



Indo-US Working Group on Coal –Workshop on Underground Coal Gasification

GAIL'S UCG PERSPECTIVE

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MISSION & VISION

Formed in 1984
as Gas Authority
of India Limited

Mission

**“TO ACCELERATE AND OPTIMIZE
THE EFFECTIVE AND ECONOMIC USE
OF NATURAL GAS AND ITS FRACTIONS
TO THE BENEFIT OF NATIONAL ECONOMY.”**

Now

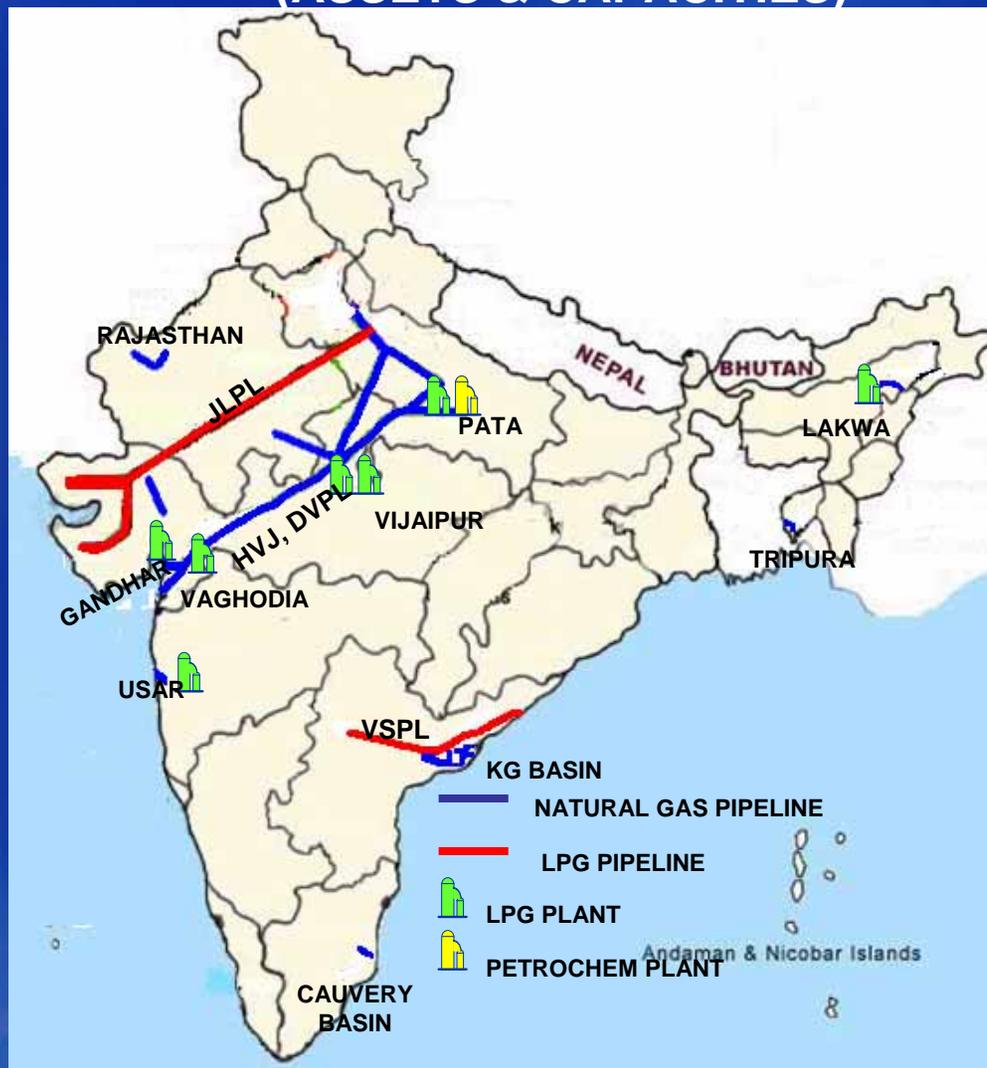
GAIL (India) Ltd

Vision

**“BE THE LEADING COMPANY IN NATURAL
GAS & BEYOND,
WITH GLOBAL FOCUS,
COMMITTED TO CUSTOMER CARE,
VALUE CREATION FOR ALL STAKEHOLDERS
AND ENVIRONMENTAL RESPONSIBILITY”**

GAIL - BUSINESS PORTFOLIO

(ASSETS & CAPACITIES)



GAS PIPELINES

5,600 KMS

123 MMSCMD

11 STATES

LPG PIPELINE

1922 KMS

3.8 MMTPA

GAS PROCESSING

7 PLANTS

1.2 MMTPA LPG

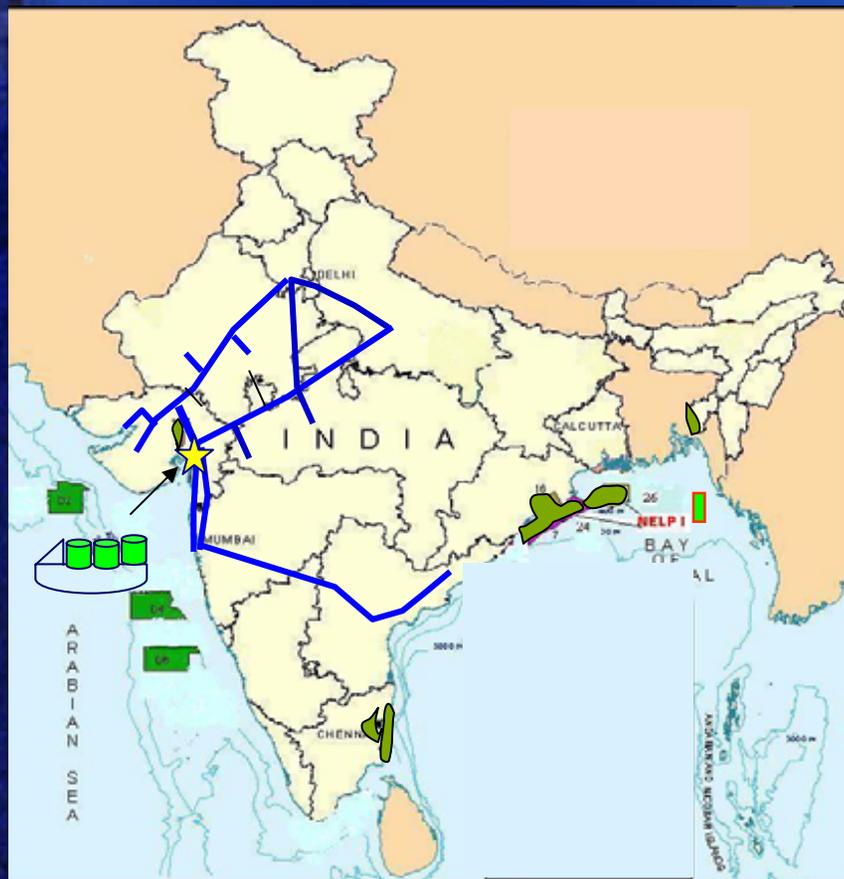
PETROCHEMICALS

310,000 TPA

POLYETHYLENE



GAIL - BUSINESS PORTFOLIO



- OFC CONNECTIVITY
- E&P BLOCKS
- MYANMAR BLOCK
- DAHEJ LNG TERMINAL

OFC CONNECTIVITY

13,000 KMS

E&P

16 BLOCKS
(3 - OVERSEAS)

LNG

PLL, DAHEJ
RGPPL, DABHOL
(10 MMTPA)

GAS RETAILING

IGL, MGL, BGL,
TNGCL, CUGL,
GGL, MNGL

POWER

156 MW
GSEG, Hazira

UCC SEMINAR



GAIL's INTERNATIONAL INVESTMENTS



■ TARGET COUNTRIES

- 1) IRAN
- 2) TURKEY
- 3) PHILIPPINES
- 4) BANGLADESH
- 5) RUSSIA & CIS
- 6) AUSTRALIA



★ OVERSEAS PRESENCE

EGYPT

- EQUITY IN 3 GAS RETAILING COMPANIES

MYANMAR

- PARTNER IN A1, A3 E&P BLOCKS

CHINA

- EQUITY IN CHINA GAS FOR GAS RETAILING

SINGAPORE

- 100% GAIL SUBSIDIARY



FINANCIAL PERFORMANCE

TURNOVER (2005-06)	RS. 14,459 CRORE
NET PROFIT	RS. 2,310 CRORE
MARKET CAPITALISATION(31-03-06)	RS. 27,000 CRORE
GROSS PROFIT / CAPITAL EMPLOYED	30.49%

UGC SEMINAR

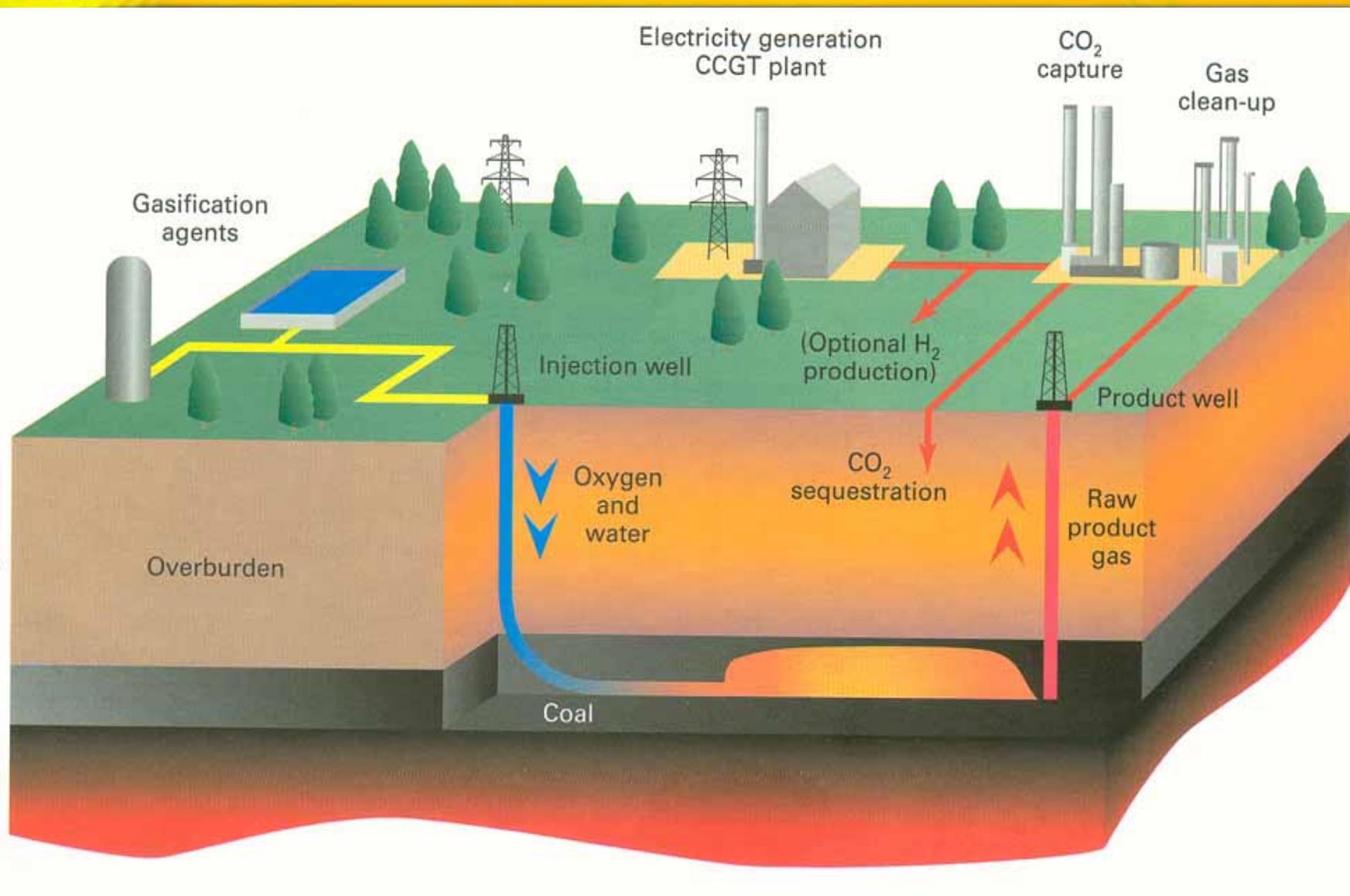


GAIL'S PERSPECTIVE

- UCG Concept
- Advantages
- Relevance of UCG in India today
- Initiatives by GAIL
- Conclusion

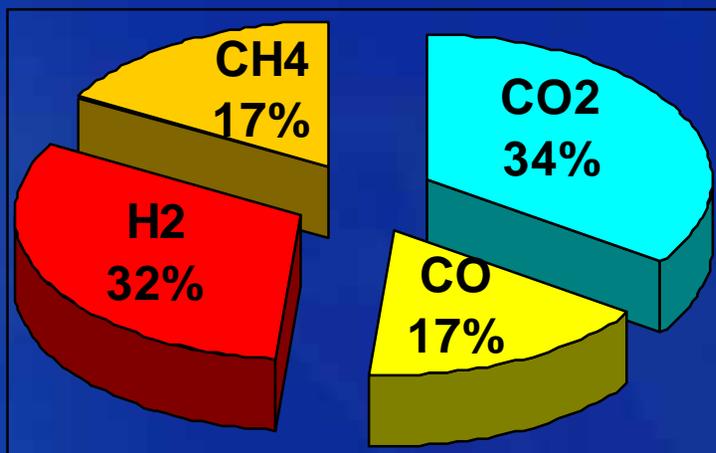
UCG SEMINAR

UCG- Concept



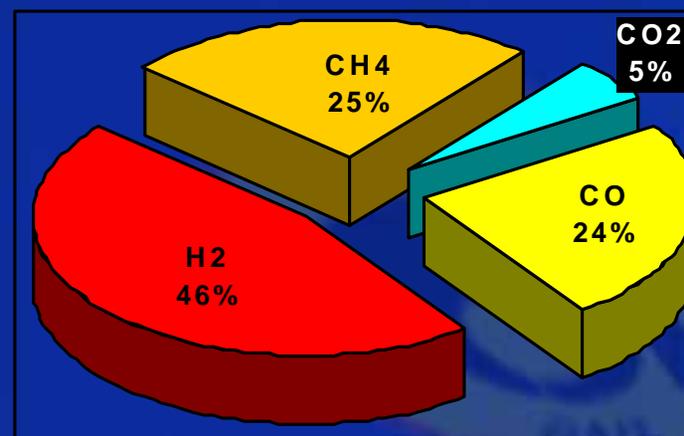
UCG – Concept Contd.....

Typical composition of UCG Dry Syn Gas



Calorific Value 2600 Kcal / sm³

With no CO₂ capture



Calorific Value 4000 Kcal / sm³

With CO₂ capture

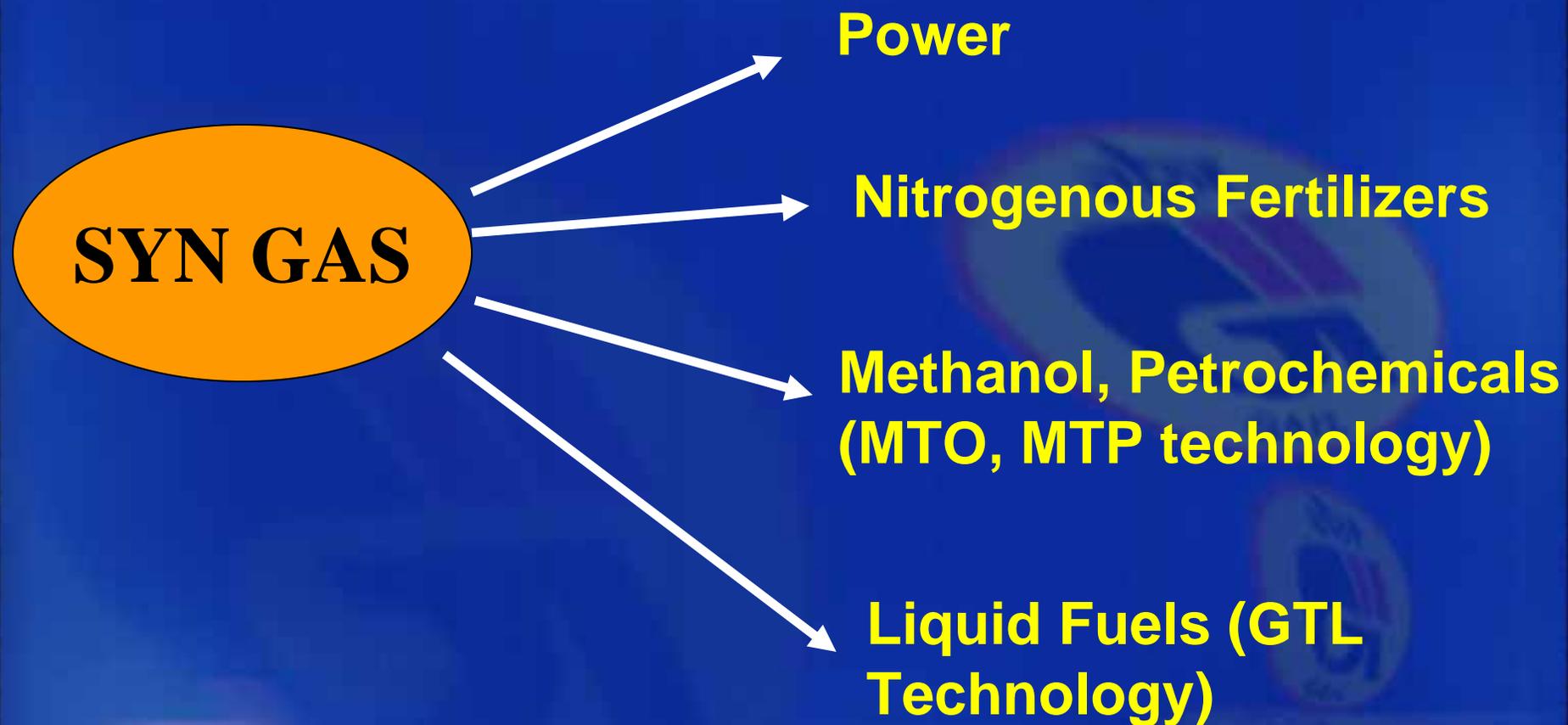


UCG ADVANTAGES COMPARED TO ENERGY FROM MINED COAL

- Utilisation of underground coal reserves that cannot be mined
- Environmental friendly
- No waste disposal
- Higher efficiency coupled with lower capital costs compared to conventional coal-fired station
- Shorter construction and commissioning time

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UCG - TARGET SEGMENTS



Relevance of UCG in India

If 20 % of 200 billion tonnes of un-recoverable coal reserve is utilized by UCG technology it can result in ...

■ 50 billion bbl of synthetic diesel

or

■ 18000 MW for 500 years

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Challenges

Environmental concerns

- Ground water contamination
- Surface Subsidence

Hydrology, Rock etc. have to be studied to mitigate & avoid above problems



INITIATIVES BY GAIL

Technology Provider : Ergo Exergy, Canada
Project Location : Barmer Rajasthan
Capacity : Pilot IGCC Project of 5 MW
Target Completion : 2009

- MoC with Ergo Exergy signed in Feb'05
- GAIL signed MoU with Govt of Rajasthan in Sept '05
- Land has been earmarked to GAIL
- License Agreement by December 2006
- SS & PF will follow immediately



Barmer εUCG Project- Phased IGCC Development

- **Stage I : Pilot UCG Gas Plant + Demo IGCC Power Plant (5 MW)**
- **Stage II : Commercial upgradation of the Pilot Plant**

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Pilot Phase Activities

Site Selection

- Analysis of existing information
- Drilling for additional information
- Site inspection

Pilot Phase Activities

Pre-feasibility Study

- Technical
- Regulatory & Environmental
- Commercial
- Planning for DFR
- Project Risk Analysis & mitigation

Pilot Phase Activities

Site Characterisation

- *Drilling*
- *Lignite Sample Testing*
- *Rock Mechanics, Geology, Hydrogeology*
- *UCG Site Testing*

Construction of Pilot UCG plant

Construction of 5 MWe Power plant



Assistance sought

Policy Framework required on “Leasing of Lignite deposit areas for commercial UCG Projects”

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Gas & Beyond

THANK YOU



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