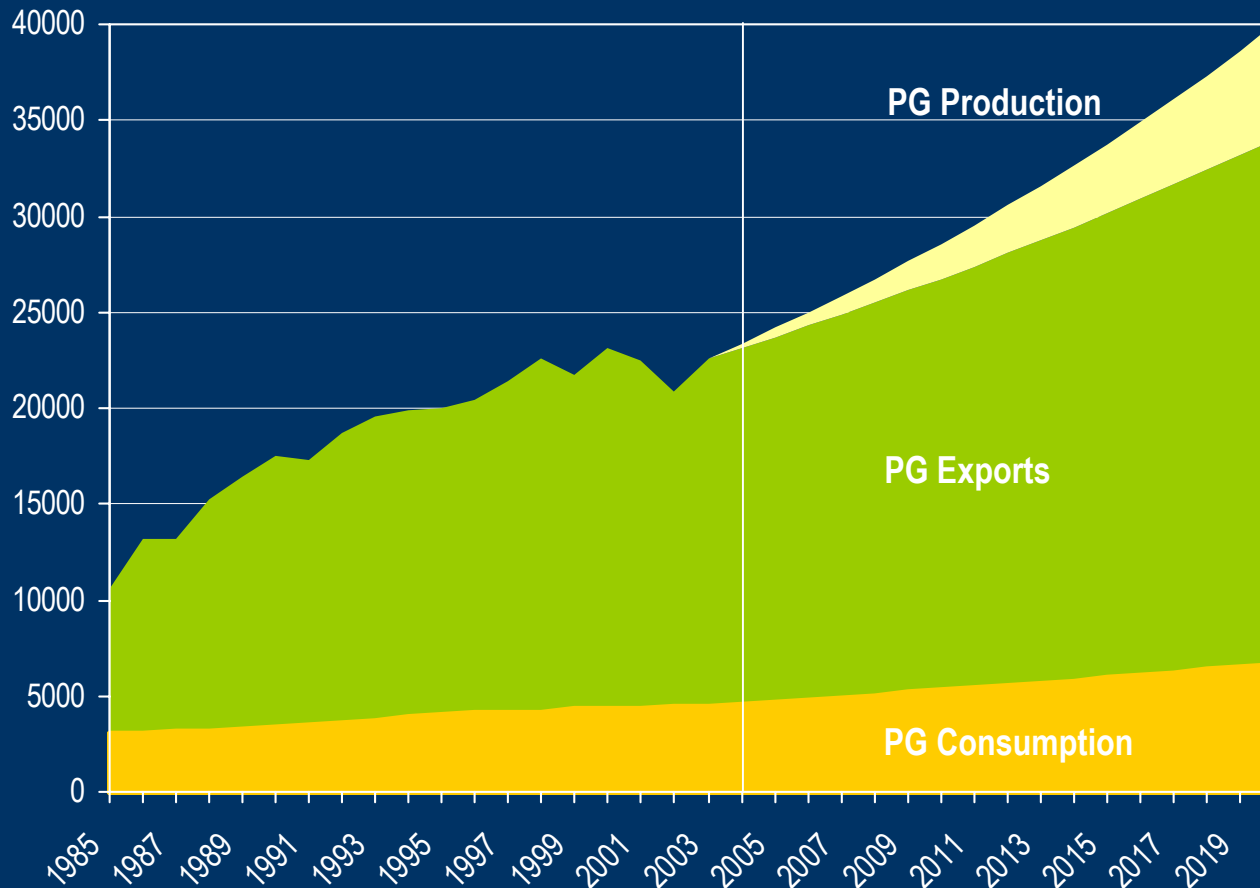
PG Crude Oil Balance (mbd)



PG: World supplier of last resort

Production between 34 Mbd and 40 Mbd

PG Crude Oil Balance (mbd)



Investment LAC (mM\$)

Scenario	Production 2020	Base 10 Mbd	5 Mbd	2 Mbd	Total
Linear (245 mbd/y)	15 Mbd	130	40	-	170
Exponential (2.5%)	17 Mbd	130	40	20	190

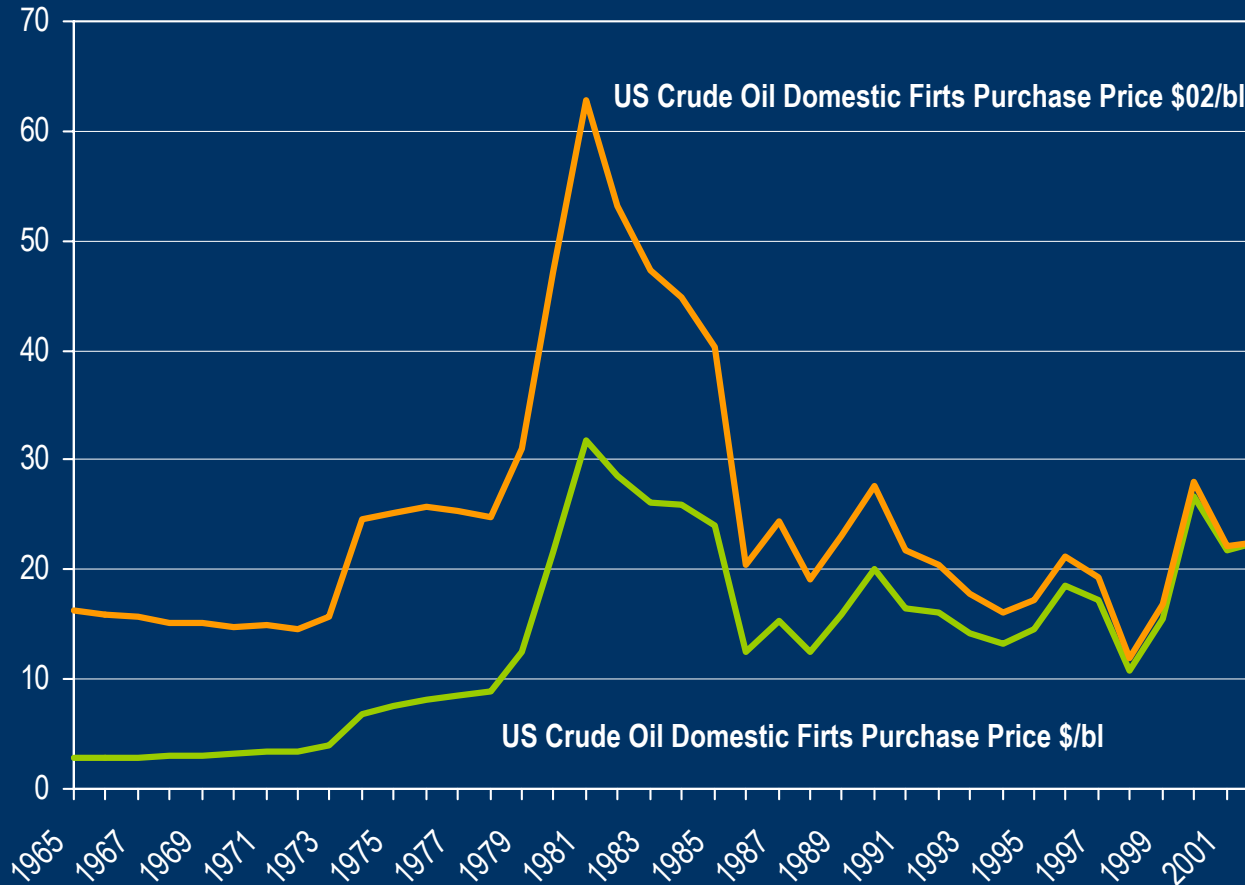
Investment PG (mM\$)

Scenario	Production 2020	Base 22 Mbd	4 Mbd	8 Mbd	6 Mbd	Total
Linear (670 mbd/y)	34 Mbd	96	16	56	-	168
Exponential (3.4%)	40 Mbd	96	16	56	44	212

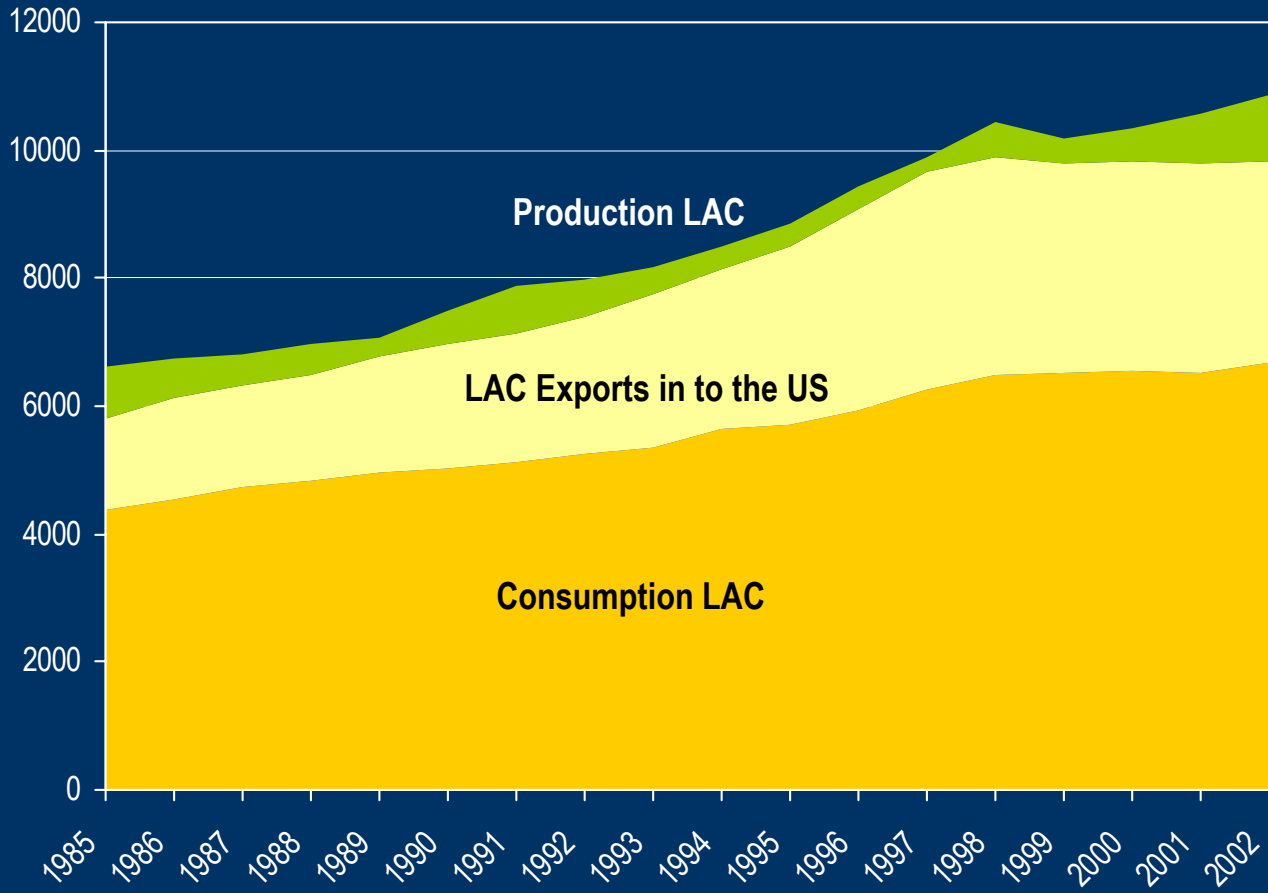
Political Economy Issues

- Together with the PG LAC is the world region with the largest oil growth potential
- Because of geographical proximity and political ties development of LAC oil reserves should be a priority for the US
- Neither the national states nor the LAC economies produce the savings to finance oil investment
- It is possible to put forward a win-win strategy
- History of mutual distrust between Companies and Governments
- Understand the need for each other
- Role of national states and MLOs: increase mutual trust and reduce risk

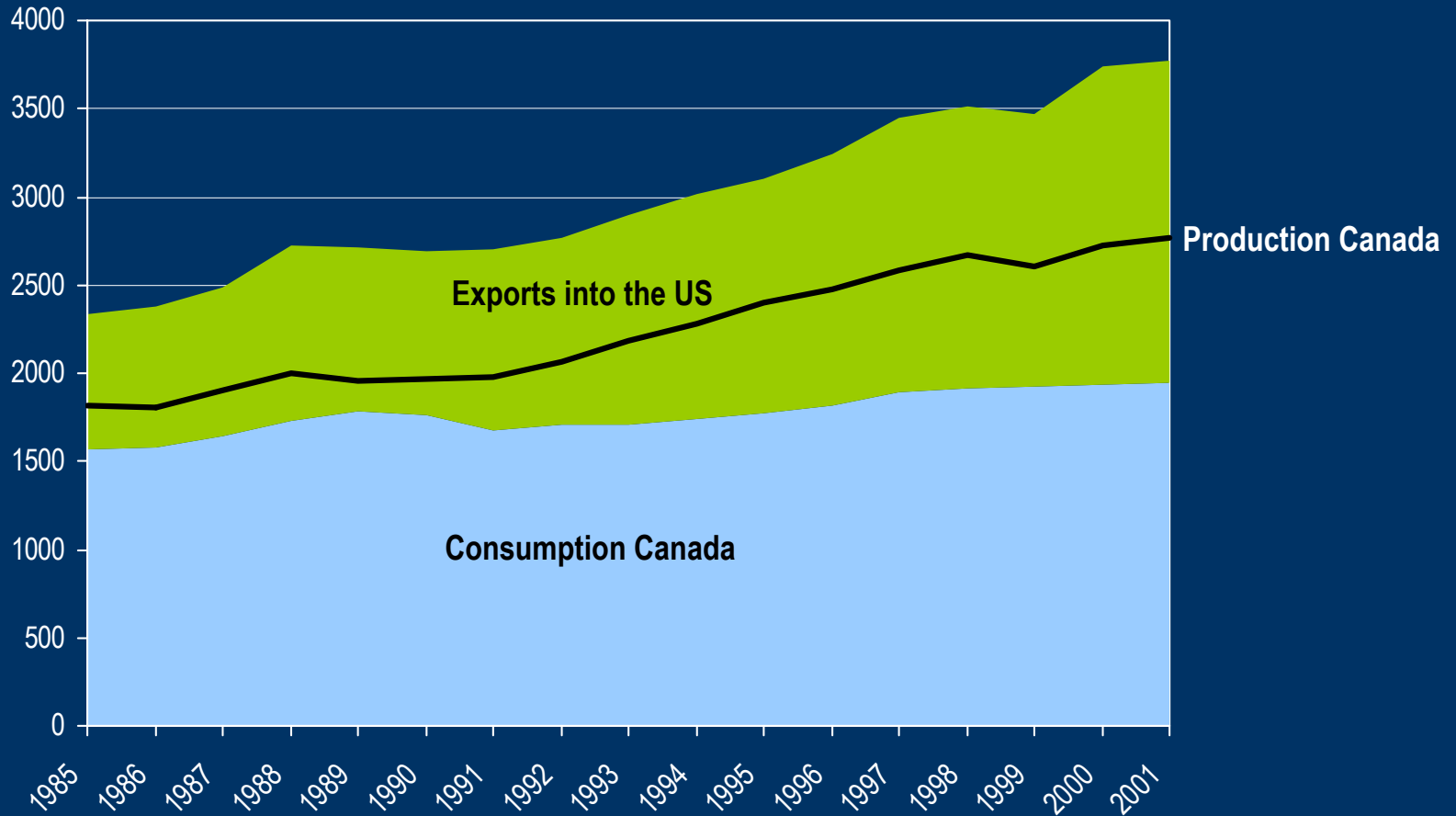
US Crude Oil first purchase price (\$/b)



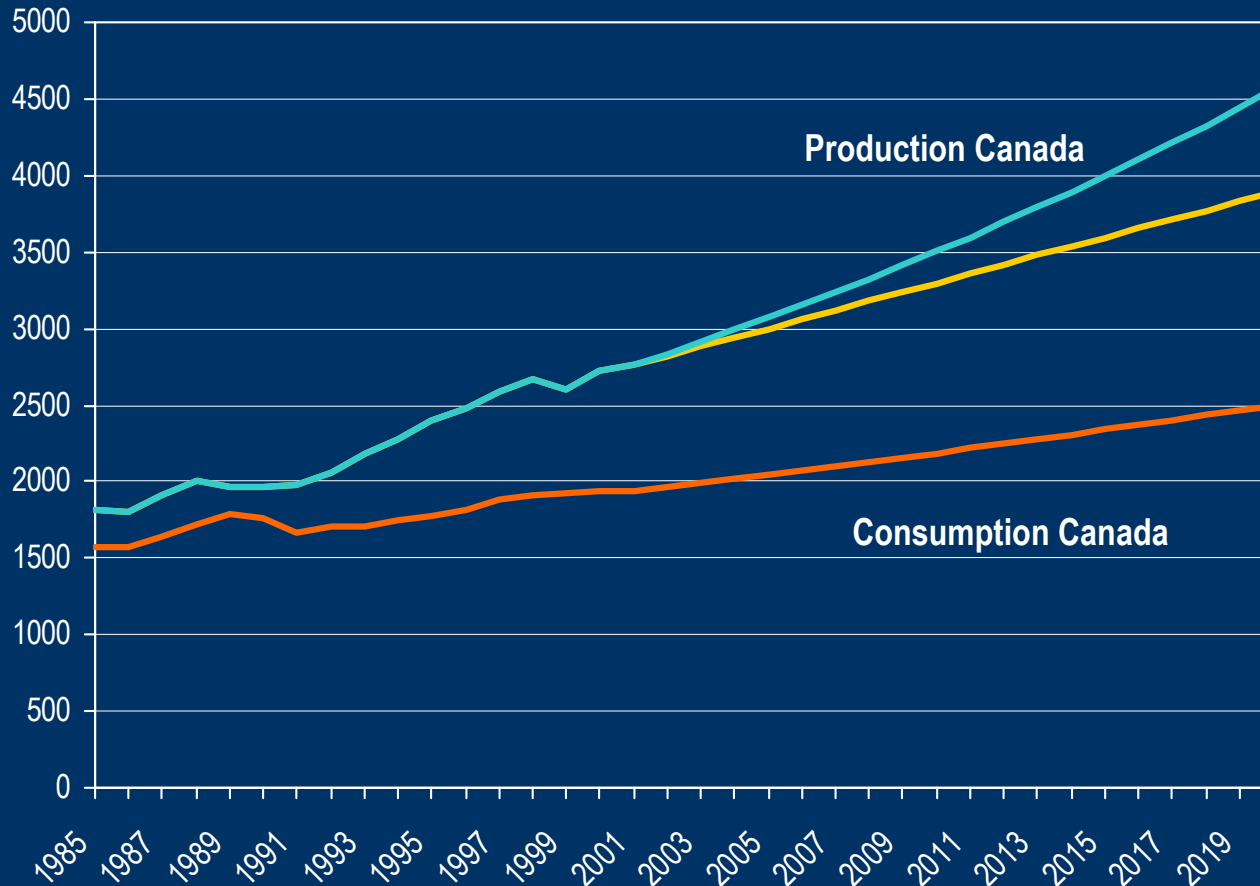
LAC Crude Oil Balance (mbd)



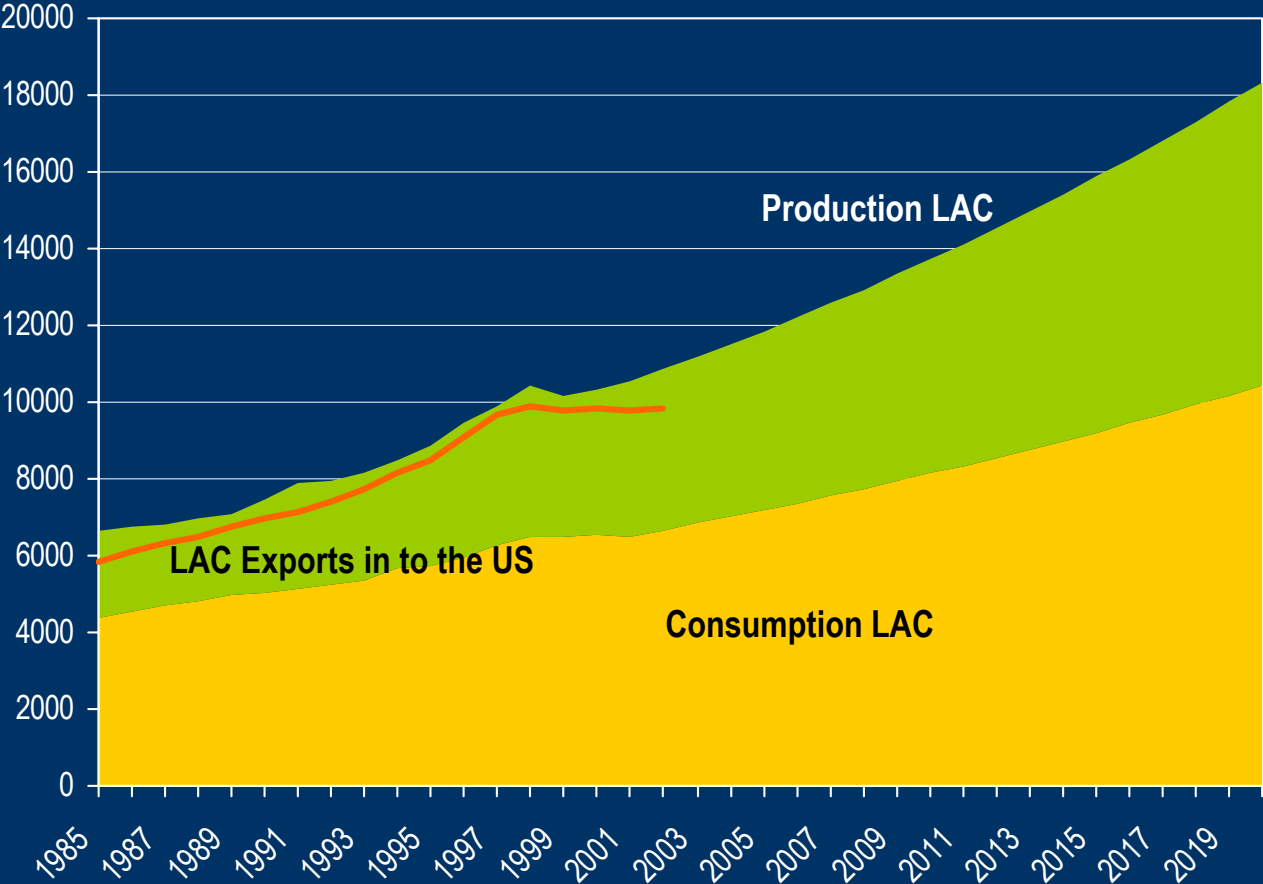
Canada Crude Oil Balance (mbd)



Canada Crude Oil Balance (mbd)



LAC Crude Oil Balance (mbd)



Four blocs: US, WH, PG, RoW

US Crude Oil Balance (mbd)

