

PACKAGE ID - 000770IBMPC00 RAMSGAS

KWIC TITLE - World Natural Gas Model

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LIMITATION CODE -UNL **AUDIENCE CODE** - UNL

COMPLETION DATE - 01/01/1989 **PUBLICATION DATE** - 12/13/1986

DESCRIPTION - RAMSGAS, the Research and Development Analysis Modeling System World Natural Gas Model, was developed to support planning of unconventional gaseous fuels research and development. The model is a scenario analysis tool that can simulate the penetration of unconventional gas into world markets for oil and gas. Given a set of parameter values, the model estimates the natural gas supply and demand for the world for the period from 1980 to 2030. RAMSGAS is based on a supply/demand framework and also accounts for the non-renewable nature of gas resources. The model has three fundamental components: a demand module, a wellhead production cost module, and a supply/demand interface module. The demand for gas is a product of total demand for oil and gas in each of 9 demand regions and the gas share. Demand for oil and gas is forecast from the base year of 1980 through 2030 for each demand region, based on energy growth rates and price-induced conservation. For each of 11 conventional and 19 unconventional gas supply regions, wellhead production costs are calculated. To these are added transportation and distribution costs estimates associated with moving gas from the supply region to each of the demand regions and any economic rents. Based on a weighted average of these costs and the world price of oil, fuel shares for gas and oil are computed for each demand region. The gas demand is the gas fuel share multiplied by the total demand for oil plus gas. This demand is then met from the available supply regions in inverse proportion to the cost of gas from each region. The user has almost complete control over the cost estimates for each unconventional gas source in each year and thus can compare contributions from unconventional resources under different cost/price/demand scenarios.

PACKAGE CONTENTS - Software Abstract; NESC Note 89-14; ORNL/TM-10157;
Media Includes Source, Sample Problem;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 5.25 Diskette

METHOD OF SOLUTION - The model is a Lotus 1-2-3 spreadsheet and uses the LOTUS cell equations as the modelling language.

COMPUTER - IBM PC

OPERATING SYSTEMS - MS-DOS

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PROGRAMMING LANGUAGES - LOTUS 1-2-3

SOURCE CODE AVAILABLE (Y/N) - Y

RELATED SOFTWARE - RAMSGAS is part of the Research and development Analysis Modeling System (RAMS) which also contains the world oil model RAMSOIL and the RAMSCOAL model still under development.

OTHER PROG/OPER SYS INFO - The proprietary Lotus Development Corporation Lotus 1-2-3 software is required.

HARDWARE REQS - 640 Kbytes of memory, an Epson or compatible printer, and a color monitor. The spreadsheet requires approximately 270 Kbytes and stored scenarios about 23 Kbytes each.

TIME REQUIREMENTS - A typical problem requires 70 seconds.

REFERENCES - E.A. Browne, D.B. Reister, L.D. Trowbridge, J.V. Conopask, E. Hicks, and P. Mihlmester, The Research and Development Analysis Modeling System World Natural Gas Model (RAMAGAS) Final Documentation, ORNL/TM-10159, December 1986. RAMSGAS, NESC No. 9524, RAMSGAS Flexible Disk Cartridge Description, National Energy Software Center Note 89-14, November 28, 1988.

SUBJECT CLASS CODE - R

KEYWORDS -

R CODES
NATURAL GAS
SUPPLY AND DEMAND
COMPUTER PROGRAM DOCUMENTATION

EDB SUBJECT CATEGORIES -
030600

SPONSOR - DOE/FE

PACKAGE TYPE - AS - IS