

# In Current Period, Restructuring Is Needed

With the lengthening recession, coupled with fiscal 1993's real GDP growth (-0.3%), it appears that a minus growth, the first in 19 years, will be inevitable. This has also had a negative impact on demand for petrochemicals products in the basic materials industry. For three consecutive years the domestic demand for ethylene has declined.

Looking first at synthetic resins—which makes up 60% of domestic demand—shipments to the automotive and home appliance industries (the major users in the industrial sector) have declined sharply due to sluggish domestic demand and a shift to overseas production. Individual consumer demand has also decreased, including for packaging materials. The five main general purpose areas for resins are lagging behind the previous year. Domestic demand for synthetic fiber materials and rubber also continues to stagnate due to the effects of structural changes in the textile and automotive industries, their primary customers.

Since 1991, petrochemical manufacturers have compensated for declining output, which accompanied slack domestic demand, by increasing exports, primarily to China and Southeast Asia. Profitability, however, has declined due to a combination of a stronger yen and a shrinking international market so that a broad reduction in exports will be unavoidable in fiscal 1993.

Faced with these problems the production of ethylene and induction products has unavoidably been cut back in fiscal 1993 and refinery operations have dropped from 91.1% to 83.9% capacity of the previous year.

The market continues to decline as supply outpaces demand and competition with imported products increases; marginal income continues to fall, which necessitates production cutbacks; depreciation charges, labor costs and other fixed

expenses have increased, and petrochemical manufacturers are unable to avoid substantial losses.

It is predicted that for the present the petrochemicals industry will continue to face bleak conditions regarding supply and demand, as well as earnings. Looking at domestic petrochemical demand over the mid-term, there are no high expectations for a rapid recovery due to reduced domestic demand from the industrial sector as a result of automotive, home appliance, and other key manufacturers' shift to overseas production. Demand has also matured for consumer durables due to sluggish individual consumption brought on by a worsening employment situation, and as a result of the rise in the yen, there has been an increase in imported petrochemicals products produced in Southeast Asia where labor is cheaper.

As for market conditions, there is a limit to the extent to which attempts can be made to revive the market through adjusted production if the exchange rate

continues at around ¥110 to the dollar and domestic pricing is forced to bow to cheaper imports.

Since it does not appear that marginal income can be boosted through expanded volumes and price revisions, the most pressing issue for revived profitability is the reduction of the fixed costs that have grown sharply since the latter 1980s. Some specific measures that have already been implemented for some general purpose resins would be cost reductions through more efficient consignment production systems, as well as slashed distribution costs and cuts in administrative expenses. There is also a pressing need to withdraw from unprofitable operations and undergo a general business review.

The Mitsubishi Kasei-Mitsubishi Petrochemical merger announced at the end of last year (scheduled for October 1994) has triggered structural improvements and moves to restructure the industry are expected to accelerate in the future.



Furukawa Masahiko (president of Mitsubishi Chemical Industries, left) and Miura Akira (president of Mitsubishi Petrochemical) announced the merger of the two companies to form Mitsubishi Kasei-Mitsubishi Petrochemical on October 1 last year.

Petrochemicals

January 28, 1994  
Industrial Research Department,  
Materials Division

1. Demand

Est. Fore. Upper figures show % of year-on-year growth

	Unit	FY73	'75	'80	'88	'89	'90	'91	'92	'93	'94	1st 1/2 1992	2nd 1/2 1992	1st 1/2 1993	2nd 1/2 1993	1st 1/2 1994	2nd 1/2 1994
Ethylene conversion domestic demand	1,000 t	3,348	-3.4 3,028	-19.2 3,575	9.2 5,139	6.5 5,471	6.5 5,826	-1.3 5,750	-4.3 5,501	-3.5 5,310	-2.9 5,158	-3.8 2,762	-4.9 2,739	-3.2 2,674	-3.8 2,636	-3.0 2,594	-2.7 2,564
Ethylene conversion exports	1,000 t	640	6.8 658	-31.8 418	-7.3 576	23.8 713	2.0 727	30.0 945	4.6 988	-18.0 810	-1.2 800	26.5 534	-13.2 454	-23.2 410	-11.9 400	-2.4 400	0.0 400
Total demand	1,000 t	3,988	-1.7 3,686	-20.7 3,993	7.3 5,715	8.2 6,184	6.0 6,553	2.2 6,695	-3.1 6,489	-5.7 6,120	-2.6 5,958	0.1 3,296	-6.1 3,193	-6.4 3,084	-4.9 3,036	-2.9 2,994	-2.4 2,964

2. Supply

Adjusted capacity

Note 1: Capacity from 11/94 counted for Keiyo Ethylene (+600)

	Unit	119	-95.3 4	16.4 227	-6.1 578	2.2 591	9.8 649	-13.3 563	-14.7 480	2.1 490	10.2 540	-22.5 255	-3.8 255	-3.9 245	8.9 245	10.2 270	10.2 270
Ethylene conversion imports	1,000 t	119	-95.3 4	16.4 227	-6.1 578	2.2 591	9.8 649	-13.3 563	-14.7 480	2.1 490	10.2 540	-22.5 255	-3.8 255	-3.9 245	8.9 245	10.2 270	10.2 270
Ethylene production	1,000 t	4,079	-5.5 3,856	-20.2 3,869	9.7 5,161	9.5 5,652	5.5 5,965	3.1 6,150	-2.3 6,009	-6.5 5,620	-3.6 5,418	0.8 3,000	-5.2 3,009	-6.4 2,809	-6.6 2,811	-3.0 2,724	-4.2 2,694
Production capacity	"/year	5,005	5,005	6,068	5,261	5,707	6,100	6,390	6,595	6,695	7,102	3,125	3,470	3,285	3,410	3,353	3,749
Rate of operations	%	81.5	77.0	63.8	98.1	99.0	97.8	96.2	91.1	83.9	76.3	96.0	86.7	85.5	82.4	81.2	71.9

3. Inventory

Note 2: Inventory based upon LDPE data at end of each period (based upon sales inventory)

Inventory volume	1,000 t	139	174	199	173	240	280	263	232	200	200	242	232	205	200	200	200
Inventory ratio	Monthly no.	2.1	2.3	2.2	1.6	1.9	2.1	1.8	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5

4. Market conditions

	Unit	1st 1/2 '88	2nd 1/2 '88	1st 1/2 '89	2nd 1/2 '89	1st 1/2 '90	2nd 1/2 '90	1st 1/2 '91	2nd 1/2 '91	1st 1/2 '92	2nd 1/2 '92	1st 1/2 '93	2nd 1/2 '93	1st 1/2 '94	2nd 1/2 '94
LDPE	¥/k	160	160	16	160	160	185	165	150	140	135	130	130	130	130

5. Corporate revenue and expenditures

	Unit	FY73	'75	'80	'88	'89	'90	'91	'92	'93	'94	1st 1/2 1992	2nd 1/2 1992	1st 1/2 1993	2nd 1/2 1993	1st 1/2 1994	2nd 1/2 1994
Sales	¥100 mil.	16,113	23,307	34,933	31,009	33,814	37,266	36,383	33,337	30,300	29,800	16,833	16,504	15,256	15,044	15,000	14,800
Ordinary profit and loss	¥100 mil.	729	-381	593	2,531	2,639	2,044	1,249	426	—	—	264	162	-303	-392	-380	-376
Ordinary profit ratio	%	4.5	-1.6	1.7	8.2	7.8	5.5	3.4	1.3	—	—	1.6	1.0	-2.0	-2.6	-2.5	-2.5
Real ordinary profit	¥100 mil.	—	—	—	2,381	2,456	1,919	1,131	338	-695	-756	Note 3: Seven majors: Five general chemical firms (Mitsubishi-Kasei, Sumitomo Chemical, Showa Denko, Mitsui Toatsu Chemicals, Ube Industries), and two petrochemical firms (Mitsubishi Petrochemical, Mitsui Petrochemical Industry)					
Real ordinary profit ratio	%	—	—	—	7.7	7.3	5.1	3.1	1.0	-2.3	-2.5	Note 4: Real ordinary profit and loss = ordinary profit and loss - profit on securities sold (calculations for FY 1988-1992 count appropriations for non-operating revenue only).					