

# The state and outlook for LPG supply and demand in Japan



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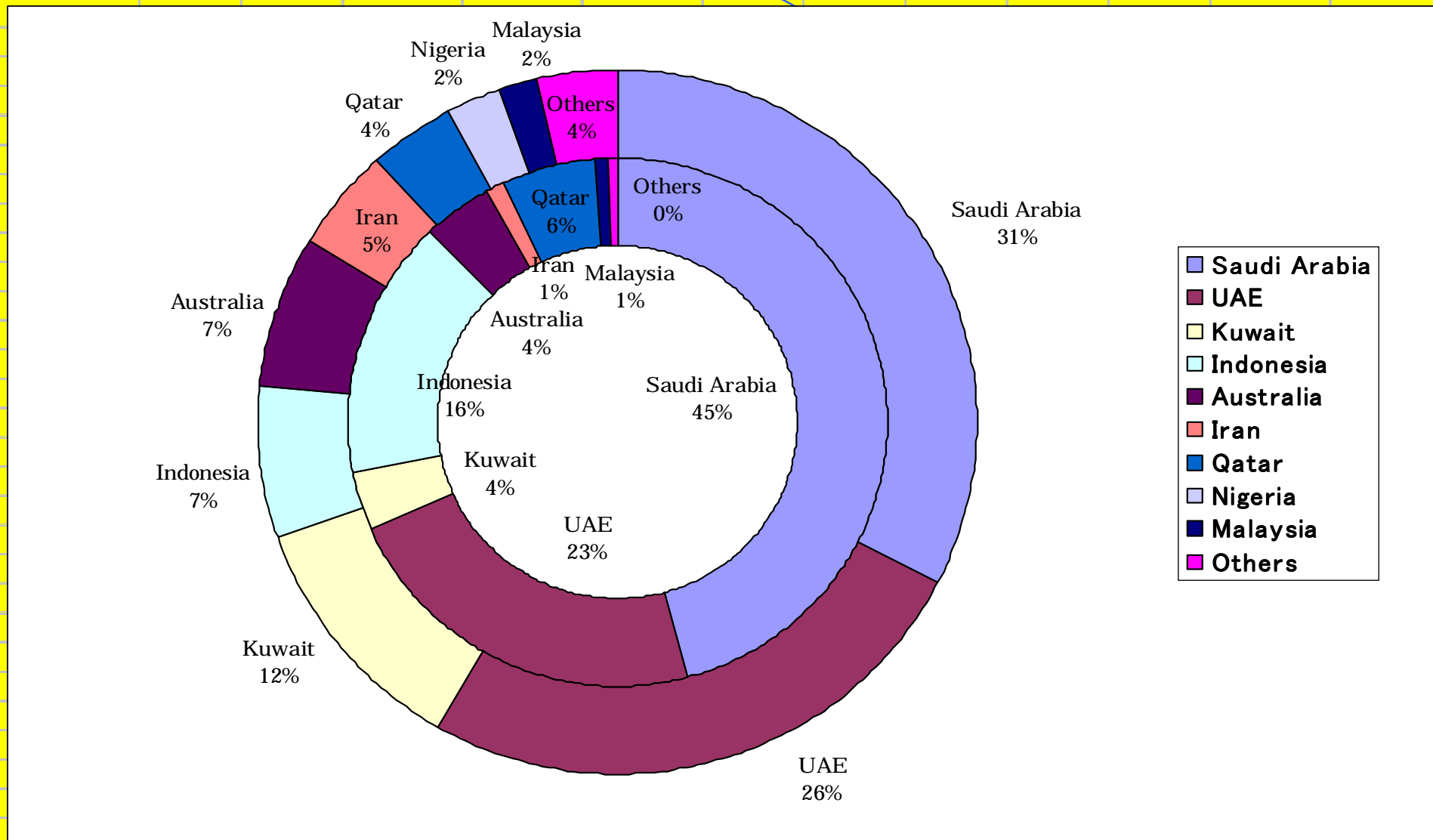
- Securing of stable supply
- Generation of additional demand
- Deregulation on energy and energy competition
- Summary

# Securing of stable supply

- Import of LPG
- Diversification of supply sources
- Stockpile of LPG

# 1. Change of LPG imports by country

	Saudi Arabia	UAE	Kuwait	Indonesia	Australia	Iran	Qatar	Nigeria	Malaysia	Others	Total	
1992fy	7,031	3,450	556	2,427	614	164	872	0	139	64	15,317	1992fy: inside
2001fy	4,653	3,717	1,660	983	979	714	546	353	253	504	14,362	2001fy: outside



## 2. Japan's LPG Supply by Sources in 2000fy-2001fy

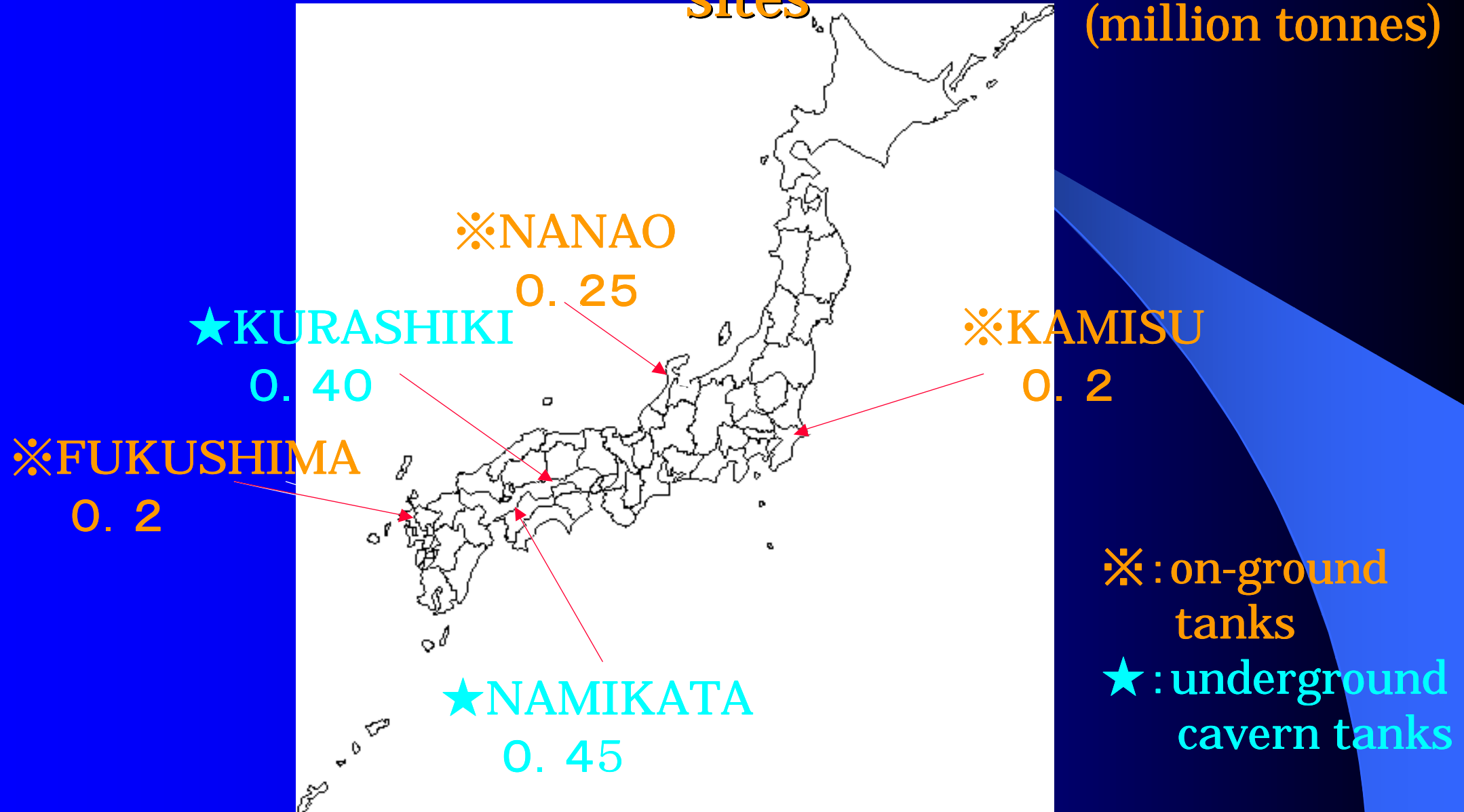
					unit: 1000t
Country	2000fy		2001fy		vs. 2000fy
	QTY	share(%)	QTY	share(%)	
Saudi Arabia	6,310	42.5	4,653	32.4	-1,657
Kuwait	1,344	9.0	1,660	11.6	316
Iran	274	1.8	714	5.0	440
U.A.E.	4,028	27.1	3,717	25.9	-311
Qatar	504	3.4	546	3.8	42
Bahrain	14	0.1	91	0.6	77
Middle East Total	12,474	84.0	11,381	79.2	-1,093
Australia	781	5.3	979	6.8	198
Indonesia	936	6.3	983	6.8	47
Malaysia	375	2.5	253	1.8	-122
Others	81	0.5	61	0.4	-20
Asia Total	2,173	14.1	2,276	15.4	103
Algeria	18	0.1	154	1.1	136
Nigeria	139	0.9	353	2.5	214
U.S.A.	0	0.0	176	1.2	176
U.K.	33	0.2	21	0.1	-12
New Sources Total	190	1.3	704	4.9	514
Others	12	0.0	0	0.0	-12
Import Total	14,851	100.0	14,362	100.0	-489
Domestic Supply	4,612		4,836		224
Crude Processed (ML)	242,446		234,481		-7,965
LPG Yield (%)	3.24		3.50		0.26

# Action of Japanese LPG importers

- Positive participation in spot tender market
- Purchase of arbitrage cargoes
- Use of CP swap market
- Aim at another Indexes except for CP
- Participation in LPG development projects
- Utilization & Development of DME

### 3.LPG national stockpiling bases construction sites

(million tonnes)



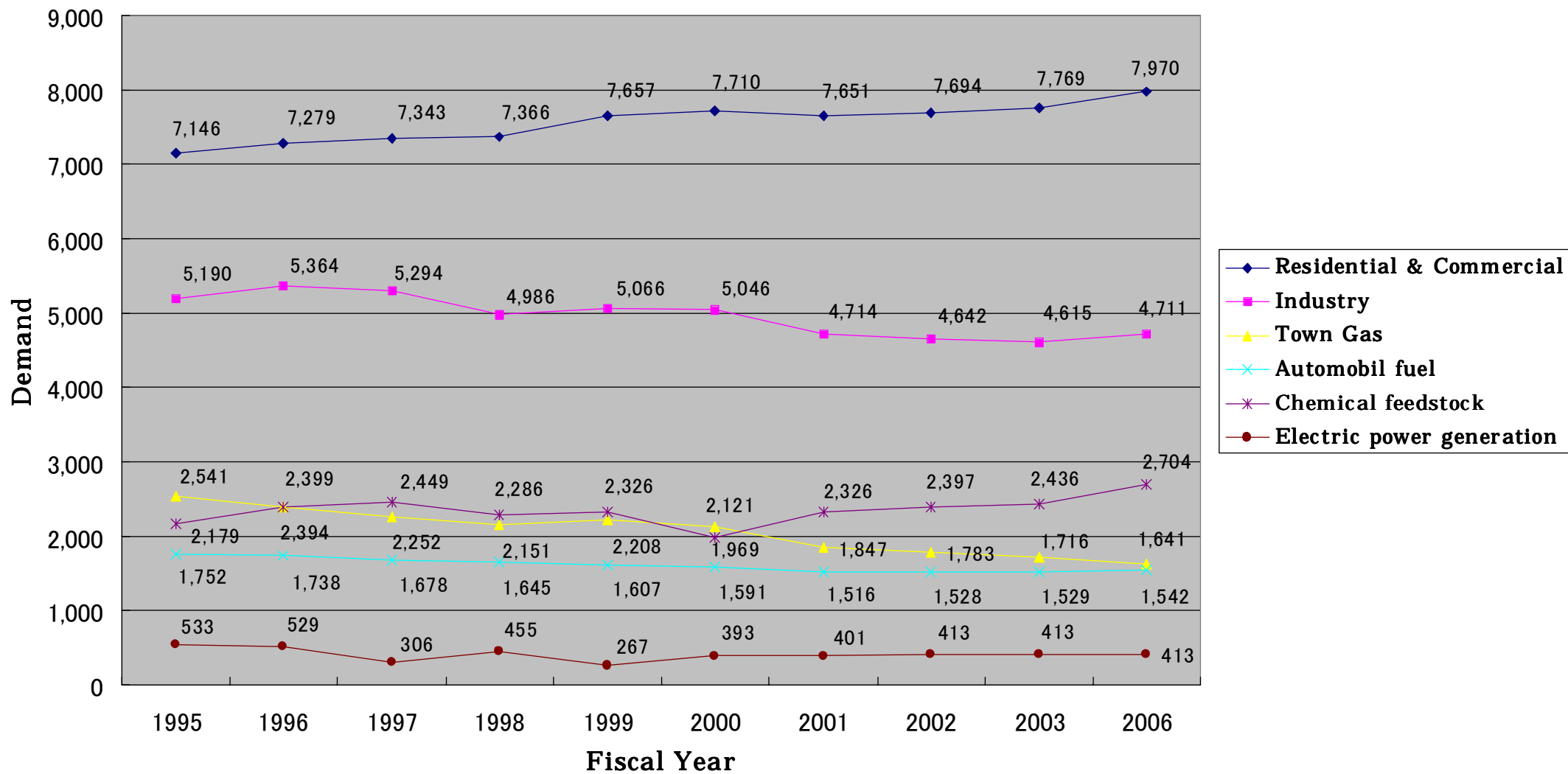
# Generation of additional demand

- State and outlook for LPG demand
- Correspondence to environment issue
- Promotion of R&D



# 4. Trends and outlook in LPG Demand Components

unit:1,000 t

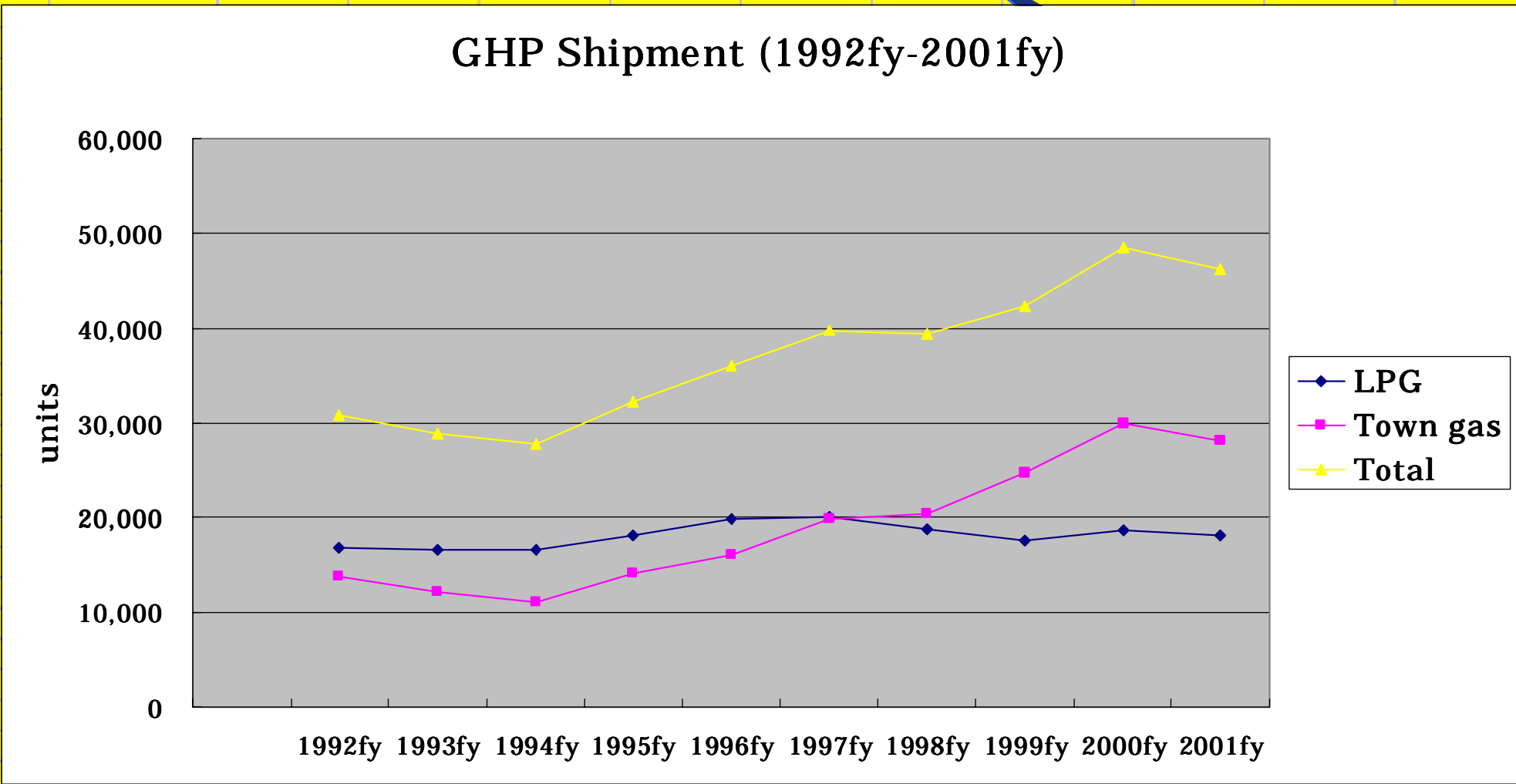


# Promotion of efficient utilization of LPG supported by government

- Promotion of high efficiency GHP
- Promotion of advanced LPG Vehicles
- Promotion of LPG filling station
- Promotion of Cogeneration system, Fuel Cell, Gas Engine
- Promotion of high efficiency Water Heater

## 5. GHP Shipment (1992fy-2001fy)

	(units)									
FY	1992fy	1993fy	1994fy	1995fy	1996fy	1997fy	1998fy	1999fy	2000fy	2001fy
LPG	16,876	16,618	16,733	18,009	19,871	19,996	18,889	17,560	18,633	18,151
Town gas	13,875	12,174	11,060	14,164	16,045	19,817	20,503	24,627	29,960	28,123
Total	30,751	28,792	27,793	32,173	35,916	39,813	39,392	42,187	48,593	46,274
Horse power total	227,183	240,549	237,958	307,098	361,404	432,631	451,129	494,533	607,219	611,720



# Technical development supported by government

- Development of LPG Vehicles
- Development of Fuel Cell for residential use
- Development of high efficiency Burners
- Development of DME utilization technologies

# Deregulation on energy and energy competition

- Government initiatives
- Competition among energy sectors

# Government initiatives for deregulation on energy

## ▪ Petroleum

Import deregulation of refined petroleum products, abolition of guidance on constructing gas stations (1996)

## ▪ Power utility

Deregulation of new entries into electricity wholesaling (1995)

Lifting of restriction on entry into other business, Deregulation of supply to large-scale consumers (1999)

## ▪ Town gas

Deregulation of supply to large-scale consumers (1995)

Lifting of restriction on entry into other business, Expansion of the free range of supply to large-scale consumers (1999)

## ▪ LPG

Deregulation of new entries into business (1997)

# Summary