

Towards Hemispheric Hydrocarbon Cooperation

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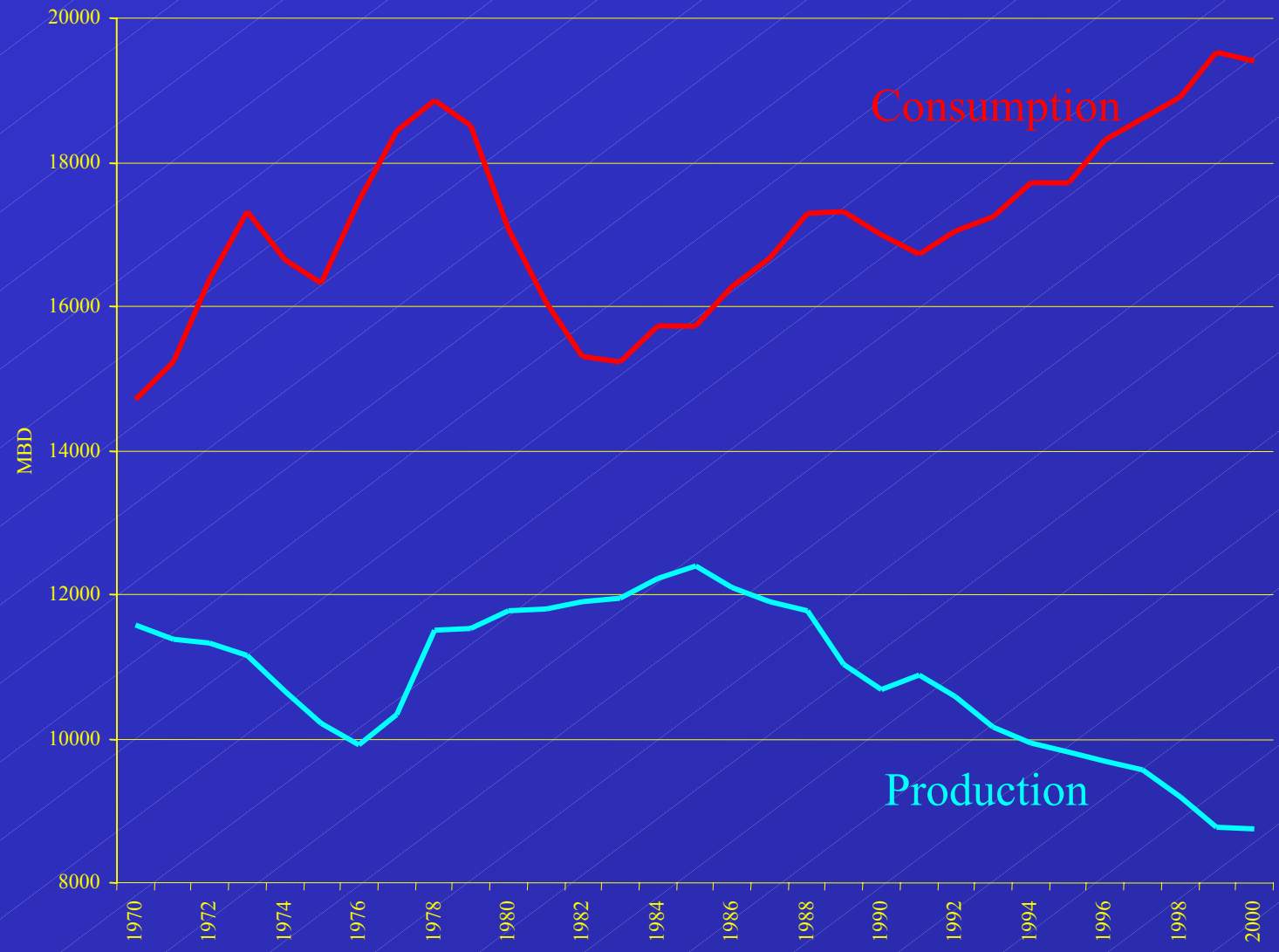
Inter-American Development Bank

Andean Development Corporation

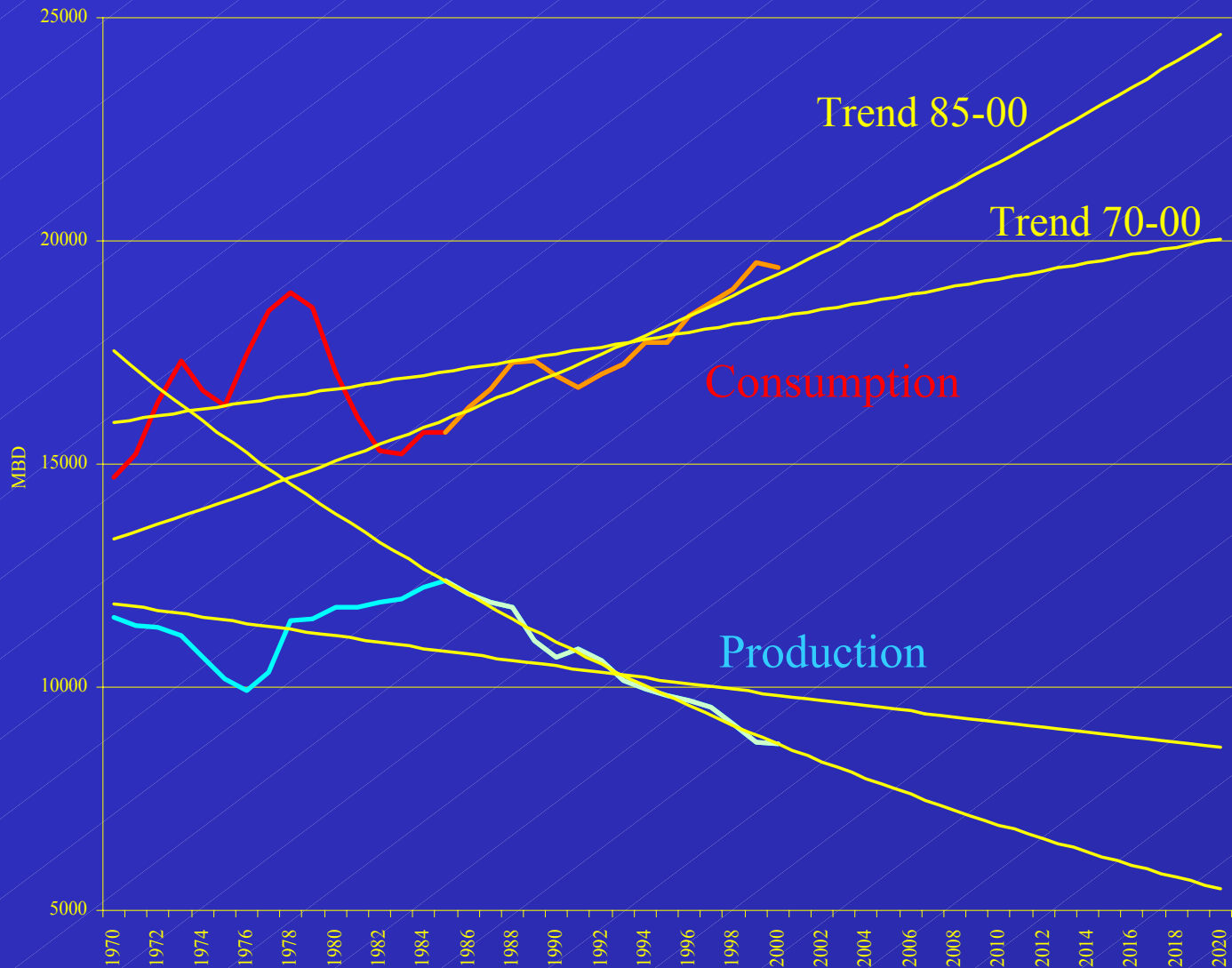
Washington, D.C.

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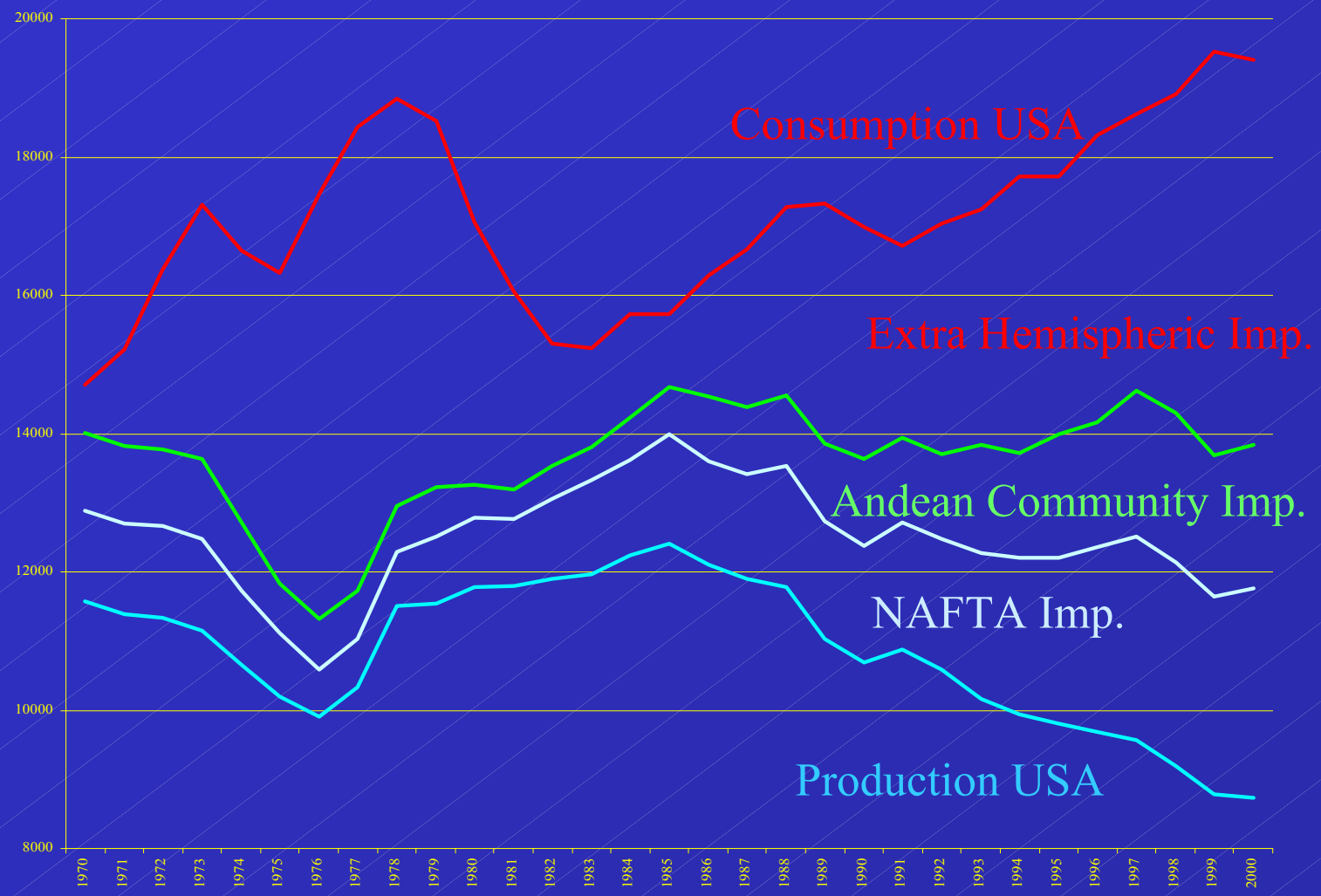
United States: Consumption and Production



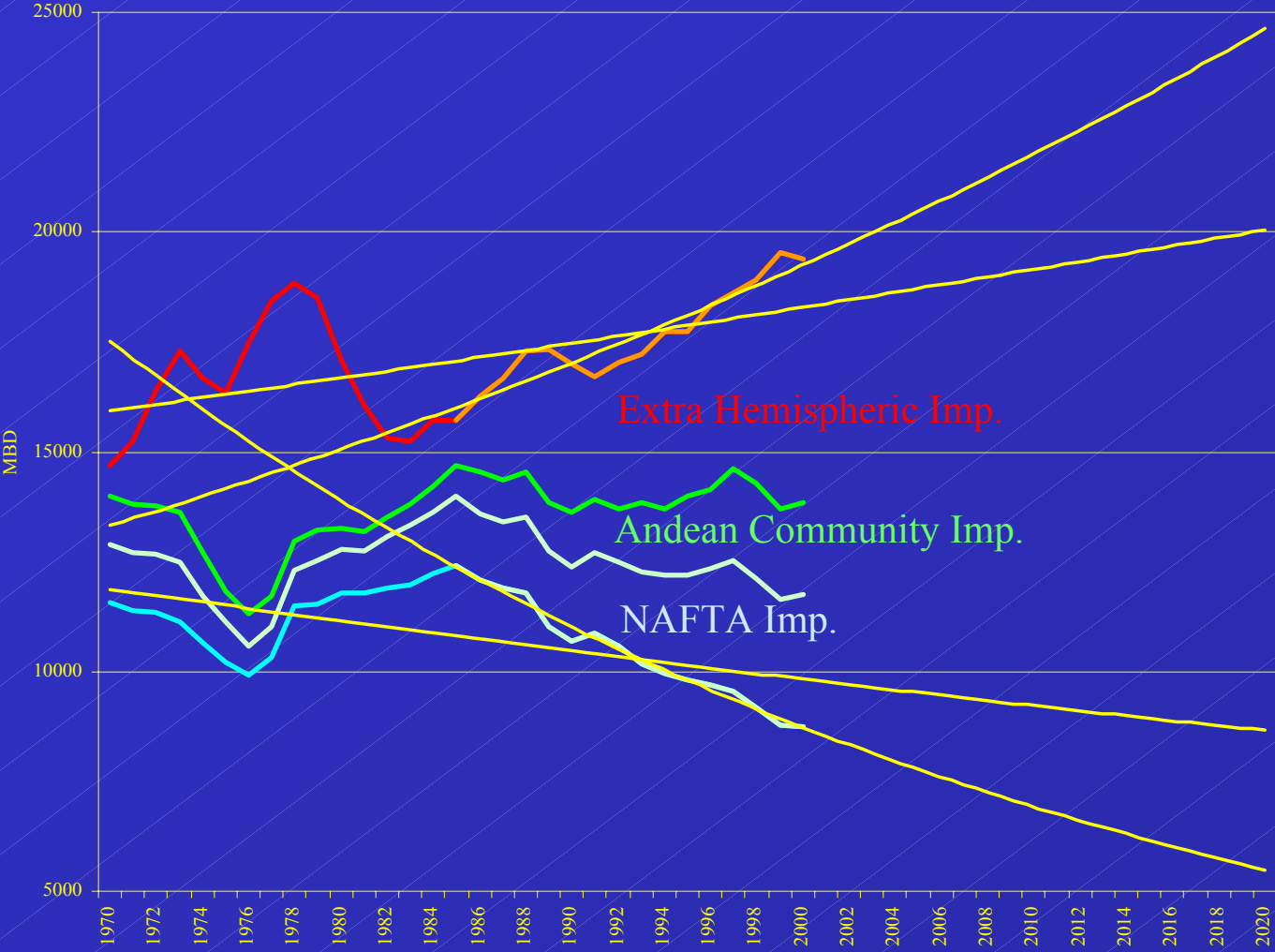
United States: Consumption and Production 2020



United States: Consumption, Production and Imports



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United States Oil Balance - Overall

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- United States oil imports may grow between 1 and 9 MBD if the consumption and production trends of the last thirty and fifteen years persist over the next twenty.
- United States **extra hemispheric** oil imports have increased **fivefold** over the last fifteen years from 1 up to 5 MBD.

United States Oil Balance - Composition

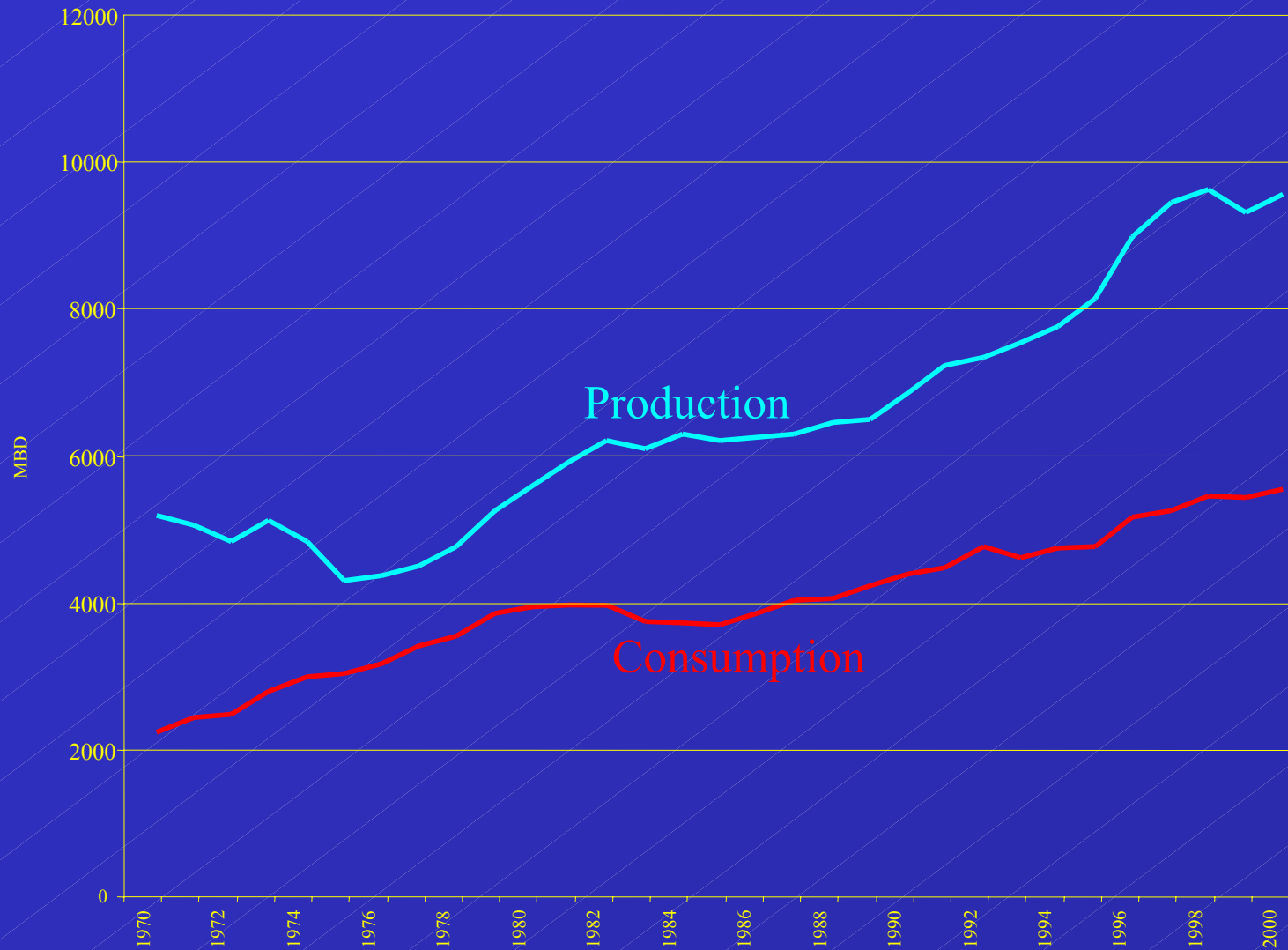
United States Oil Balance - Composition

- The composition of United States imports is as follows:
50% extra hemispheric sources; 30% NAFTA countries
and 20% Andean Pact countries.

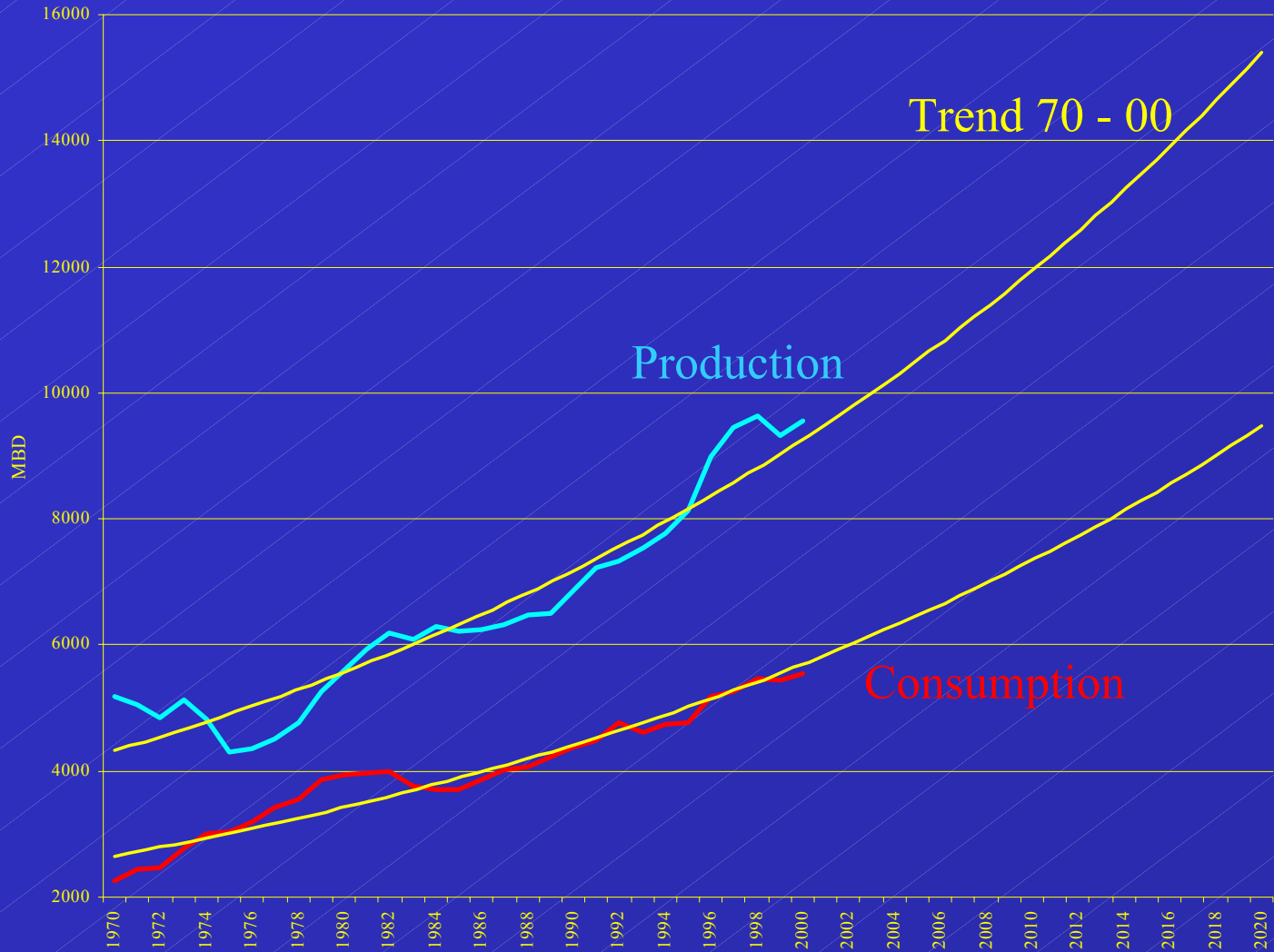
United States Oil Balance - Composition

- The composition of United States imports is as follows: 50% extra hemispheric sources; 30% NAFTA countries and 20% Andean Pact countries.
- If exports from NAFTA and Andean Community countries into the United States were not to increase and the consumption and production trends remain constant, extra hemispheric oil imports will increase between 6 and 14 MBD and become between 55% and 75% of total U.S.A. oil imports.

LAC: Consumption and Production



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LAC Oil Balance - Overall

- Net LAC oil exports have increased two fold over the last fifteen years from 2 to 4 MBD.
- If consumption and production trends remain constant, LAC net exports are to increase 50% over the next twenty years up to 6 MBD.
- This implies increasing production by 6 MBD, 4 MBD to supply domestic consumption in LAC countries and 2 MBD for additional exports.

LAC Oil Balance - Vis a vis the United States

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- LAC exports are nowadays 30% of United States total oil imports.
- Assuming the totality of additional LAC exports were to supply the United States market LAC share of imports would increase to 50% in the slow import growth scenario and drop below 30% in the fast import growth scenario.

LAC Oil Balance - Vis a vis the United States

- If LAC countries were to increase their share of United States import market to **at least 50%** even in the fast import growth scenario, exports into the U.S. should increase by **6MBD**.

LAC Oil Balance - Vis a vis the United States

- If LAC countries were to increase their share of United States import market to at least 50% even in the fast import growth scenario, exports into the U.S. should increase by 6MBD.
- To reach a 50% share in the United States fast import growth scenario, oil production in the LAC countries should increase twofold over the next twenty years from 10 MBD up to 20 MBD.

LAC Oil Balance - Scenarios

- **Two** oil production growth scenarios emerge for LAC countries:

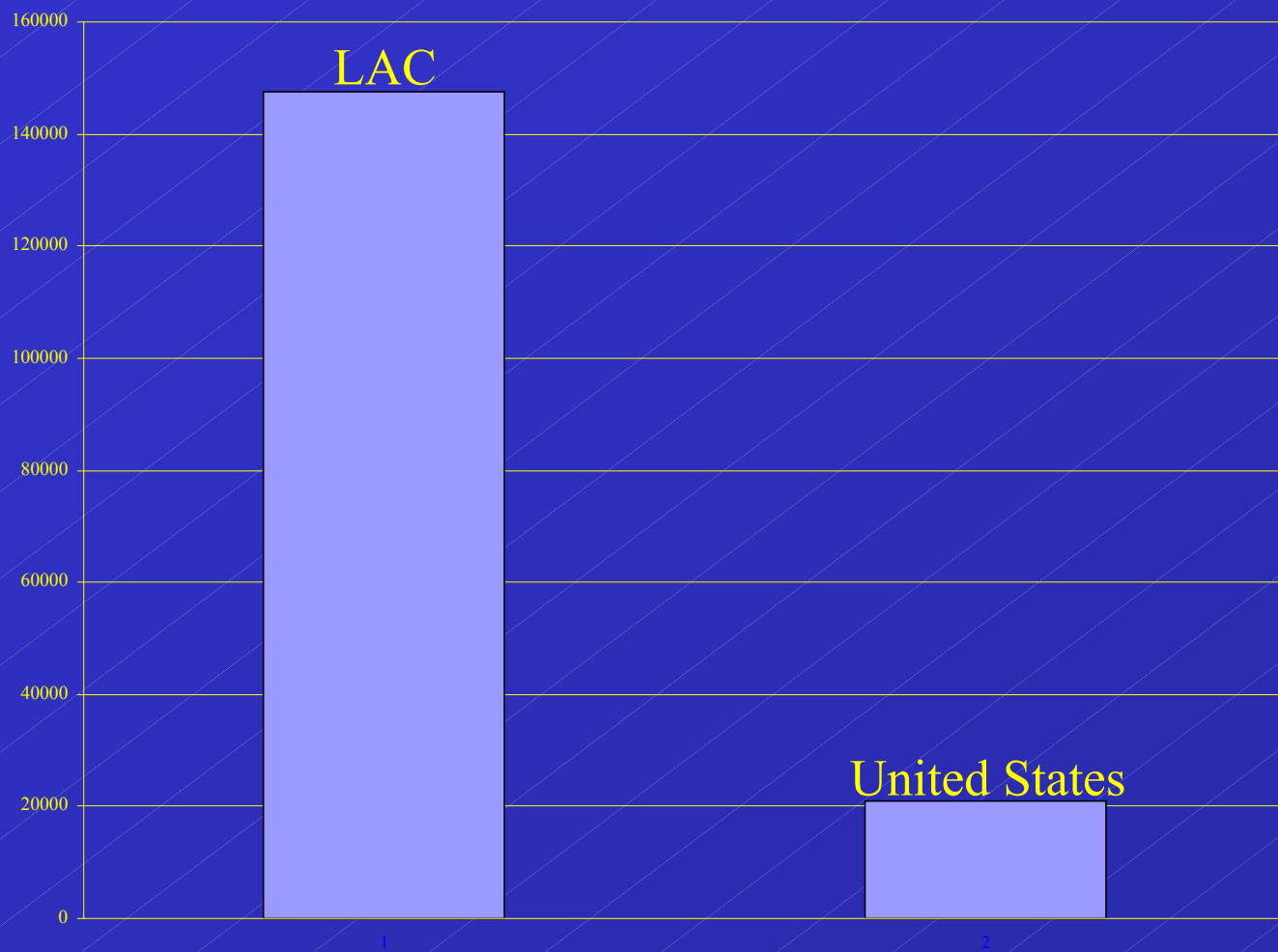
LAC Oil Balance - Scenarios

- Two oil production growth scenarios emerge for LAC countries:
 - **Trend Growth:** The last thirty years trend remains constant and production grows by **6 MBD** over the next twenty. LAC will not be able to keep a **30%** share if the U.S. import market keeps growing as it has been for the last fifteen years.

LAC Oil Balance - Scenarios

- Two oil production growth scenarios emerge for LAC countries:
 - Trend Growth: The last thirty years trend remains constant and production grows by 6 MBD over the next twenty. LAC will not be able to keep a 30% share if the U.S. import market keeps growing as it has been for the last fifteen years.
 - **Fast Growth:** LAC oil production grows faster over the next twenty years than the trend of the last thirty. Production grows by **10 MBD** and the share of LAC exports in the U.S. import market grows up to at least **50%**.

LAC and the United States: Reserves



LAC: Reserves 1970 - 2000



United States and LAC: Production, Reserves and P/R ratio

	<u>Production</u>	<u>Reserves</u>	<u>P/R</u>
	Million Barrels per year	Billion Barrels	
United States	2800	21000	13.3%

United States and LAC: Production, Reserves and P/R ratio

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LAC	5700	148000	3.9%
TREND Growth Scenario			

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LAC	5700	148000	3.9%
TREND Growth Scenario			
LAC	7100	148000	4.8%
FAST Growth Scenario			

Reserves, Production and P/R ratio

- LAC oil reserves are **seven** times the United States reserves, **148 vs. 21 mMB**.

Reserves, Production and P/R ratio

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- LAC oil reserves have increased in 120 mMB over the last thirty years, from 27 up to 148 mMB, in the mean time the region has produced 74 mMB.

Reserves, Production and P/R ratio

- LAC oil reserves are seven times the United States reserves, 148 vs. 21 mMB.
- LAC oil reserves have increased in 120 mMB over the last thirty years, from 27 up to 148 mMB, in the mean time the region has produced 74 mMB.
- United States intensity of production is more than **fivefold** that of the LAC region (**13.3% vs. 2.4%**).

Reserves, Production and P/R ratio

- **Trend Growth Scenario:** LAC countries may increase production by $2/3$ or 6 MBD and their P/R ratio will still be less than $1/3$ that of the United States.

Reserves, Production and P/R ratio

- Trend Growth Scenario: LAC countries may increase production by 2/3 or 6 MBD and their P/R ratio will still be less than 1/3 that of the United States.
- **Fast Growth Scenario: LAC countries may increase production twofold up to 10 MBD, and their P/R ratio will be slightly more than 1/3 that of the United States.**

Investment and Total Expenditures, and Growth Effect

	<u>Investment</u> <u>Expenditure</u> Billion \$	<u>Total</u> <u>Expenditure</u> Billion \$	<u>Growth</u> <u>Effect</u> % GDP
Trend Growth Scenario	120	162	12%

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Trend Growth Scenario	120	162	12%
Fast Growth Scenario	200	271	20%

Services Expenditure and Growth Effect

	<u>Services Expenditure</u>	<u>Growth Effect</u>
	Billions \$	% GDP
Trend Growth	32	3.5%
Scenario		

Services Expenditure and Growth Effect

	<u>Services Expenditure</u>	<u>Growth Effect</u>
	Billions \$	% GDP
Trend Growth Scenario	32	3.5%
Fast Growth Scenario	54	6.0%

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- Investment and operational expenditure to produce between 6 and 10 MBD together with the expenditure of oil fiscal revenue associated to that production, will induce a LAC region GDP growth of between 12% and 20% over the next twenty years.

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- Oil services expenditure associated to both increasing capacity and producing between 6 and 10 MBD in the LAC region will fluctuate between 32 and 54 mM\$ over the next twenty years.
- Oil services expenditures will have an overall GDP growth effect on the LAC region of between 3.5% and 6% over the next twenty years.

Conclusions

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- **United States** shows both a growing oil domestic supply deficit and a growing dependence on extra hemispheric sources of supply, with security of supply consequences.

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- United States shows both a growing oil domestic supply deficit and a growing dependence on extra hemispheric sources of supply, with security of supply consequences.
- LAC countries have the reserves to supply the United States oil deficit. Investment and operational expenditures to develop such reserves will have an important economic growth effect impact on the LAC region.

Conclusions

Towards Hemispheric Hydrocarbon Cooperation

- Deepening Western Hemisphere Energy Integration whereby LAC countries significantly increase oil supply to the United States and the U.S. exports oil producing goods and services and finances oil investment in LAC is strategy where both parties win. The United States win in security of supply and the LAC countries win in economic growth.

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Key questions

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- Why market mechanisms on their own are not able to stimulate such investment? What is the role of Multilateral institutions in solving this problem?
- How to organize the development of the oil sector in order to integrate both environmental and social development?