RICE UNIVERSITY

Liquefied Natural Gas From Indonesia: The Arun Project

Geopolitics of Gas Conference

James A. Baker III Institute for Public Policy
Energy Forum
Stanford University
Program on Energy and Sustainable Development
May 26-27, 2004

Steven W. Lewis
Fred von der Mehden
RICE UNIVERSITY

RICE UNIVERSITY

Liquefied Natural Gas From Indonesia: The Arun Project

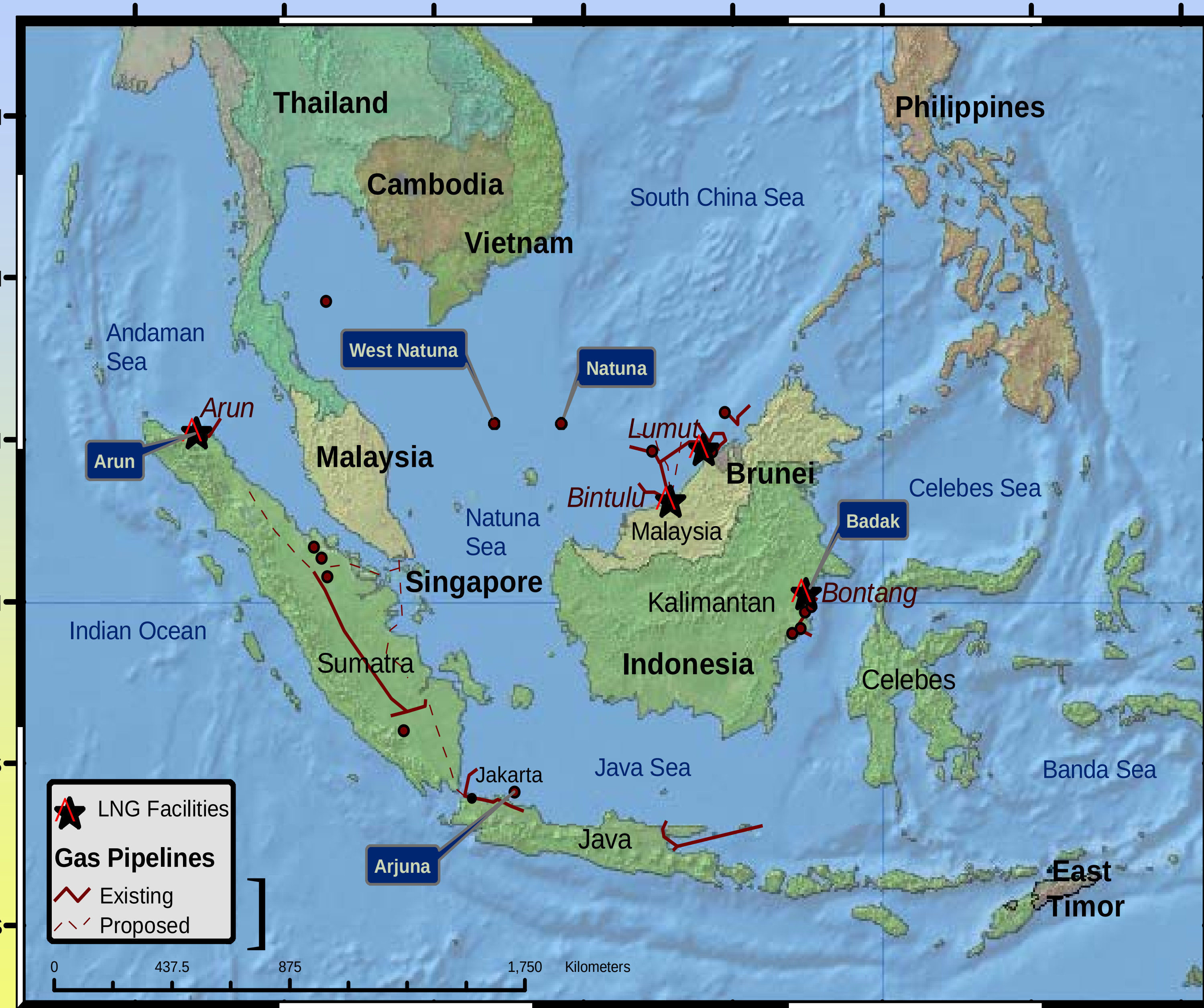
- History of the Project
- The Japanese Connection: Lack of Alternative Markets for Arun and Indonesian Gas
- Political and Institutional Consequences of the Arun Project

Rice University

History of The Arun Project

- Discovery of Gas in Arun and Bontang
- Indonesian Government and Pertamina Seek Project Developers and Buyers:
  - California Contract
  - Japanese Western Group of Buyers
- Negotiations with Japan in 1970s:
  - Strategic Role of Trading Firms, Japanese Government in Maintaining Negotiations
  - Contracted for 8 mtpa
  - Development of Japanese Financing Institutions
  - Pricing, Japanese Concern for Supply Security, Diversity of Supply

Rice University



Rice University

JAPANESE IMPORTS OF LNG BY COUNTRY, 1975-2001

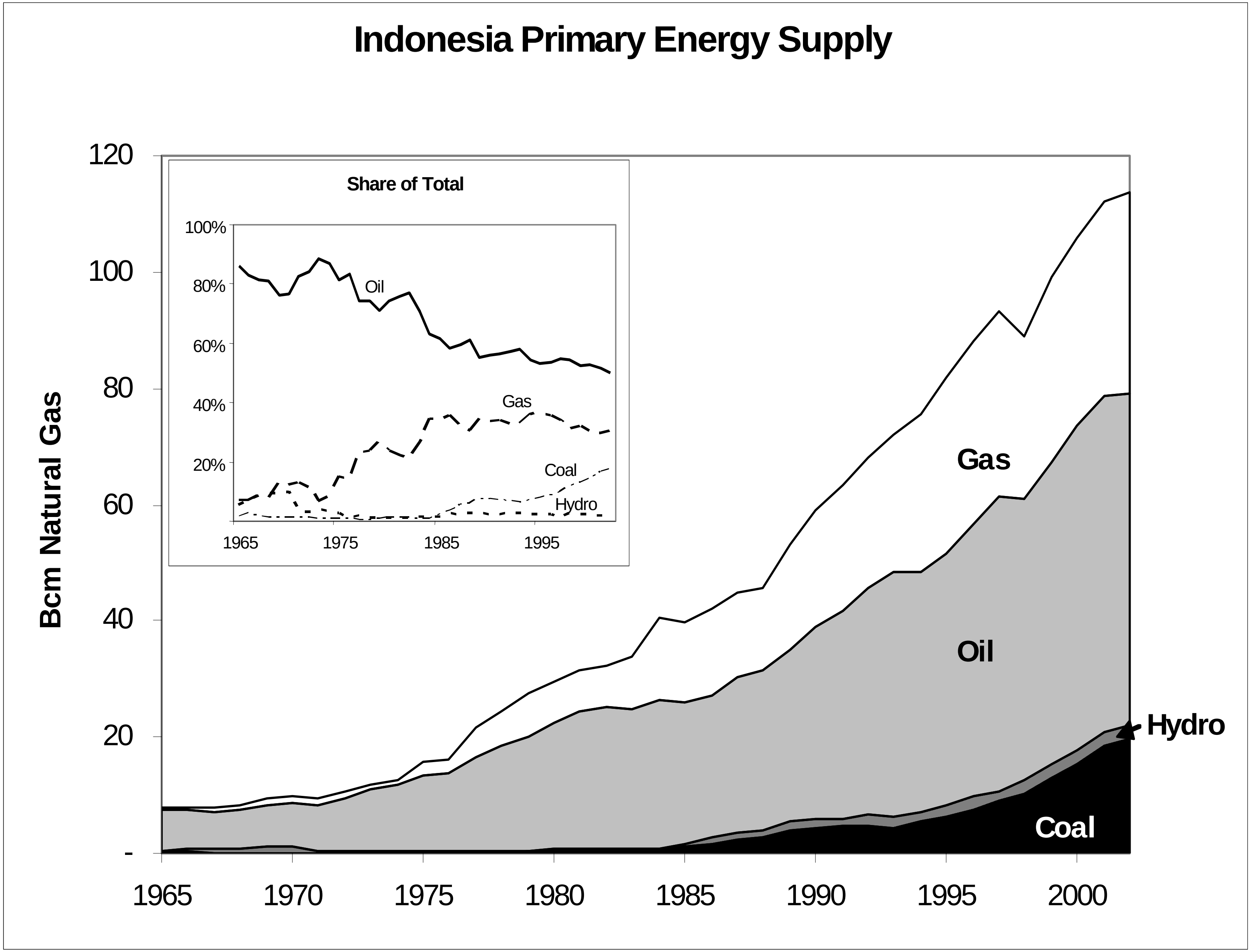
Year	U.S.	Brunei	UAE	Indo-nesia	Malaysia	Australia	Qatar	Oman
1975	20%	80%	-	-	-	-	-	-
1980	5%	32%	12%	51%	-	-	-	-
1985	4%	19%	8%	53%	16%	-	-	-
1990	3%	15%	6%	49%	19%	9%	-	-
1995	3%	13%	9%	40%	20%	16%	-	-
2001	2%	11%	9%	30%	21%	14%	12%	1%

RICE UNIVERSITY

Alternative Uses for Arun Gas

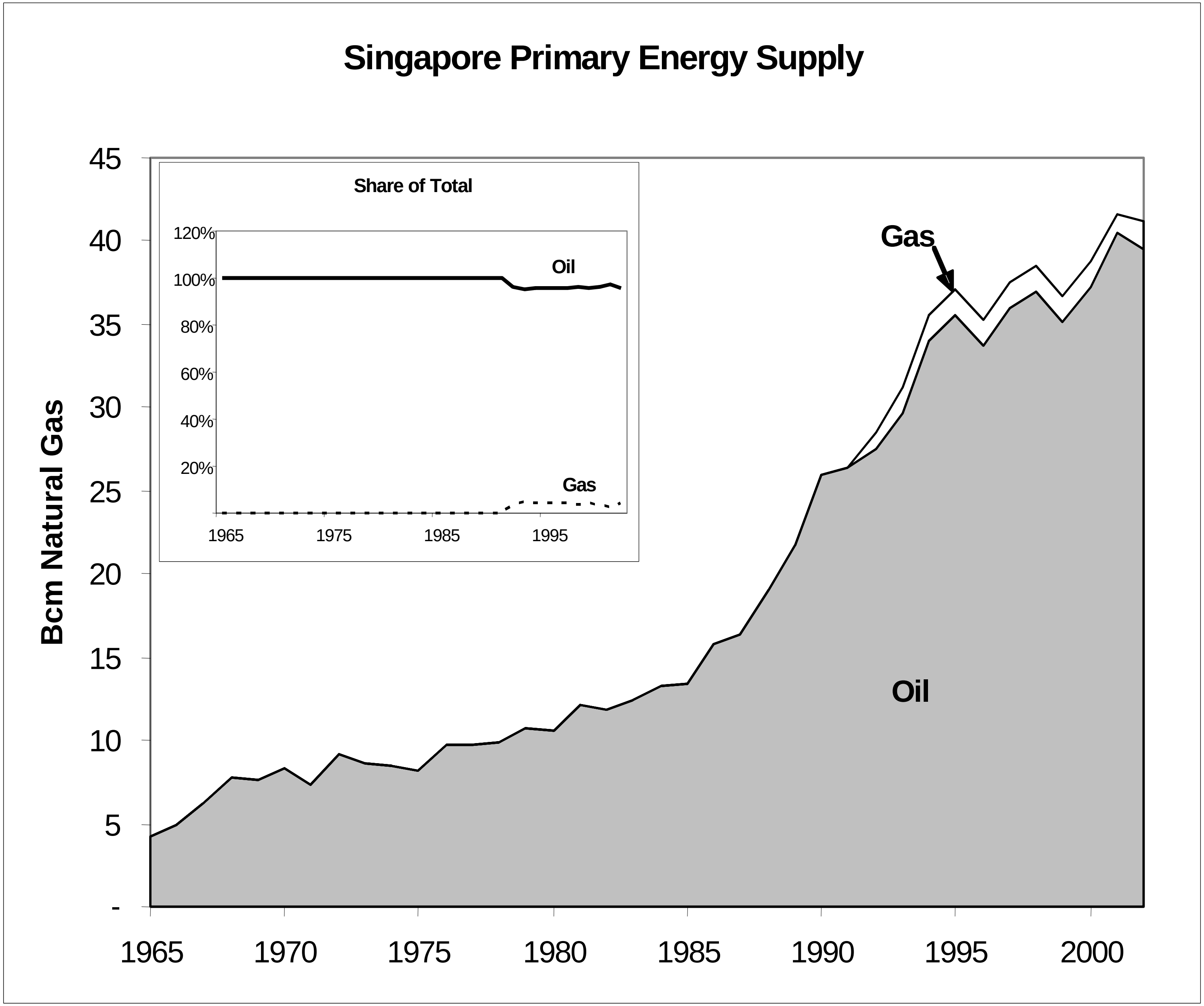
- Demise of the California Connection:
  - California Siting Issues
  - Diminishing Strategic Role of California Alternative
  - Strong Japanese Desire
- Domestic Distribution:
  - Insufficient Domestic Demand on Java
  - Wariness of Foreign, Domestic Investors on Alternative Uses in Java
  - Predominance of Oil in Planning

Rice University



Alternative Uses for Arun Gas

- The Singapore Alternative, Pros:
  - Strong, Steady Economic Growth in 1970s and 1980s
  - Long History of Gas use, and Plans to Develop Petrochemical Industry
  - Interest in Importing Gas from Neighbors
- The Singapore Alternative, Cons:
  - Singapore Small in Comparison to Japan and California (8 mtpa to Japan by 1980)
  - Technological Issues and Fear of Technical and Safety Issues for Piped Gas and LNG
  - Oil Industry Predominance in Planning, Discounting of Gas


Singapore Primary Energy Supply
Bcm Natural Gas
45
40
35
30
25
20
15
10
5
-
1965
1970
1975
1980
1985
1990
1995
2000
Gas
Oil
Share of Total
120%
100%
80%
60%
40%
20%
Oil
Gas
1965
1975
1985
1995

Arun, Politics and Institutions

- Established Strong Role of the State in Developing Domestic Gas Market:
  - Final Guarantor of Investments
  - Coordinating if not Leadership Role in Negotiations
  - New Model of Cooperation Between State, Domestic Buyers, Trading Firms with Foreign Governments, NOCs and MNCs
- Established Popular Conceptions of Safety, Industry Perceptions of Profitability
- Relative Underdevelopment of Indonesian and Japanese Domestic Gas Distribution Systems in Long-Term