# Estimates of the World's Remaining Hydrocarbon Resources: Data Sources and Recent Trends

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**Workshop on Oil & Gas Resources**
**Swiss Federal Office of Energy**
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# Remaining World Hydrocarbon Resources

## Principal Reference Sources for Oil & Gas Reserves & Resources

- BP Statistical Review of World Energy
- Cedigaz
- Energy Information Administration (EIA)
- IHS Energy (formerly Petroconsultants)
- International Energy Agency (IEA)
- Oil & Gas Journal (OGJ)
- Organization of Petroleum Exporting Countries (OPEC)
- United Nations Development Programme (UNDP)
- US Geological Survey (USGS)
- World Energy Council (WEC)
- World Oil

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# Remaining World Hydrocarbon Resources

## Data Sources

United Nations Development Programme

***World Energy Assessment: Energy and the challenge of Sustainability***

**TABLE 5.1. ESTIMATED OIL RESERVES**

| Region | Identified reserves (Masters and others, 1994) | Identified reserves plus 95%[a] (Masters and others, 1994) | Identified reserves plus mode[b] (Masters and others, 1994) | Identified reserves plus 5%[c] (Masters and others, 1994) | Proven recoverable reserves (WEC, 1998) | Proven reserves (BP, 1999) |
|---|---|---|---|---|---|---|

Masters et al. (1994) – "The Petroconsultants' data system has provided essential basic data for our program studies and this paper."

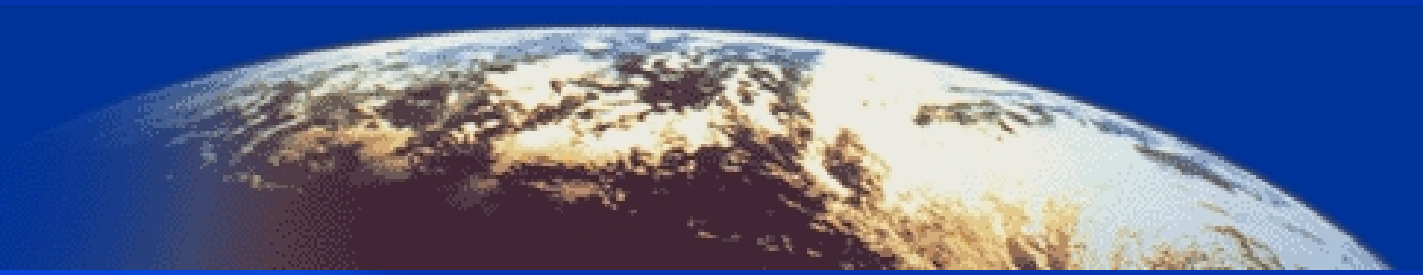
**TABLE 5.3. ESTIMATED NATURAL GAS RESERVES**

| Region | Proven recoverable reserves (WEC, 1998) | Total recoverable reserves (WEC, 1998) | Proven and additional reserves (IGU, 2000) | Proven reserves (BP, 1999) |
|---|---|---|---|---|

# Remaining World Hydrocarbon Resources

## Data Sources

World Energy Council
CONSEIL MONDIAL DE L'ENERGIE



### 19th Survey of Energy Resources (2001)

**Crude oil and natural gas liquids: proved recoverable reserves**

- "Sources: WEC Member Committees, 2000/2001; *Oil & Gas Journal* - December 18 2000; *Annual Statistical Report 2000* - OAPEC; *Annual Statistical Bulletin 1999* - OPEC; various national sources."

**Natural gas: proved recoverable reserves**

- "Sources: WEC Member Committees, 2000/2001; *Oil & Gas Journal* - December 18, 2000; *Natural Gas in the World 2000* - Cédigaz; *Annual Statistical Report 2000* - OAPEC; various national sources."

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## Data Sources

BP Statistical Review of World Energy
June 2003

### Oil Reserves

"**Source of data** – With the exception of Azerbaijan, Kazakhstan and Egypt for 2001, the estimates contained in this table are those published by the *Oil & Gas Journal*, plus an estimate of natural gas liquids for USA and Canada. Reserves of shale oil and oil sands are not included."

### Gas Reserves

As *Oil & Gas Journal* excepts Azerbaijan and Egypt.

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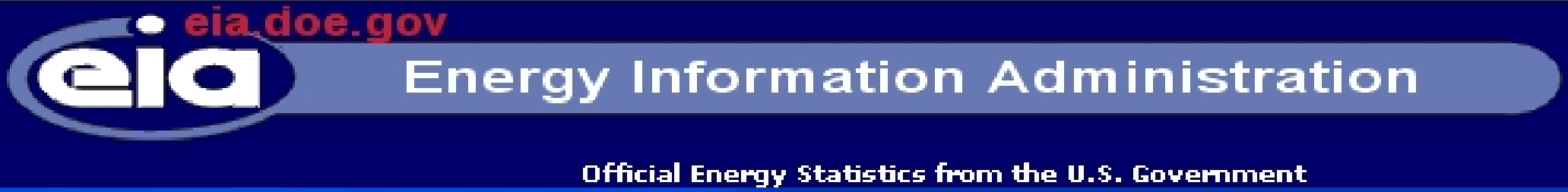
# Remaining World Hydrocarbon Resources

## Data Sources




**International Energy Outlook 2003**

- "Table 11 shows estimates of the conventional oil resource base by region out to the year 2025. Proved reserves are from the annual assessment of worldwide reserves published by *Oil & Gas Journal*."

- "As of January 1 2003, proved world natural gas reserves, as reported by *Oil & Gas Journal*, were estimated at 5,501 trillion cubic feet."

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# Remaining World Hydrocarbon Resources

## Data Sources

Organization of the Petroleum Exporting Countries

**OPEC Annual Statistical Bulletin - 2001**

**OPEC Proven Crude Oil Reserves**

"**Sources:** *Direct communications to the Secretariat; OGJ; World Petroleum Trends; national sources; World Oil; AOG."*

**OPEC Proven Natural Gas Reserves**

"**Sources:** *Direct communications to the Secretariat; Cedigaz; OGJ; national sources; World Oil; MEES; PIW; EIU."*

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# Remaining World Hydrocarbon Resources

## Data Sources

## OPEC Annual Statistical Bulletin - Oil & Gas Journal

### A Comparison of OPEC Country Proven Oil Reserve Estimates

| | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Algeria (OPEC)** | 9,236 | 9,200 | 9,200 | 9,200 | 9,200 | 9,979 | 9,979 | 10,800 | 11,200 | 11,314 | 11,314 | 11,314 | 11,314 | 11,314 |
| Algeria (O&GJ) | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 9,200 | 11,314 |
| **Indonesia (OPEC)** | 5,114 | 5,415 | 5,909 | 5,598 | 5,167 | 4,980 | 4,980 | 4,980 | 4,867 | 5,100 | 5,201 | 5,123 | 5,095 | 4,722 |
| Indonesia (O&GJ) | 8,200 | 11,050 | 6,581 | 5,779 | 5,779 | 5,779 | 5,167 | 4,980 | 4,980 | 4,980 | 4,980 | 5,000 | 5,000 | 4,700 |
| **Iran (OPEC)** | 92,860 | 92,850 | 92,860 | 92,860 | 92,860 | 94,300 | 93,700 | 92,600 | 92,600 | 93,700 | 93,100 | 99,530 | 99,080 | 99,080 |
| Iran (O&GJ) | 92,860 | 92,850 | 92,860 | 92,860 | 92,860 | 89,250 | 88,200 | 93,000 | 93,000 | 89,700 | 89,700 | 89,700 | 89,700 | 125,800 |
| **Iraq (OPEC)** | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 112,000 | 112,500 | 112,500 | 112,500 | 112,500 | 112,500 | 115,000 |
| Iraq (O&GJ) | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 112,000 | 112,500 | 112,500 | 112,500 | 112,500 | 112,500 | 115,000 |
| **Kuwait (OPEC)** | 97,125 | 97,025 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 |
| Kuwait (+1/2 NZ) (O&GJ) | 97,125 | 97,025 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 96,500 | 99,000 |
| **Libya (OPEC)** | 22,800 | 22,800 | 22,800 | 22,800 | 22,800 | 22,800 | 29,500 | 29,500 | 29,500 | 29,500 | 29,500 | 36,000 | 36,000 | 36,000 |
| Libya (O&GJ) | 22,800 | 22,800 | 22,800 | 22,800 | 22,800 | 22,800 | 29,500 | 29,500 | 29,500 | 29,500 | 29,500 | 29,500 | 29,500 | 36,000 |
| **Nigeria (OPEC)** | 16,000 | 17,100 | 20,000 | 20,991 | 20,991 | 20,991 | 20,828 | 20,828 | 20,828 | 22,500 | 29,000 | 29,000 | 31,506 | 31,506 |
| Nigeria (O&GJ) | 16,000 | 17,100 | 17,900 | 17,900 | 17,900 | 17,900 | 20,828 | 15,521 | 16,786 | 22,500 | 22,500 | 24,000 | 24,000 | 25,000 |
| **Qatar (OPEC)** | 4,500 | 2,993 | 2,993 | 3,121 | 3,121 | 3,500 | 3,700 | 3,700 | 3,700 | 3,700 | 3,700 | 13,157 | 15,207 | 15,207 |
| Qatar (O&GJ) | 4,500 | 4,500 | 3,729 | 3,729 | 3,729 | 3,700 | 3,700 | 3,700 | 3,700 | 3,700 | 13,157 | 15,207 | 15,207 | 15,207 |
| **Saudi Arabia (OPEC)** | 260,050 | 260,342 | 260,936 | 261,203 | 261,355 | 261,374 | 261,450 | 261,444 | 261,541 | 261,542 | 262,784 | 262,766 | 262,697 | 262,790 |
| Saudi Arabia (+1/2 NZ) (O&GJ) | 257,559 | 260,004 | 260,342 | 260,342 | 261,203 | 261,203 | 261,203 | 261,500 | 261,500 | 261,500 | 261,700 | 261,750 | 261,800 | 261,900 |
| **United Arab Emirates (OPEC)** | 98,105 | 98,100 | 98,100 | 98,100 | 98,100 | 98,100 | 98,100 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 |
| United Arab Emirates (O&GJ) | 98,105 | 98,100 | 98,100 | 98,100 | 98,100 | 98,100 | 98,100 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 | 97,800 |
| **Venezuela (OPEC)** | 59,040 | 60,054 | 62,649 | 63,330 | 64,448 | 64,877 | 66,329 | 72,667 | 74,931 | 76,108 | 76,848 | 76,848 | 77,685 | 77,800 |
| Venezuela (O&GJ) | 58,504 | 59,040 | 59,100 | 62,650 | 63,330 | 64,477 | 64,477 | 64,878 | 71,669 | 72,600 | 76,862 | 77,685 | 77,800 | 77,800 |

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# Remaining World Hydrocarbon Resources

## Data Sources

OIL&GAS JOURNAL

Dec 22nd 2003

"Proven" oil reserves estimates for 97 countries;

66 estimates unchanged from 2002;

38 estimates unchanged from 1998;

13 estimates unchanged since 1993.

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# Remaining World Hydrocarbon Resources

## Data Sources

## Oil & Gas Journal

### Dec 22nd 2003

- Out of 20 countries in Eastern Europe and the Former Soviet Union, only one change in oil reserves (Croatia) between 2002 and 2003;
- World's fifth-largest proven oil reserve holder (Abu Dhabi) unchanged at 92.2 billion barrels from 1988 to 2003 (produced 10.5 billion barrels during this period);
- Fourth-largest reserve holder (Kuwait) unchanged at 94.0 billion barrels from 1991 to 2002 (produced 7.85 billion barrels during this period).

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## Data Sources

## Oil & Gas Journal

### Dec 22nd 2003

- Angola proven oil reserves unchanged at 5,412 million barrels from 1994 to 2003 despite 38 giant discoveries being made during this period;

- Equatorial Guinea proven oil reserves unchanged at 12 million barrels from 1994 to 2003 despite 4 giant discoveries being made during this period and annual production in 2002 of 84 million barrels.

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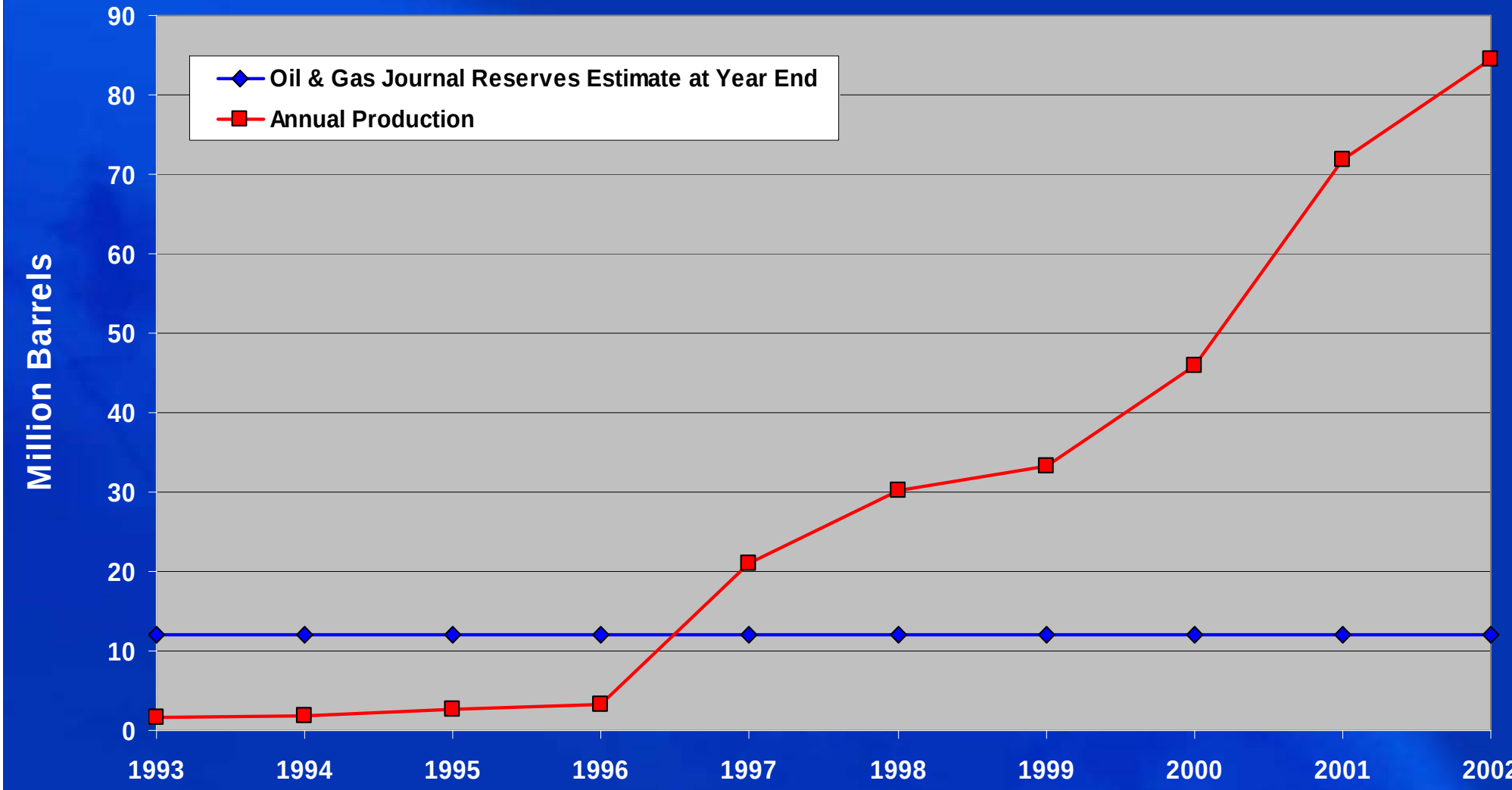
## Equatorial Guinea
## Annual Production versus Oil & Gas Journal Reserves

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# Remaining World Hydrocarbon Resources

## Data Sources

OIL&GAS JOURNAL

Dec 22nd 2003

"Proven" gas reserves estimates for 102 countries;

76 estimates unchanged from 2002;

45 estimates unchanged from 1998;

7 estimates unchanged since 1993.

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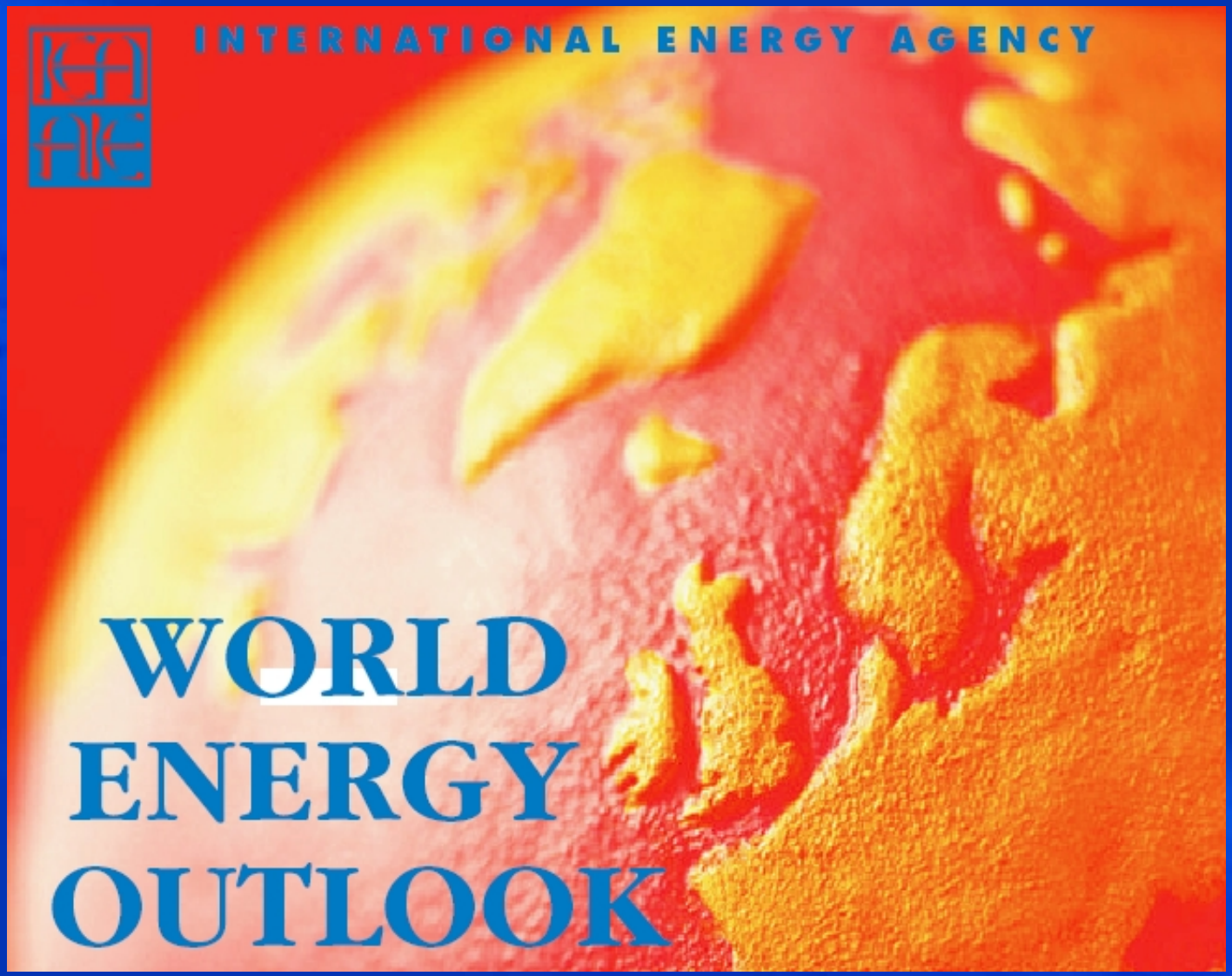
## Data Sources

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# Remaining World Hydrocarbon Resources

## Data Sources

## International Energy Agency

*Table 2.5:* **USGS Estimates of Global Oil and NGL Resources**
(billion barrels)

| | Oil | NGL* | Total |
|---|---|---|---|
| Undiscovered recoverable resources | 732 | 207 | 939 |
| Mean reserve growth | 688 | 42 | 730 |
| Mean remaining reserves | 891 | 68 | 959 |
| Cumulative production | 710 | 7 | 717 |
| **Ultimate recoverable resources** | **3,021** | **324** | **3,345** |

*NGL volumes for the US are included in the oil figures.
Note: World reserve and cumulative production data reflect only those parts of the world actually assessed.
Source: USGS (2000).

# Remaining World Hydrocarbon Resources

## Data Sources

## International Energy Agency

- Liquids Reserves:

US Geological Survey - *World Petroleum Assessment 2000*

- Gas Reserves:

US Geological Survey - *World Petroleum Assessment 2000* / Cedigaz

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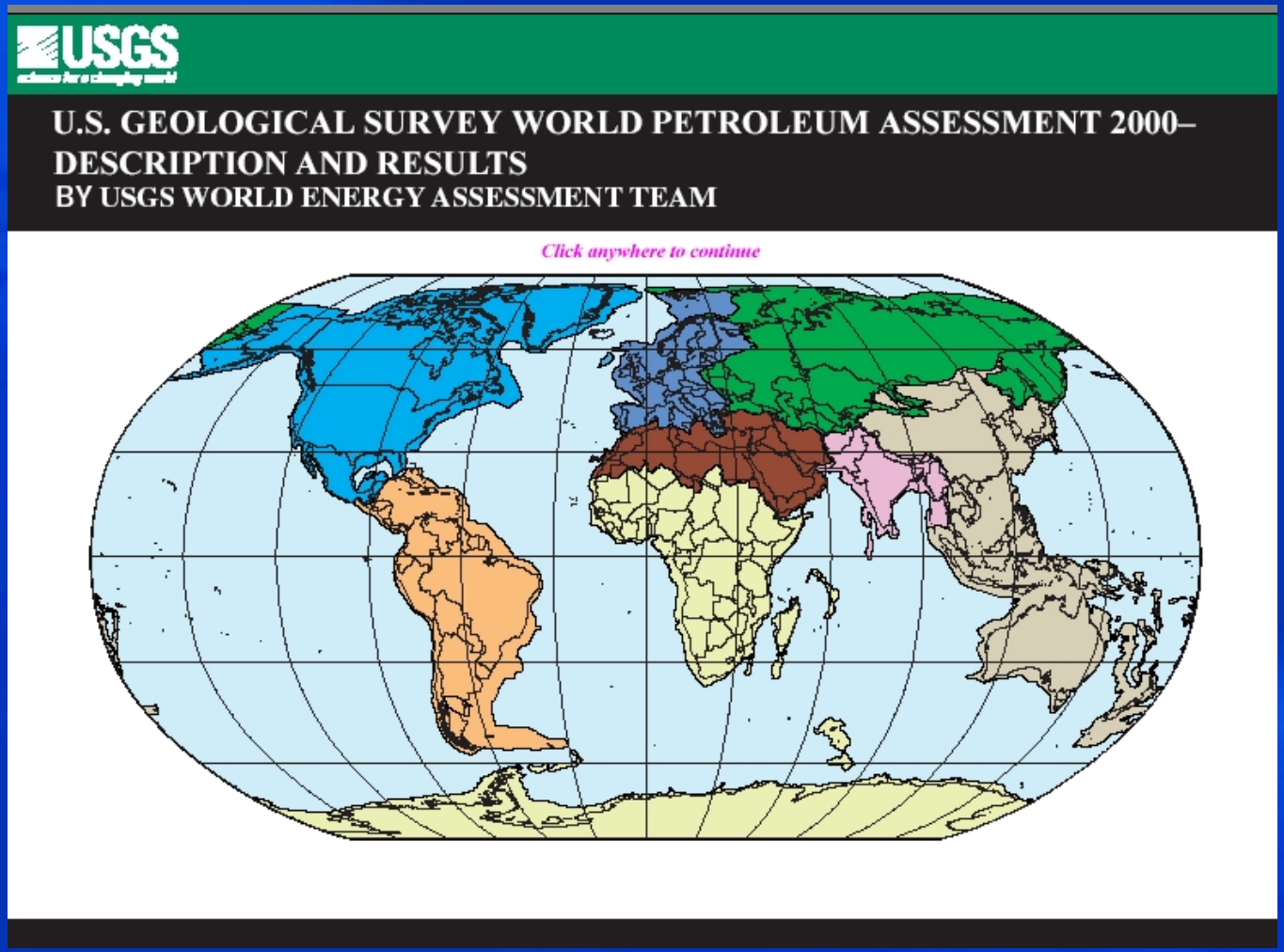
# Remaining World Hydrocarbon Resources

## Data Sources

## United States Geological Survey

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# Remaining World Hydrocarbon Resources

## Data Sources

## United States Geological Survey

| | Oil | | | | Gas | | | | | NGL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Billion Barrels | | | | Trillion Cubic Feet | | | | BBOE | Billion Barrels | | | |
| | F95 | F50 | F5 | Mean | F95 | F50 | F5 | Mean | Mean | F95 | F50 | F5 | Mean |
| **World (excluding United States)** | | | | | | | | | | | | | |
| Undiscovered conventional | 334 | 607 | 1,107 | 649 | 2,299 | 4,333 | 8,174 | 4,669 | 778 | 95 | 189 | 378 | 207 |
| Reserve growth (conventional) | 192 | 612 | 1,031 | 612 | 1,049 | 3,305 | 5,543 | 3,305 | 551 | 13 | 42 | 71 | 42 |
| Remaining reserves* | | | | 859 | | | | 4,621 | 770 | | | | 68 |
| Cumulative production* | | | | 539 | | | | 898 | 150 | | | | 7 |
| **Total** | | | | 2,659 | | | | 13,493 | 2,249 | | | | 324 |
| **United States** | | | | | | | | | | | | | |
| Undiscovered conventional** | 66 | | 104 | 83 | 393 | | 698 | 527 | 88 | Combined with oil | | | |
| Reserve growth (conventional)** | | | | 76 | | | | 355 | 59 | Combined with oil | | | |
| Remaining reserves | | | | 32 | | | | 172 | 29 | Combined with oil | | | |
| Cumulative production | | | | 171 | | | | 854 | 142 | Combined with oil | | | |
| **Total** | | | | 362 | | | | 1,908 | 318 | | | | |
| **World Total** (including United States) | | | | 3,021 | | | | 15,401 | 2,567 | | | | |

*World reserve and cumulative production data reflect only those parts of the world actually assessed and are from Petroconsultants (1996) and NRG Associates (1995).

**U.S. data from Gautier and others (1996) and Minerals Management Service (1996).

# Remaining World Hydrocarbon Resources

## Data Sources

### Company Reserve Estimates in Financial Reports

- Essentially irrelevant in estimating the world's remaining resources
- Restraints of financial reporting mean that only *Proved Reserves* with confidence level in excess of 90% are normally reported

e.g. ExxonMobil

Proved Reserves @ end-2003: 22 billion boe;
Discovered Resource Base @ end-2003: >72 billion boe
- 3.4 times as great as reported proved reserves

- Can be useful in providing an absolute baseline in certain countries (e.g. Russia)

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# Remaining World Hydrocarbon Resources

## IHS Energy Methodolgy

### A Three-stage Process

(1) Production

- Record the all-time historic annual production of liquids and gas by country (onshore and offshore) from the best available source(s)
- Generate cumulative production by country from annual totals
- Canadian bitumen and synthetic crude oil and Venezuela extra-heavy Orinoco belt production included

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# Remaining World Hydrocarbon Resources

## IHS Energy Methodolgy

### (2) Ultimate Recoverable Resources

- Uses a “bottom-up” approach that reflects evolution of resource estimates for individual fields
- Sum the ultimate “proven+probable” technically-recoverable liquid and gas resources of each field and undeveloped discovery, by year
- All resources attributed to the year of initial discovery
- Aggregate the annual discovered resource values
- Canada and USA must be treated differently

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## IHS Energy Methodolgy

(3) Remaining Recoverable Resources

- Subtract country cumulative production (1) from country ultimate recoverable resources (2) to derive remaining resources by country (3)

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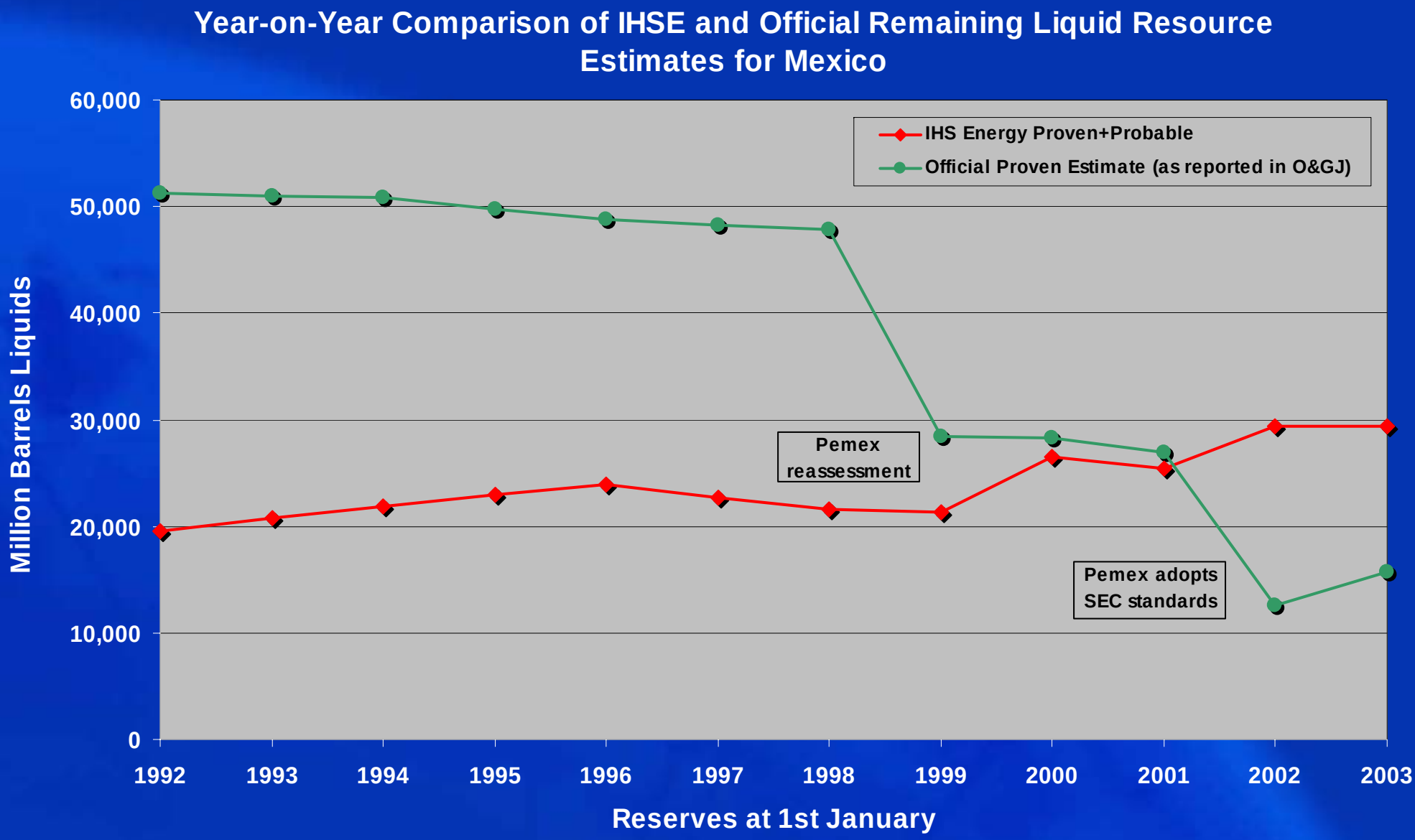
# Remaining World Hydrocarbon Resources

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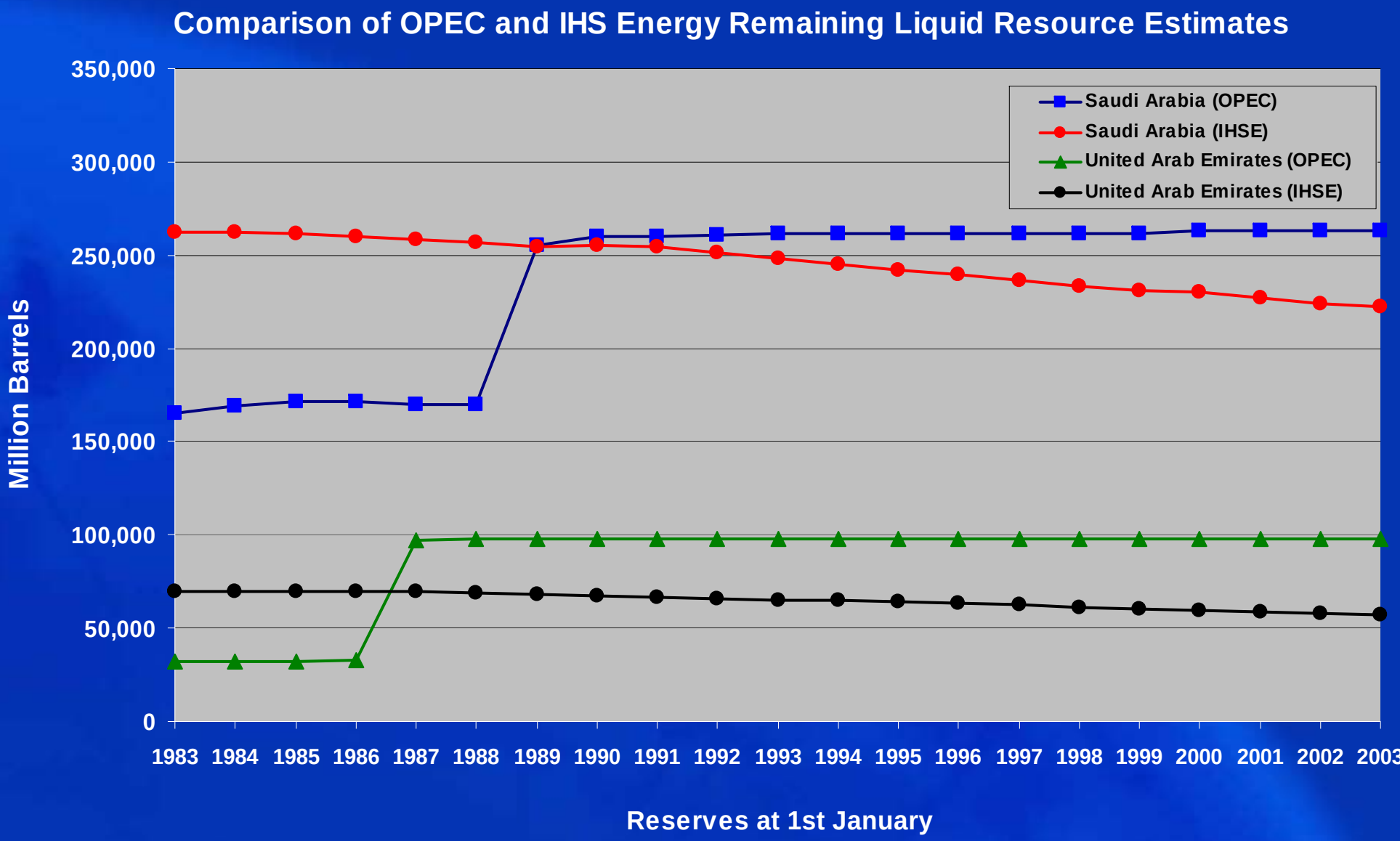
# Remaining World Hydrocarbon Resources

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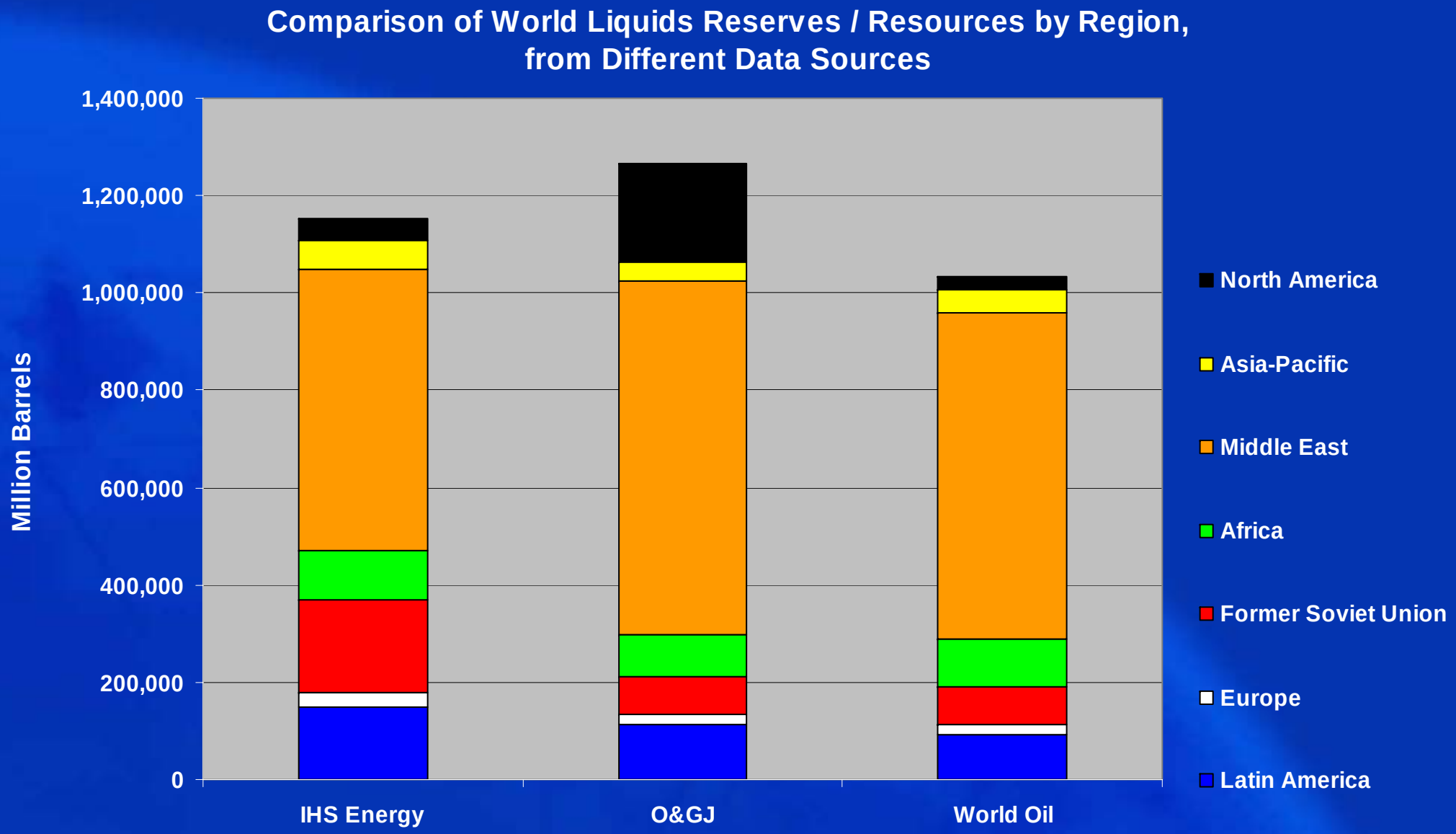
# Remaining World Hydrocarbon Resources

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# Remaining World Hydrocarbon Resources

## Resource Plays

Resource Plays belong to a category of hydrocarbon accumulations known as Continuous-Type Deposits -

Accumulations that are pervasive throughout a large area and that are not significantly affected by hydrodynamic influences.

Continuous-type deposits lack well-defined downdip water contacts.

# Remaining World Hydrocarbon Resources

## Resource Play Characteristics

- **Exploration**

  Low risk
  - large known in-place resource
  - great areal extent

  Long life reserves
  - booked reserves are small proportion of potential

- **Production**

  Material volumes

  Stable, predictable production rates

  Assembly-line development

  Very long project life provides
  - opportunity to improve recovery factor
  - opportunity to improve efficiency and reduce costs
  - security of supply

  Well decline rates decrease with time

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# Remaining World Hydrocarbon Resources

## Resource Play Types

### Oil

- Bitumen in oil-sands, Alberta, Canada
- Extra-heavy oil, Orinoco Belt, Venzuela

### Gas

- Coalbed Gas (also known as “CBM” or “NGC”)
- Tight Lithologies (shale; chalk)
- Anomalously-Pressured Basin-Centre Gas (also known as “deep gas” or “tight sand gas”)

and in the future

- Gas Hydrates

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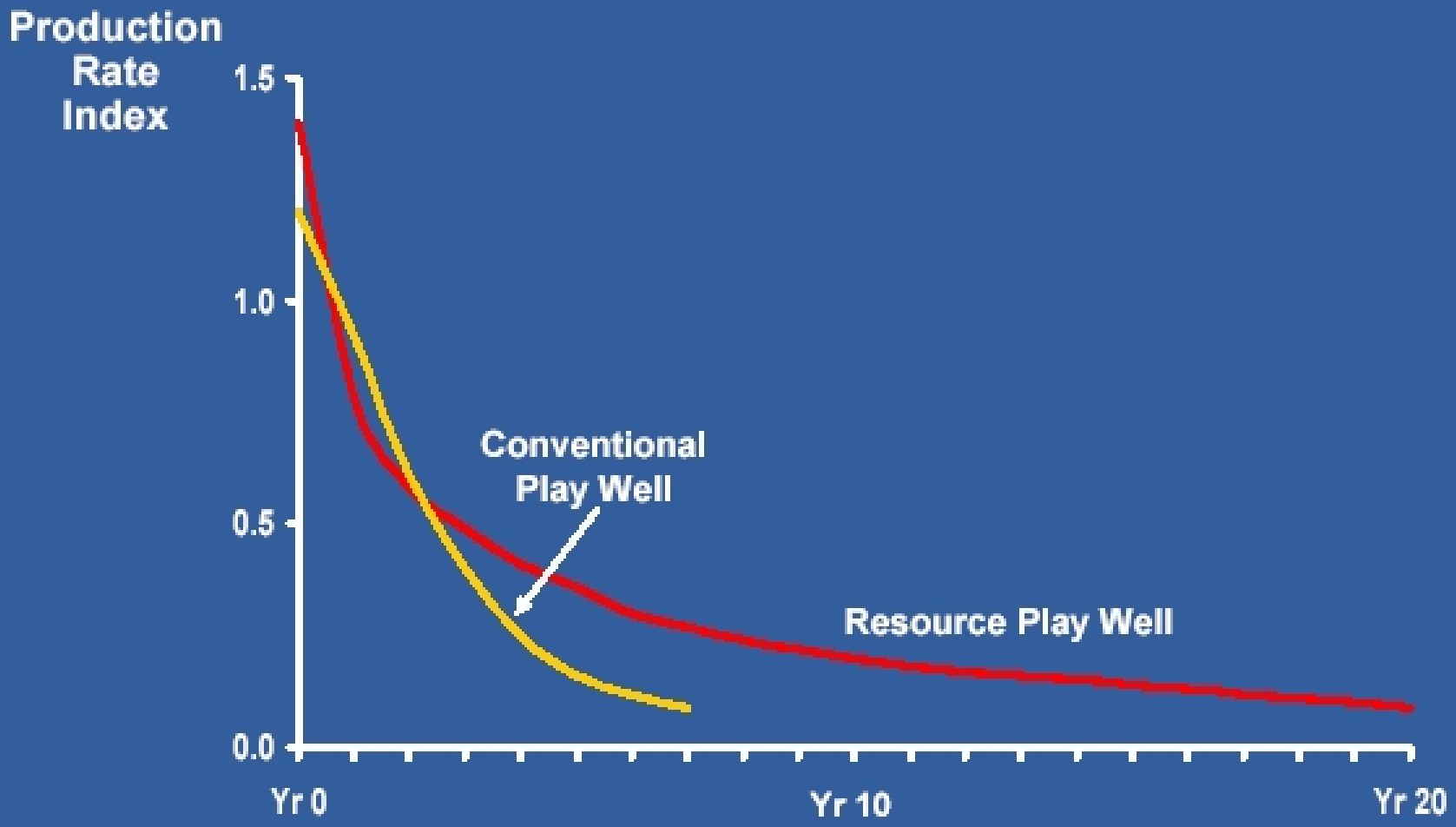
# Production Decline Comparison
## *Conventional vs Resource*

ENCANA CORPORATION

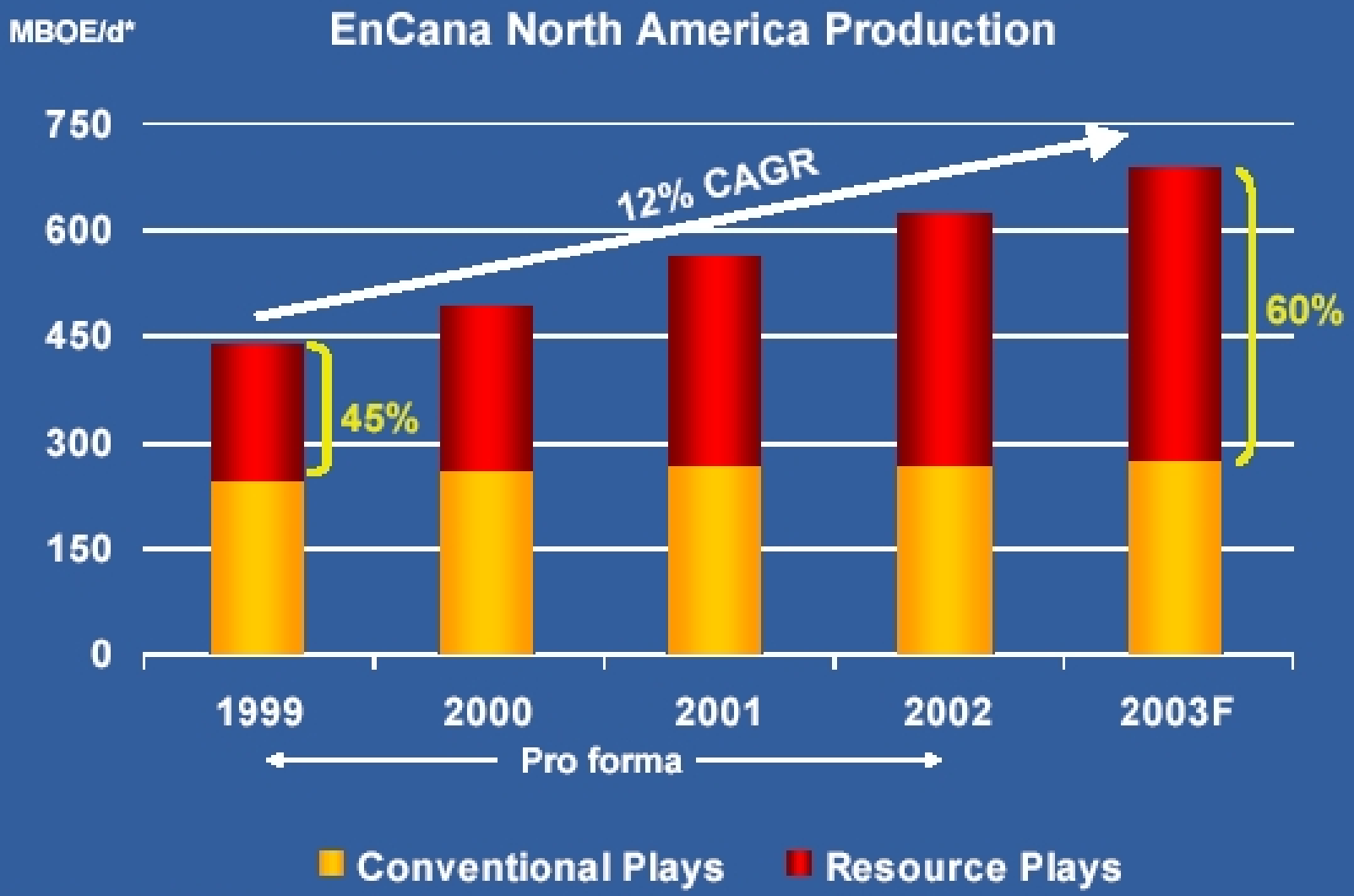
EnCana²



# North America Resource Plays
## *Historical Growth Track Record*

ENCANA CORPORATION

EnCana²




*Before royalties, excludes Syncrude

# Remaining World Hydrocarbon Resources

## Venezuela - Orinoco Extra-heavy Oil Projects

Five producing projects:

- One Orimulsion®; four joint venture upgrading projects (Cerro Negro; Hamaca; Petrozuata; Sincor)

One project under construction:

- Sinovensa Orimulsion®

One project on hold:

- ENEL Orimulsion®

Three extensions to upgrading projects under consideration:

- Cerro Negro; Petrozuata; Sincor

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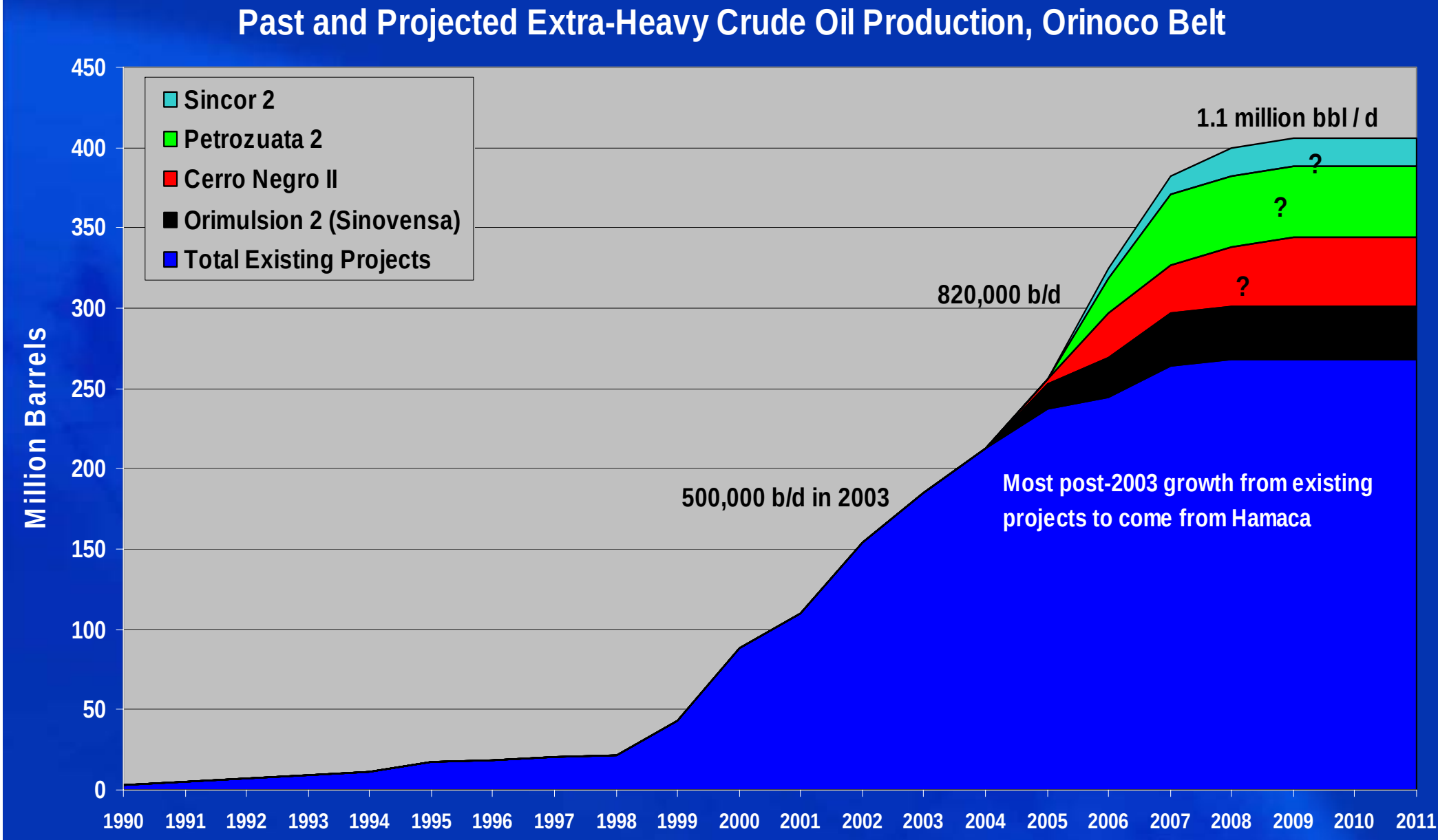


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## Canada – Alberta Oil Sands Projects

- **Mining** - 3 producing; 3 planned; 2 feasibility
  - large projects: average ~ 200,000 b/d SCO
  - low risk plus high recovery factor (90%+ of processed ore)
  - limited by overburden - maximum 75m
- **CSS** - 1 large producer: 180,000 b/d projected by 2008
  - 13% recovery in 1978; 25% recovery in 2000
  - 2 small projects combined with SAGD
- **SAGD** - new technology - 2 producers combined with CSS; 8 in production; 6 in pilot production; 8 planned
  - high recovery factors - 40-50% routine; 80% potential
- **Primary** - many small projects
  - low recovery factors (5-10%)

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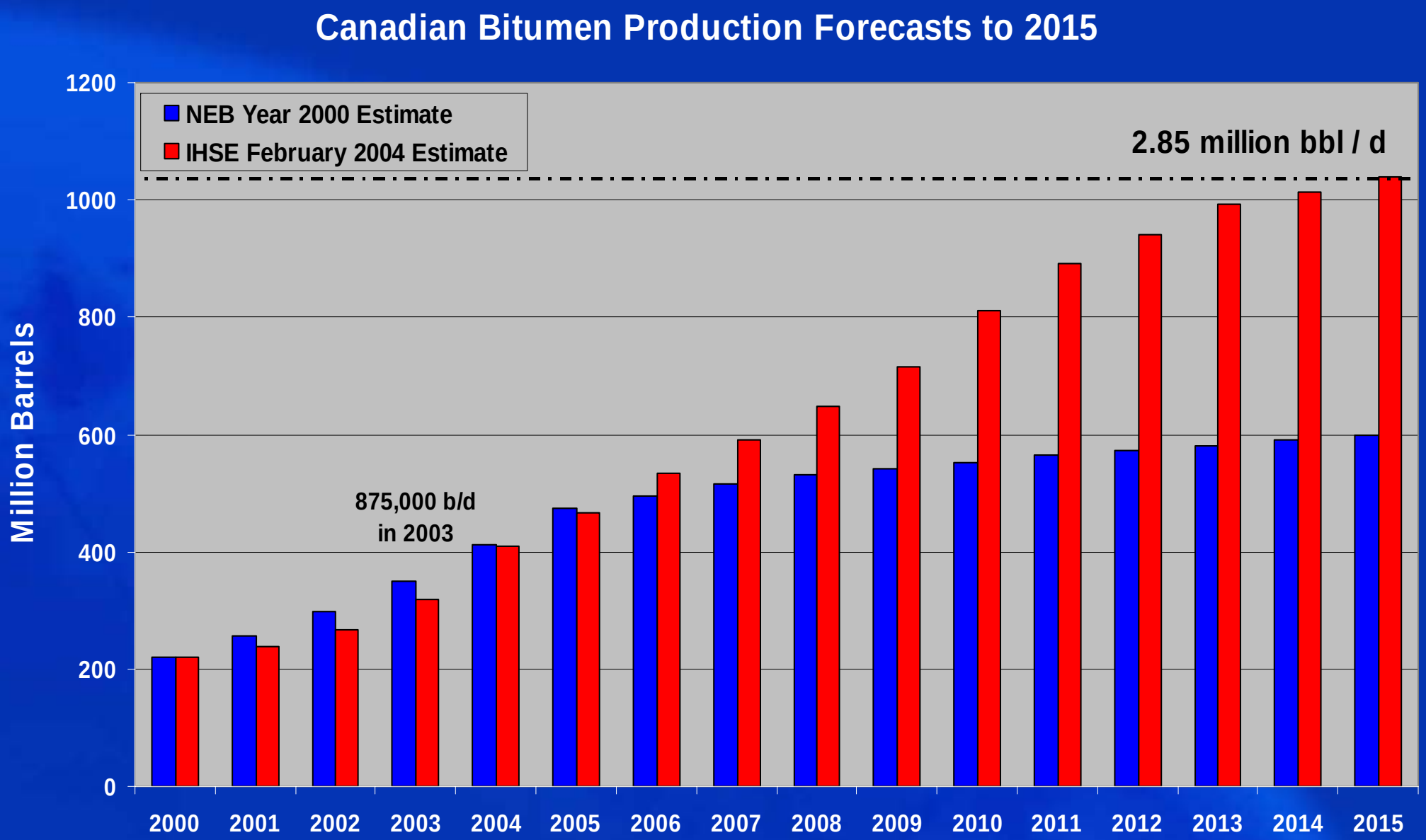


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# Remaining World Hydrocarbon Resources

## Conventional, with Extra-Heavy Oil and Oil Sands

| | Total Discovered | Cumulative Production | Remaining Recoverable | Percent Remaining | Year 2002 Production | Year 2002 R/P |
|---|---|---|---|---|---|---|
| Conventional Liquids Resources Discovered to End-2002 (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 2,139,249 | 985,057 | 1,154,192 | 54.0% | 26,721 | 43 |
| Alberta Bitumen Undeveloped (million barrels) | 168,000 | 0 | 168,000 | 100.0% | 0 | n/a |
| Orinoco Undeveloped (million barrels) | 236,000 | 0 | 236,000 | 100.0% | 0 | n/a |
| Total Liquids (million barrels) | 2,543,249 | 985,057 | 1,558,192 | 61.3% | 26,721 | 58 |
| Natural Gas (billion std cubic feet) | 9,631,532 | 2,873,246 | 6,758,286 | 70.2% | 97,590 | 69 |

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## Depletion

The extent to which a non-renewable resource has already been used as a result of production and consumption.

In this instance -

$$\frac{\text{Cumulative Production (liquids or gas)}}{\text{Resources Discovered To Date (liquids or gas)}} \%$$

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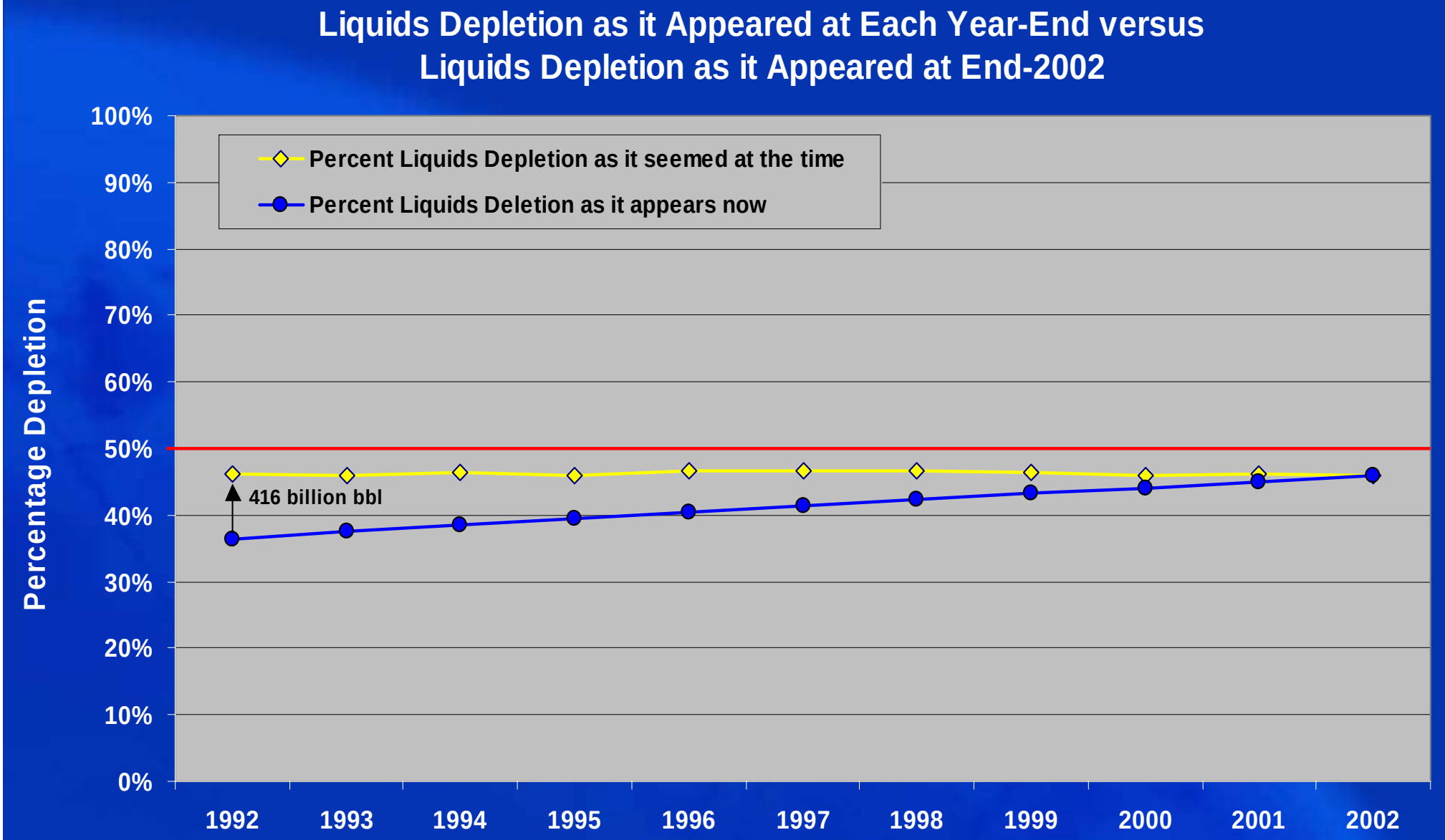


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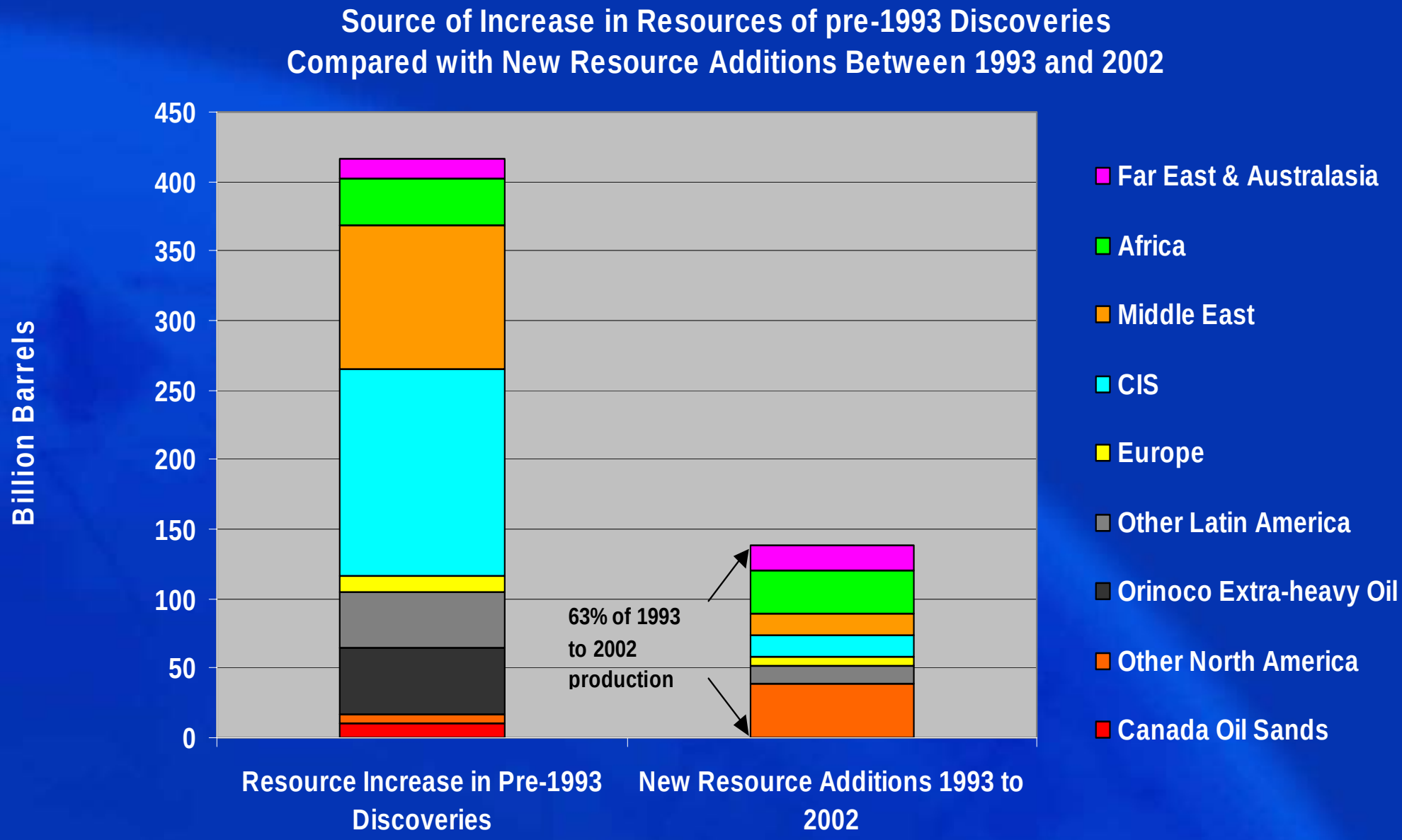


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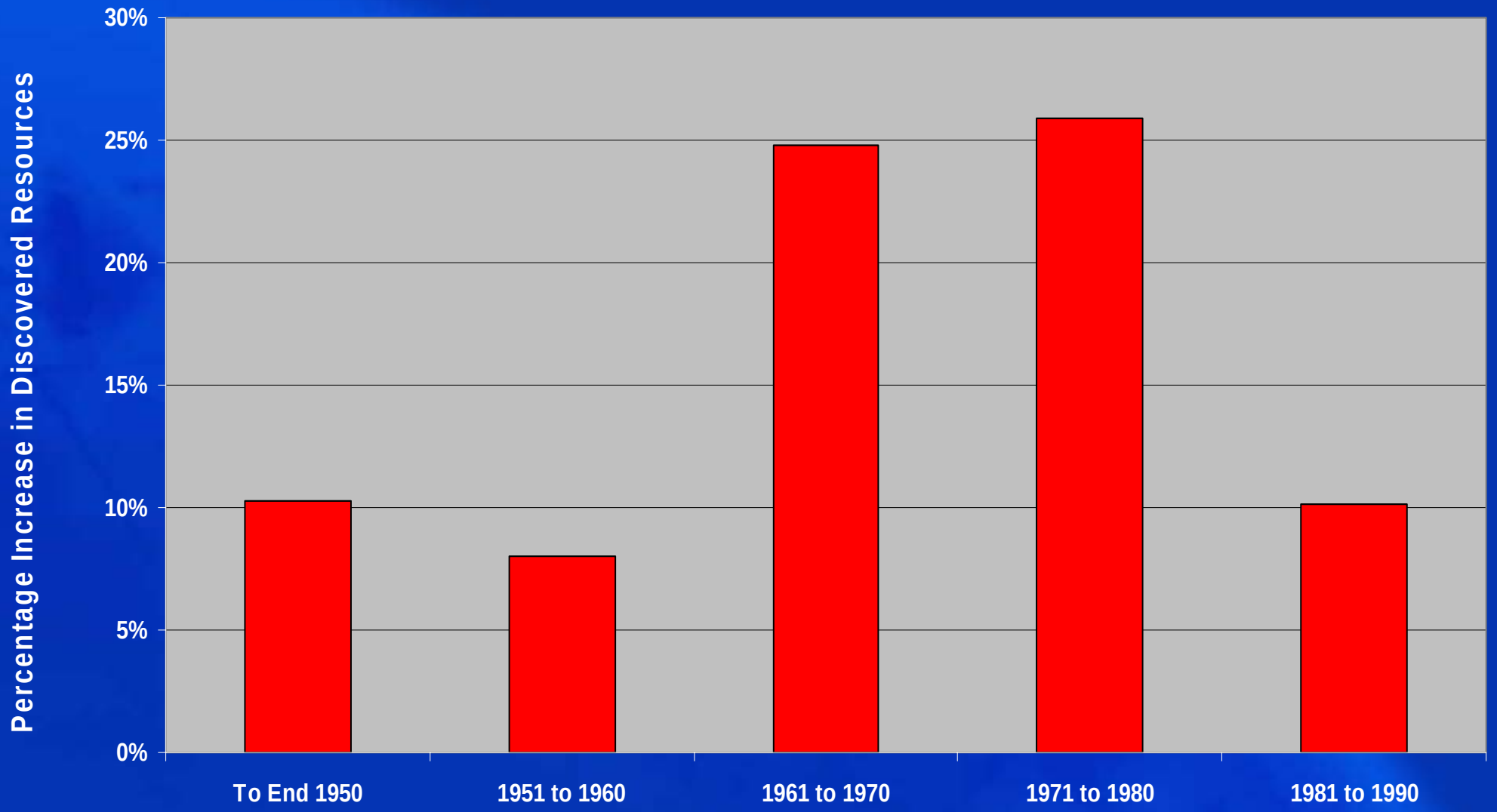
# Remaining World Hydrocarbon Resources

**Percentage Growth in Discovered Resources between 1992 and 2002 by Period of Discovery (World excluding North America, CIS and Orinoco)**

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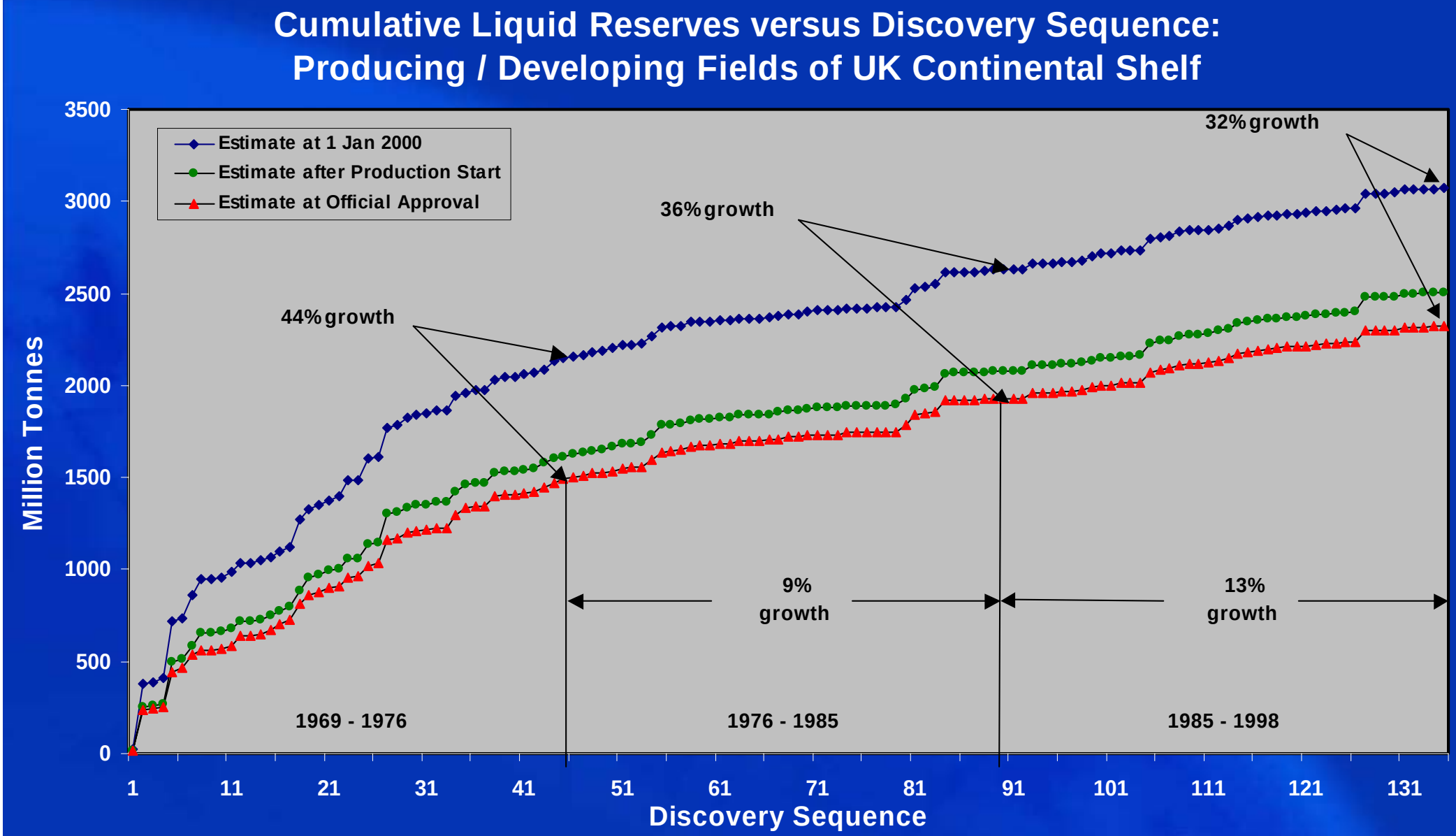
## Reserves Growth

- Also known as “field growth”, this term describes the increase in in-place and, especially, recoverable resources that commonly occurs over time, as oil and gas fields are developed and produced.

## Mechanisms

- Improved technology
- New-pool discoveries
- Field micro-management
- Commodity price

# Remaining World Hydrocarbon Resources

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# Remaining World Hydrocarbon Resources

## Reserves-to-Production Ratios with Extra-Heavy Oil and Oil Sands, and Resource Growth

| Year 2002 Reserves to Production Ratios | Remaining Recoverable | Remaining Recoverable with Resource Growth |
|---|---|---|
| Conventional Liquids Resources (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 43 | 55 |
| Alberta Bitumen Undeveloped | n/a | n/a |
| Orinoco Undeveloped | n/a | n/a |
| Total Liquids | 58 | 76 |
| Natural Gas | 69 | 78 |

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# Remaining World Hydrocarbon Resources

## Conventional, with Extra-Heavy Oil and Oil Sands, And Resource Growth

| | Cumulative Production | Remaining Recoverable with Resource Growth | Percent Remaining | Year 2002 Production | Year 2002 R/P |
|---|---|---|---|---|---|
| Conventional Liquids Resources (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 985,057 | 1,456,750 | 59.7% | 26,721 | 55 |
| Alberta Bitumen Undeveloped (million barrels) | 0 | 304,250 | 100.0% | 0 | n/a |
| Orinoco Undeveloped (million barrels) | 0 | 271,500 | 100.0% | 0 | n/a |
| Total Liquids (million barrels) | 985,057 | 2,032,500 | 67.4% | 26,721 | 76 |
| Natural Gas (billion std cubic feet) | 2,873,246 | 7,565,500 | 72.5% | 97,590 | 78 |

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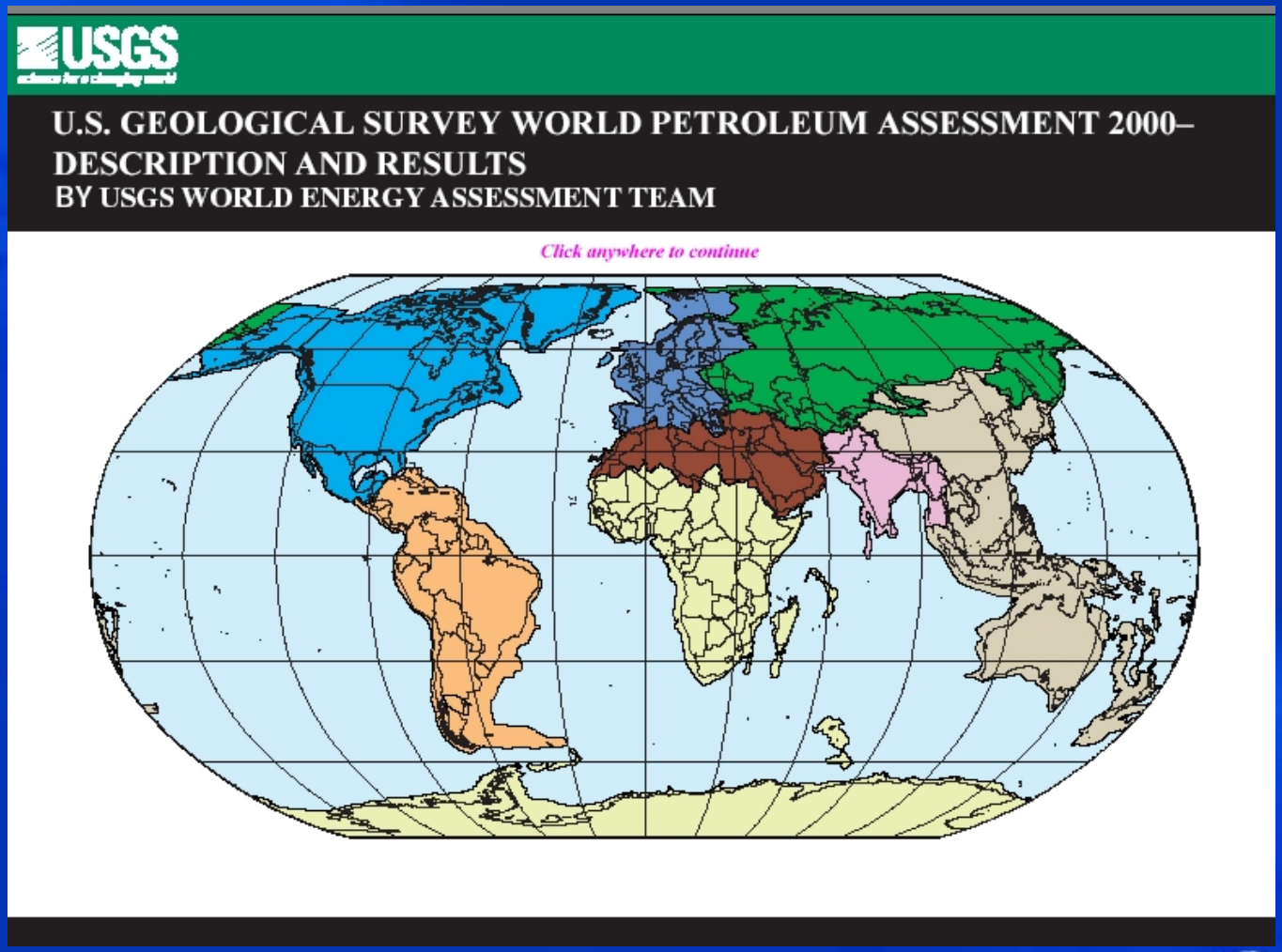
# Remaining World Hydrocarbon Resources

## Undiscovered Hydrocarbons ("Yet-to-Find")

## Data Source: United States Geological Survey

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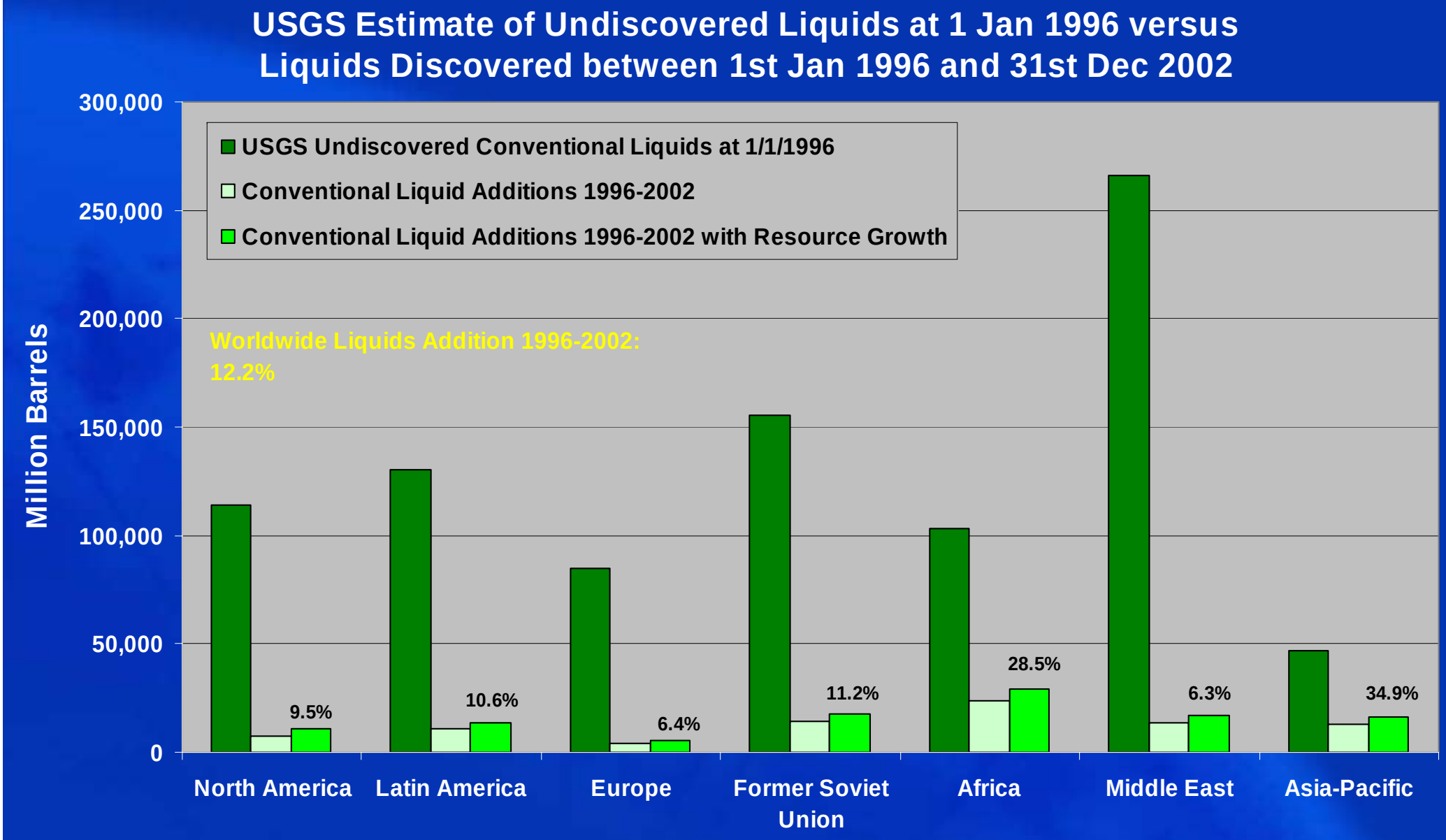


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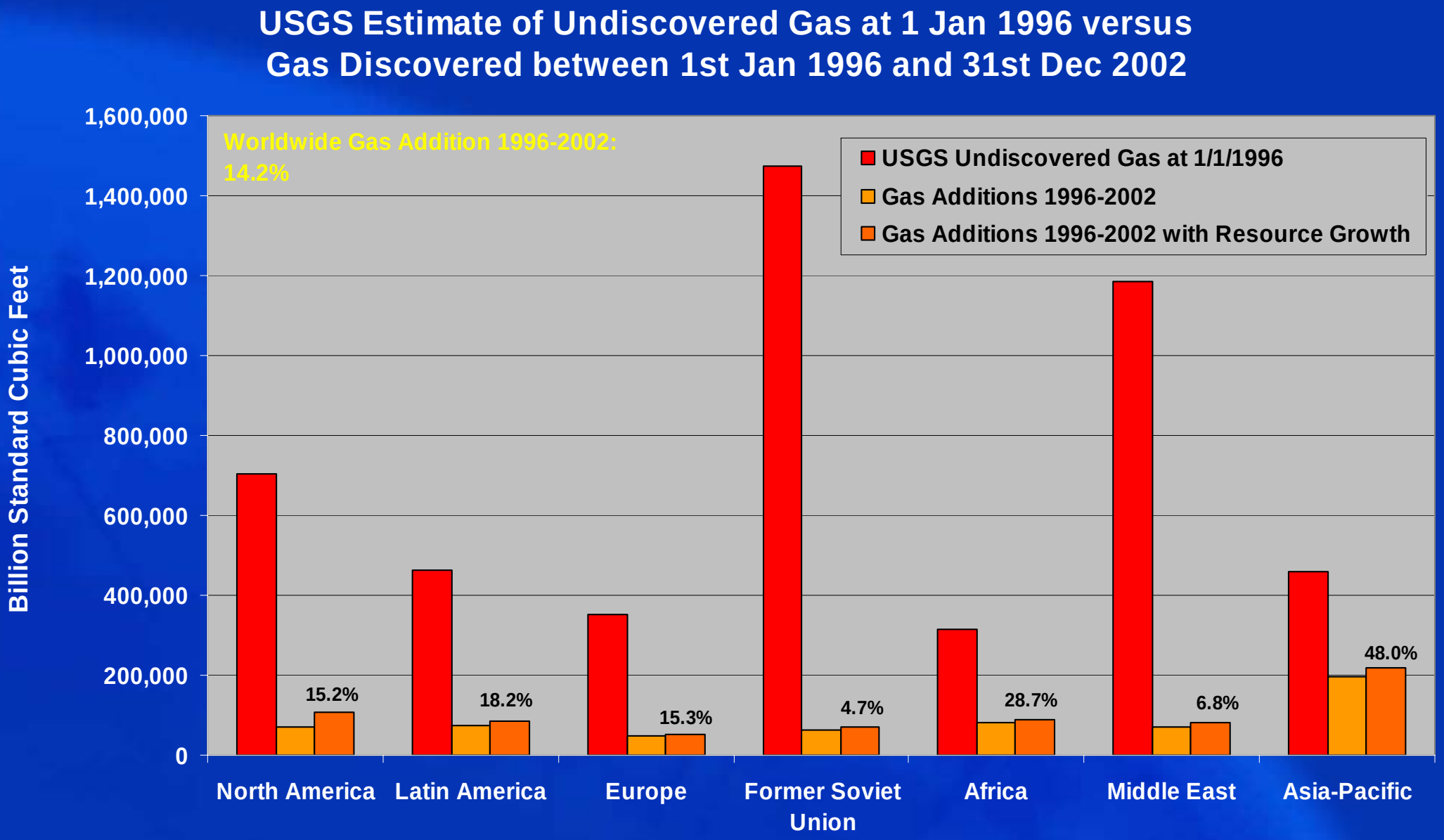


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# Remaining World Hydrocarbon Resources

## Reserves-to-Production Ratios with Extra-Heavy Oil and Oil Sands, Resource Growth and Yet-to-Find

| Year 2002 Reserves to Production Ratios | Remaining Recoverable | Remaining Recoverable with Resource Growth | Remaining Recoverable with Resource Growth and Yet-to-Find |
|---|---|---|---|
| Conventional Liquids Resources (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 43 | 55 | 84 |
| Alberta Bitumen Undeveloped | n/a | n/a | n/a |
| Orinoco Undeveloped | n/a | n/a | n/a |
| Total Liquids | 58 | 76 | 106 |
| Natural Gas | 69 | 78 | 121 |

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# Remaining World Hydrocarbon Resources

## Conventional, with Extra-Heavy Oil and Oil Sands, Resource Growth and Yet-to-Find

| NB: data are rounded | Cumulative Production | Remaining Recoverable with Resource Growth and Yet-to-Find | Percent Remaining | Year 2002 Production | Year 2002 R/P |
|---|---|---|---|---|---|
| Conventional Liquids Resources (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 985,057 | 2,250,000 | 69.6% | 26,721 | 84 |
| Alberta Bitumen Undeveloped (million barrels) | 0 | 304,250 | 100.0% | 0 | n/a |
| Orinoco Undeveloped (million barrels) | 0 | 271,500 | 100.0% | 0 | n/a |
| Total Liquids (million barrels) | 985,057 | 2,825,000 | 74.1% | 26,721 | 106 |
| Natural Gas (billion std cubic feet) | 2,873,246 | 11,800,000 | 80.4% | 97,590 | 121 |

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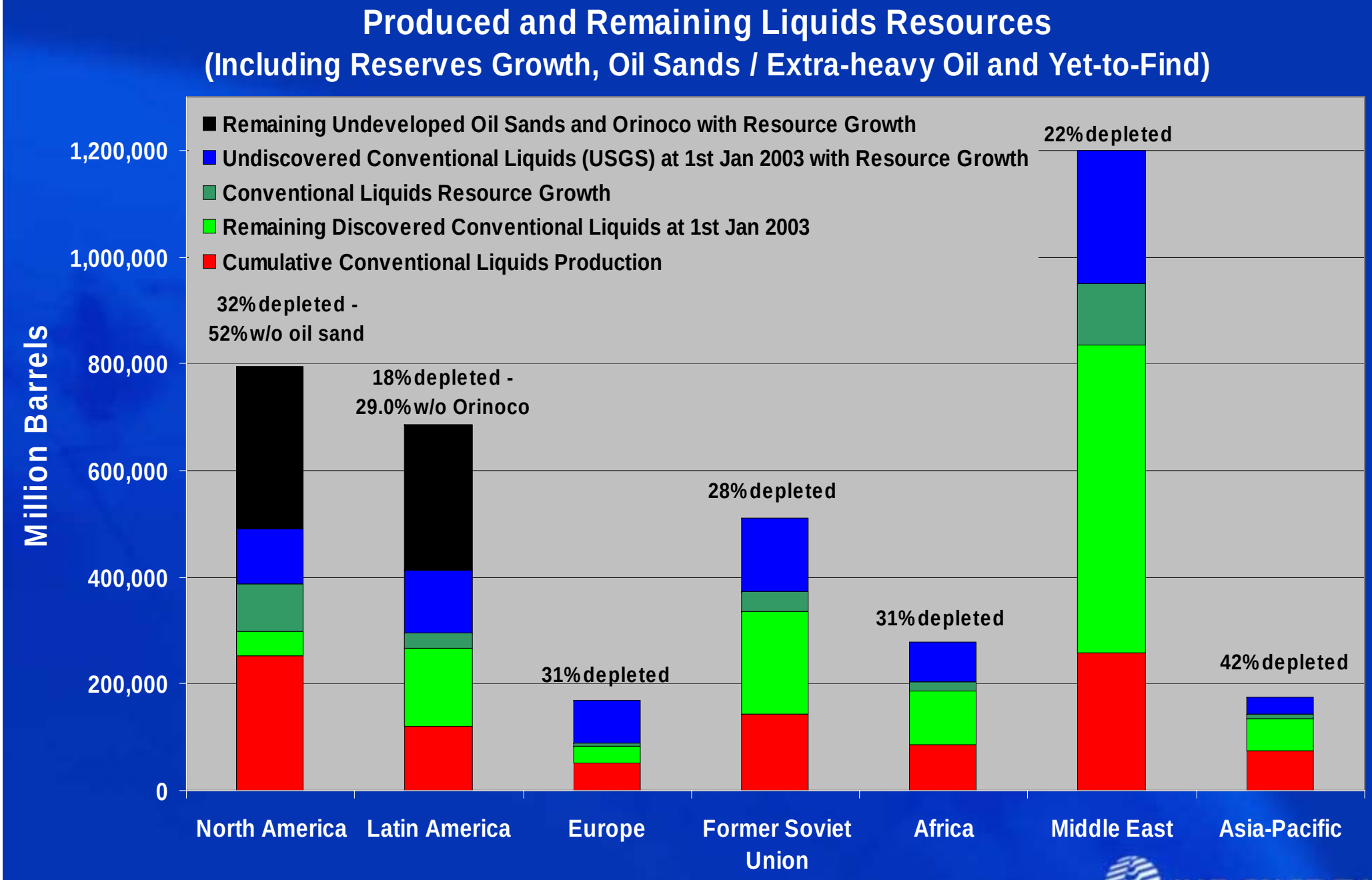
# Remaining World Hydrocarbon Resources

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# Remaining World Hydrocarbon Resources

| Liquids Resources (million barrels) | Total Discovered | Cumulative Production | Remaining Recoverable | Percent Depletion | Year 2002 Production | Year 2002 R/P |
|---|---|---|---|---|---|---|
| Conventional Liquids Resources Discovered to End-2002 (includes developed Alberta oil sands and Orinoco extra-heavy oil) | 2,139,249 | 985,057 | 1,154,192 | 46.0% | 26,721 | 43 |
| Alberta Bitumen Undeveloped | 168,000 | 0 | 168,000 | 0.0% | 0 | n/a |
| Orinoco Undeveloped | 236,000 | 0 | 236,000 | 0.0% | 0 | n/a |
| Total Discovered Liquids | 2,543,249 | 985,057 | 1,558,192 | 38.7% | 26,721 | 58 |
| Total Discovered Liquids with "Resource Growth" | | | 2,032,500 | 32.6% | | 76 |
| Total Discovered Liquids with "Resource Growth" and Remaining USGS "Yet-to-Find" | | | 2,825,000 | 25.9% | | 106 |
| Natural Gas Resources (billion standard cubic feet) | | | | | | |
| Natural Gas Resources Discovered to End-2002 | 9,631,532 | 2,873,246 | 6,758,286 | 29.8% | 97,590 | 69 |
| Total Discovered Gas with "Resource Growth" | | | 7,565,000 | 27.5% | | 78 |
| Total Discovered Gas with "Resource Growth" and Remaining USGS "Yet-to-Find" | | | 11,800,000 | 19.6% | | 121 |

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