

P. Technical Transfer

P. Technical Transfer

JICA Team's Technology Seminar

The gas technology seminar was held by JICA team members at the Hotel President ,
Jl. MH Thamrin 59, Jakarta on Thursday, October 10. The number of participants was
44 persons. PGN' member questioned many items so the seminar was very exciting.

(1) Program

(1) Welcome:

- 1) Welcome - JICA (Mr. Hiroyo Sasaki, Deputy Resident Representative)
- 2) Opening Remarks - PGN for Steering Committee. (Mr. Oemar Hassan Soewarno)
- 3) JICA Team Members and Presenters -Introduction (by Mr. H. Okimi)

(2) Session I: Modern Gas Utilization Systems

- 1) Cogeneration Systems (by Mr. T. Kondo)
"Outline of the Cogeneration System and Its Economic Evaluation"
- 2) Absorption Chillers (by Mr. T. Kondo)
"Working Principle of the Absorption Chiller and Its Economics"
- 3) District Heating and Cooling (by Mr. F. Omori)
- Outline of Operations
- 4) Natural Gas Vehicles (by Mr. T. Kondo)
"NGV in Japan and in the World"

(3) Session II: Distribution

- 1) Pipeline Mapping System (by Mr. H. Sumitomo)
"Administering Drawings with the MAP System"
- 2) Gas Distribution Network Analysis (by Mr. H. Sumitomo)
"Formulating Network Master Plan Using Network Simulator"
- 3) Recent Topics on Distribution Technology (by Mr. E. Shito)
- Video presentation

(4) Session III: Smaller Customer Market Study

- 1) JICA Urban Gas Development Study (by Mr. H. Okimi)
- 2) Demand Survey Analyses (by Messrs. JW. Zhang and Y. Shitaka)

(5) Session IV: Demonstration and Discussions

- 1) PC Demonstration of the MAP System (by Mr. Sumitomo)
- 2) Q/A and Discussions

(6) Closing

- Closing Remarks (by PGN Training Manager)

(2) Number of JICA Seminar Participants

Government:	7
PGN Counterpart/Headquarters:	19
PGN Branches:	8
JICA :	10
<hr/>	
Total	44

(3) Main Questions and Answers

Question	Answer
Methods of optimizing energy sources in district energy facilities	To determine the energy sources after simulation by each system and operation modes
Methods of re-using waste hot water from co-generation system	To use the waste hot water to power a absorption chiller for cooling
Biggest factor for economical evaluation of cogeneration system is fluctuation of the energy load ?	Balance of loads between power and heat is very important. To maximize effectiveness, operation under design condition of heat balance is requested.
COP of absorption chiller is about 1.0 and one of power chiller is about 4.0. Which is more effective?	Based on primary energy, energy consumption is the same. Based on price of energy, the operation cost is nearly the same.
Standard for determining of the diameter of pipeline	Flow rate for high and middle pressure pipeline. Pressure drop for low pressure pipeline.

Q. Natural Gas Conversion

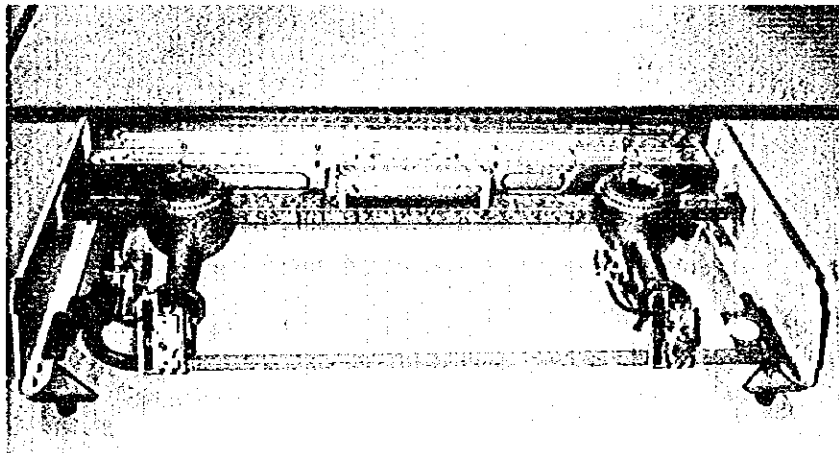
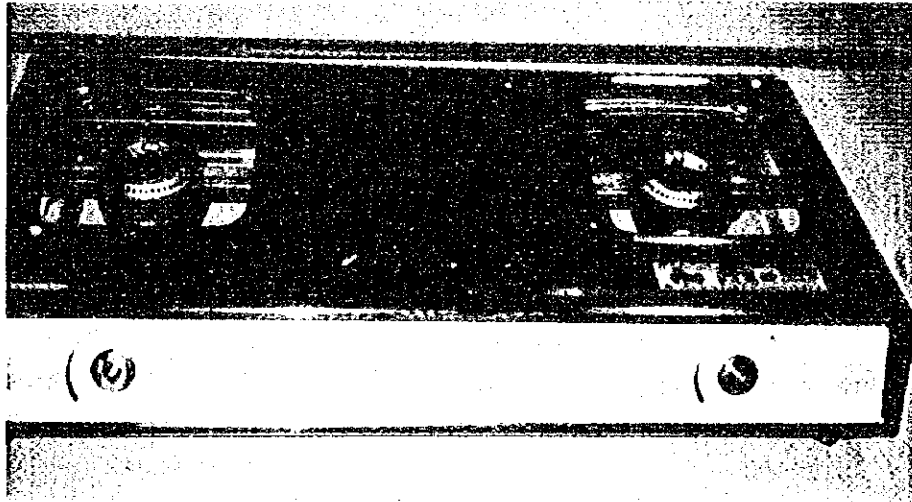
Appendix Modification of LPG Appliances for Natural Gas

In the coverage area of this feasibility study, many homes have already used LPG as cooking fuel. For that, the gas appliances in current use must be modified into the specifications for natural gas to allow the use of city gas as an alternative of LPG. If the existing gas appliances are used without any modification, the calorific value per specific volume of natural gas reduces to approximately 1/2 of LPG and as a result, the input capacity of the appliances get small correspondingly so that they can not withstand to actual service. Main modification points of the appliances are enlargement of gas nozzle diameter, adjustment air flow control damper, etc. We were explained alongside actual appliances by Indonesian manufacturer regarding modification of existing appliances from the LPG specification and the natural gas specification and we could confirm through this explanation that the modification work be simple works such as replacement of nozzle and damper, adjustment of intake damper, etc. at field and, therefore, they would require no skill. Table 3 shows the cost incurred by modification of these gas appliances.

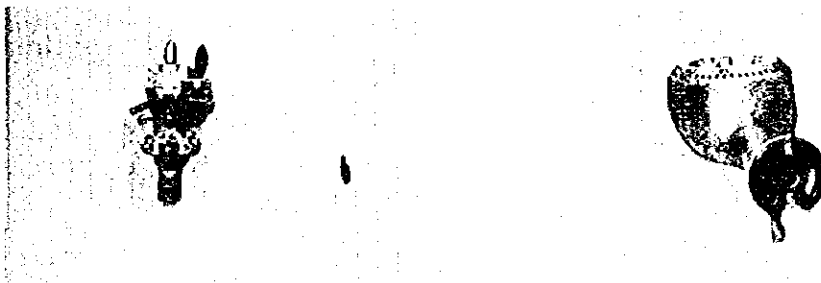
Table Modification Cost of Gas Appliances

Gas Appliance	Specification	Parts Cost	Work Cost	Total
Cooking Stove	Replacement nozzle & pilot nozzle	Nozzle 100Rp × 2 Pilot 100Rp × 2	6000Rp	6600Rp
	Replacement of damper and Adjustment	Damper 100Rp × 2		

Conversion of a Gas Cooker to Natural Gas



Gas Burners with a Gas Nozzle



Main Nozzle and Pilot Nozzle

Damper

R. Others

Appendix List of Pipe Construction Contractors

Table 1 List of Pipe Construction Companies(Steel) Class A

No.	Name of Contractor	Address
1	PT. Karaya Titan	Jl. Slamet Riyadi No. 7 Kel. Kebon Manggis Jakarta Timur
2	PT. Mayasari Binangun	Jl. Jamin Ginting No. 569 Medan
3	PT. Debiska Jaya Permai	Tebet Timur Raya 21D Jakarta Selatan
4	PT. Indisi	Jl. Gatot Subroto 105 Bandung
5	PT. Remaja Bangun Kencana	Jl. Mojopahit No. 28E/F Jakarta Pusat
6	PT. Pangu Arthadipta	Jl. Jambu Blok U/40 Jakarta Selatan
7	Pt. Cipta Sanalida Utama	Jl. Salemba Tengah No. 12 Kel. Paseban, Jakarta Timur
8	PT. Timas Suplindo	Jl. Suryopranoto 2 Harmoni Plaza, Jakarta Pusat
9	PT. Sakai Sakti	Jl. DR. Sahardjo 45 Jakarta Selatan

Note: Class A above Rp1,000,000

Table 2 List of Pipe Construction Companies (Polyethylene) Class A

No.	Name of Contractor	Address
1	PT. Cipta Sanalida Utama	Jl. Salemba Tengah No. 12 Jakarta Pusat
2	PT. Timas Suplindo	Harmoni Plaza Blok K. 10 Jl. Suryopranoto Jakarta Pusat
3	PT. Mega Pola Utama	Jl. Budi Kemuliaan No. 16 Jakarta Pusat
4	PT. Debiska Jaya Permai	Jl. Tebet Timur Raya No. 21D Jakarta Selatan
5	PT. Ferry Jaya	Jl. Tanah Tinggi Sawah No. 7 Jakarta Pusat
6	PT. Karya Titan	Jl. Slamet Riyadi No. 7 Jakarta Pusat
7	PT. Titon Marina	Jl. Rawa Kepa Raya Rt. 004 RW. 05 No. 568 Tomang Jakarta Barat
8	PT. Panca Tonuli	Jl. Kayu Mas Tengah Blok Z/309, RT. 001 3/03 Jakarta Timur
9	PT. Pangu Arthadipta	Jl. Jambu Blok U/40 Jakarta Selatan

note: Class A above Rp 1,000,000

Table 3 List of Pipe Construction Companies (Polyethylene) Class B

No	Name of Contractor	Address
1	PT. Mega Pola Utama	Gd. Wisma Adi Utara Lt. IV Jl. Budi Kemuliaan No. 16 Jakarta Pusat
2	PT. Algasco	Harmoni Plaza Blok K/10 Jakarta Pusat
3	PT. Radema Graha Sarana	Jl. Budi Kemuliaan No. 16 KM 410, Jakarta Pusat
4	PT. Perta Insana	Jl. Otista Raya No. 66 Jatinegara, Jakarta Timur
5	PT. Dcbiska Jaya Pennai	Jl. Tebet Timur Raya No. 21D Jakarta Selatan
6	PT. Mamads Jaya	Jl. Kayu Mas Tengah Blok Z/369, Jakarta Timur
7	PT. Trinitas Penata Teknik	Jl. Salemba Tengah No. 12 Jakarta Pusat
8	PT. Dwijaya PB	Jl. Sawo Kecil Raya No. 14 Jakarta Selatan

note: Class B 500million—1,000million

Cooperators for the Study in Indonesia

The Team thanks all the officials who cooperated with the Study, many of whom and relevant organizations are in the following list; It could not list all; regrets and apologizes if any one is dropped:

1. Organizations for the Study

Steering Committee *(Chairman: Dr. Rachmat) for the Study:

Members from BAPPENAS, Ministry of Mines and Energy (Planning Dept.), MIGAS and PGN

Counterpart Team ** (Chairman: Mr. Ir. Rohali Sani):

Officials and Staff from: BAPPENAS, MIGAS, Pertamina and PGN

Working Group for the Study:

Officials and Staff of PGN Headquarters and Jakarta Branch

Note) * and **: Members of the Committee and the Team, respectively, are denoted with asterisk in the following list.

2. Government Agencies

BAPPENAS

Dr. Richard Clapoth *, Head of Bureau for Electricity, Energy Development and Mining

Mr. Bemby Uripito**, Bureau for Electricity and Energy Development

Ministry of Mines and Energy

Dr. Luluk Sumiarso *, Head of Bureau of Planning

Mr. Immanuel S. Collan

MIGAS

Dr. Rachmat Sudibjo*, Director of Exploration & Production (Steering Committee Chairman)

Ir. Amri Muis**, Head of Sub Directorate, Exploration & Production

Mr. Hermawan, Gas and Petrochemical Engineer

Pertamina

BAPEDA DKI Jakarta

Ir. Harmadi

BAPEDA Kabupaten Karawan

Drs. Saleh Effendi, Secretariat

BAPEDA Kotamadya Tangerang

Mrs. Roestiwi, Secretariat

PEMERINTAH Kabupaten DATI II, Tangerang

Mr. Thoriq M. Shoim, Technical Assistant

3. PT. Perusahaan Gas Negara (Persero)

Headquarters:

Ir. Rohali Sani*, Technical Director

Ir. Nursubagjo Prijono*, Director of Operation

Ir. Oemar Hasan Socwarno*, Advisor and Former Director of Development

Ir. A. K. Socjoso, Advisor and Former President Director, PGN

Drs. Ludin Tambunan**, Staff to President Director

Ir Arsyad Rangkuti**, Mgr, Center, Business Development & Information

Ir. Bakti Tamba, Deputy Head of Center of Business Development & Information
All the staff with Messrs. Arsyad and Tamba
Mr. Widyatniko Bapang, Head of Legal and Public Relations Division
Ir. Bambang Banyudoyo, Head of Planning & Information Division
Ir. Soewarjo, Marketing Division
Ir. Julia Ulap Kintarti, Head of Market Development and Promotion, Marketing Division
Ir. Hari Pratoyo MM, Head of Marketing Division
Mr. Marsono
Mr. Kris Handono

Jakarta Branch:

Ir. Hairiyati**, Head of Branch
Ir. Bambang Ismartono, Ka. Dinas Operasi I
Ir. Joki Eko Juswanto H., Ka. Bag. Penjualan II
Mr. As'ad, Ka. Bag. Penjualan I
All distribution and marketing staff

Tegal Gede Meter Station
Serpong Meter Station
Bitung Meter Station

4. Other Agencies/ Individuals

Pertamina
Mr. Riskin Rasylin, LNG/LPG

PT. PLN (Persero)
Ir. Mochammad Noor

Ministry of Mines and Energy
Directorate General of Electricity and New Energy
Mr. Yuji Kurofani, JICA Expert

Ministry of Mines and Energy
Directorate of Coal
Mr. Shin Morikawa, JICA Expert

Biro Pusat Statistik (BPS)

International Finance Corporation
Mr. Alexander Tandun, Project Officer

The World Bank
Mr. Sarahudin Khwaja

Asian Development Bank
Mr. Edu Hassing

NERA
Mr. Bob Grabham

PT. Bank Negara Indonesia (Persero)
Mr. Suryo Danisworo, et al

Environmental Management Center
Mr. Sombo Yamamura, JICA Chief Advisor
Dr. Shigetake Ganno, JICA Expert
Mr. Morihiko Hayakawa, JICA Expert

5. Private and Semi-Private Sector

Perumnas Bekasi Baru

Ir. Agus Hardjanta DS. CES, Head of Feasibility and Settlement Planning and his staff

PT Bumi Serpong Damai

**Mr. Ken D'Angelo, Senior Executive
Ir. Munawar Saleh and his staff**

LIPPO Karawaci

Mr. Gordon G. Benton, Director and Town Manager; and his staff

MEGAMAL

Mr. Gimin Bumi, PE, Head, AC and Mechanical Dept.

PT. Kawasan Industri Jababeka

Mr. Asep Sumarna, Assistant Sales Manager

PT. Cikarang Listrindo

Mr. Mathius S., Marketing Manager

PT. Jakarta International Trade Fair Corp.

Mr. S. Miyakawa, Vice President

6. Japanese Institutions in Indonesia

Embassy of Japan

**Mr. Masaaki Takabatake, Former Second Secretary
Mr. Koji Hachiyama, Second Secretary**

JICA Indonesia Office

**Mr. Ryo Suwa, Resident Representative
All his staff.**

The Overseas Economic Cooperation Fund of Japan

Mr. Sachihiro Hayashi, Representative, Jakarta Office

Japan External Trade Organization (JETRO), Jakarta Center

Mr. Yoji Suga

Japanese Enterprises in Indonesia:

The Team also thanks numerous Japanese entities in Indonesia for the supply of information in the areas of:

- financing
- industrial estate development
- energy trading
- manufacturing
- air conditioning
- land development

JICA