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PRELIMINARY STUDY /a

CHEMICAL BUY BACK AGREEMENTS
AND THEIR POTENTIAL IMPACT
ON THE
EC PETROCHEMICALS MARKETS

// STATE : End of July 1978 //

III-A-2

During recent discussions and for various reasons adjustments of some figures have been necessary.

These are provisionally done by replacing pages 5 and 25.

Corresponding adjustments of the fact sheets will be done with an eventual updating of the preliminary study in summer 79.

CHEMICAL BUY BACK AGREEMENTS WITH C.M.E.A. COUNTRIES

AND THEIR IMPACT ON THE EC PETROCHEMICALS MARKETS

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I. THE CHEMICAL BUY BACK PHENOMENON

- Scope of the study
- information sources used
- advantages and disadvantages
for interested economic operators
- synthesis of results
- products involved into chemical buy back agreements

SCOPE OF THE STUDY :

Since the very early seventies, Eastern European Countries due to their lack of foreign currency, their pressing needs to satisfy rising consumption pressure and to promote industrial development chose a formula for industrial cooperation with western industrialised countries, which raised concern increasingly among economic operators involved and which gained a fairly large publicity under the denominations :

- buy back deals
- barter trading
- compensation agreements.

Barter trading is the exchange of goods without interference of a monetary system. It is defined apparently in a larger sense (virtually no relation necessary between the goods exchanged) than buy back deals and, respectively, compensation agreements which mean in relation to the phenomenon studied here, chemical plant construction by a western contractor, including the know how and process licences, and taking back product as partial or total payment for the services supplied in form of product of the particular plant in question.

As the concern about the possible impact of such deals on EC petrochemical's markets created more and more concern, particularly among the chemical industry of the Community, the Commission undertook

- the collection of all available chemical buy back information
- and to put it into a quantitative relationship to relevant economic indicators such a trade, capacities, production and demand.

INFORMATION SOURCES USED :

Up to now, the buy back volumes contracted as well as the project contracts concluded or under discussion had been known fairly well through the specialised press, particularly the chemical project information of "European Chemical News" and various other similar sources together with a very precious effort of the commercial attachés of the EC Member countries to the Soviet Union

(Council document S/1046/78; RCC 110 as of June 19, 1978) but also with an OECD inventory of buy back deals, larger in scope than mere cases of chemical buy back, comprising also other industrial sectors.

Other sources of information exploited were e.g. Financial Times, private communication from individual chemical companies, in general the information system of the Commission's services.

There is one very important question mark for the overall evaluation : in order to establish a complete idea of chemical buy back relevance between CMEA and EC, one should know the size of CMEA markets for the individual petrochemicals contracted in order to quantify the amount virtually available for export from the CMEA region. This is an unknown variable for all the products studied and this is the reason why the average annual buy back volume contracted had to be related to indicators which were available. These were essentially

- trade in these products between CMEA and EC (from Nimex Statistics)*
- actual and potential future shares of respective EC demand.

~~Indications about how to overcome this lacuna are given below with possible options.~~

To our knowledge, this is the first time that buy back volumes have been related in a coherent way to trade, capacities, production, and demand.

Advantages and disadvantages for interested economic operators

On very numerous occasions the political and qualitative aspects of compensation agreements have been discussed. In the interest of the context given here it is not necessary to repeat them here except for the advantages and disadvantages to the interested economic operators involved either directly or indirectly.

*) N.B. The Nimex Statistics do not include intra-German trade between the German Democratic Republic and the Federal Republic of Germany.

Compensation agreements are apparently attractive to the East because

- they allow industrial development unimpeded by lack of foreign currency
- the investment is geared towards exportable production to pay for debts
- the problems of commercialisation of output, or after sales services are shifted away to western undertakings and conveniently and completely solved (generally with a rebate for commercialization on world market prices)
- there is a serious chance to compete with western companies.

Advantages for the rest are going directly to the industrial consumer and the plant and process market.

The western producers, evidently, see their markets put under considerable stress for the imminent and longer term future, not only with respect to volume but particularly with respect to prices, which raises a good deal of concern if one looks at 1977 rates of capacity utilizations for these products in the EC.

But these are not the only disadvantages to industry : Governments are involved with a very apparent risk to distort competition.

There remains another disadvantage, political and ideological in nature :

Are trade policy making people ready to accept a principle of planned economy ideology i.e. to plan trade over 12 or 15 years irrespective of future market behaviour ?

Time spaces of 20 years are under discussion.

SYNTHESIS OF RESULTS :

The volume of chemical buy back agreements with CMEA countries amounts to

14081 Mio \$

running from 197³ to 1994
for signed projects and

2652 Mio \$

running over the same period for
buy back agreements still under discussion.

It may be assumed that on the basis of known contracts and projects a total of 16733 Mio \$ worth of products will come into the west from the east under buy back agreements.

Very rapid EC market share increases might have to be expected for products like

Urea	from 7 to 40,8 %	with a 1977 EC capacity utilisation of 68 % (comparing to the EC capacity rate of utilisation for chemical fibers of 64 %)
Methanol	from 2,6 to 35,8 %	EC cap. util. 1977 : 70 %
Caprolactam	from 0,5 to 7,8 %	EC cap. util. 1977 : 67 %
Ammonia	from 0,2 to 6 %	EC cap. util. 1977 : 79 %
Soda ash	from 3,8 to 8,6 %	EC cap. util. 1977 : 82 %
Para Xylene	from 2,2 to 10,2 %	EC cap. util. 1977 : 62 %
Ortho Xylene	from 1,1 to 5 %	EC cap. util. 1977 : 62 %
Maleic anhyd.	from 0,3 to 3,8 %	EC cap. util. 1977 : 53 %
Polystyrene	from 0,3 to 2,3 %	EC cap. util. 1977 : 60 %
Polypropylene	from 0,15 to 1 %	EC cap. util. 1977 : 60 %

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Very rapid EC market share increases might have to be expected for products like

Urea	from 3,3 to	19 %	with a 1977 EC capacity utilisation of 68 % (comparing to the EC capacity rate of utilisation for chemical fibers of 64 %)
Methanol	from 2,6 to	21,3%	EC cap. util. 1977 : 70 %
Caprolactam	from 0,5 to	7,8 %	EC cap. util. 1977 : 67 %
Ammonia	from 0,15 to	5 %	EC cap. util. 1977 : 79 %
Soda ash	from 3,8 to	8,6 %	EC cap. util. 1977 : 82 %
Para Xylene	from 2,2 to	10,2 %	EC cap. util. 1977 : 62 %
Ortho Xylene	from 1,1 to	5 %	EC cap. util. 1977 : 62 %
Maleic anhyd.	from 0,3 to	3,8 %	EC cap. util. 1977 : 53 %
Polystyrene	from 0,3 to	2,3 %	EC cap. util. 1977 : 60 %
Polypropylene	from 0,15 to	1 %	EC cap. util. 1977 : 60 %

It has to be kept in mind that these figures represent a hypothetical annual average. There may be overall volume concentrations from 1981 to 1990 with a flat peak from 1985 to 1987, where the highest overall volume range will be reached. (1986 : 1,339 billion \$).

The main country involved is above all the Soviet Union with a share of 13326 Mio US \$ out of 16733 Mio \$ which is equivalent to 80 % of all contracts signed and under negotiation.

The Soviet Union is followed in importance by Poland, taking a share of 2786 Mio \$ equivalent to 17 % of all contracts signed and under negotiation. The rest is shared by other CMEA member countries.

This may be summarised in the following table :

COUNTRY	Value of buy back Mio \$ (signed and under negotiation)	% share in total
Soviet Union	13326	80
Poland	2786	17
East Germany	500	3
Bulgaria	49	0,3
CSSR	52	0,3
Romania	20	0,1
Hungary *)		
<hr/>		
CMEA	16733	

The time space for the bulk of the considered contracts is concentrated essentially on a time period running from 1978 to 1990. Two agreements (Occidental) run until 1997 and the Tomsk deal is supposed to run until 2000.

It is very important to note that in the total of 16733 Mio \$

- US contracts amount to 8075 Mio \$
- and Japanese contracts to 446 Mio \$.

*) Hungary has concluded or under discussion some agreements, but no details are available.

Furthermore, the total of US contract value considered here are two deals of Occidental with the Soviet Union and Poland which do not relate to plant building projects but to swap deals

- for superphosphoric acid / ammonia, urea and potash (Soviet Union) and
- for phosphate rock / sulphur (Poland).

To our knowledge there are no buy back deals concluded up to now for US plant building in CMEA countries.

With regard to the Tomsk project, the buy back volume under negotiation has entered into the balance drawn here with 1,5 billion \$. According to more recent information, this is too low and could well reach a volume of 3 billion \$ to be paid back in a few years only. Linked to that is also a problem still pending : a large part of the commercialisation of the Tomsk production will be linked to the deal over a very long period. This is not comprised in our balance either. But in any event, with the Tomsk project being uncertain in volume still, this analysis of buy back deals is moving rather on the lower edge than on the higher edge of estimation.

The share of EC member countries in buy back deals is as follows

Federal Republic of Germany	1,682 billion \$*
France	2,582 billion \$
Italy	0,912 billion \$
United Kingdom	0,512 billion \$

* without the Tomsk project. With a low estimation for Tomsk of 1,5 billion \$ the total of the German share could reach a little more than 3 billion \$, whereas with a more realistic estimate for the Tomsk buy back volume the total of the German share could well reach 4,6 billion \$.

PRODUCTS INVOLVED INTO BUY BACK AGREEMENTS

- Ammonia)	
Urea	)	Fertilizers
Calcium Ammonium nitrate)	
- Propylene)	
Benzene	)	Basic petrochemicals :
Para Xylene	)	olefins and aromatics
Ortho Xylene)	
- Methanol)	
Maleic anhydride	)	Important petrochemical
Phthalic anhydride	)	intermediates
Ethylene glycol)	
- Acrylonitrile)	
Vinylchloride monomer (VCM)	)	Important precursors for polymers
Caprolactam	)	and chemical fibers
Dimethylterephthalate)	
- Polyethylene Low Density)	
Polyethylene High Density)	
Polypropylene	)	Bulk polymers (thermoplastics)
Polystyrene)	
Polyvinylchloride)	
- Polyester fibers	)	Chemical fibers
- Titanium dioxide)	
Caustic Soda (Sodium hydroxide)	)	Important inorganica
Soda Ash (Sodium carbonate))	

II. BUY BACK SCENARIO CMEA - EC

as related to installed and projected capacities, production, capacity utilisation, demand and extra-Community trade by product.

- For each product there is a first block of lines comparing economic indicators of EC with those of CMEA. When CMEA figures are put in round brackets, this means that they give only order of magnitude.

The EC capacities are given in 1000 metric tons per year for the state of beginning 1978.

The indications for new plants and projects are taken from the periodical European Chemical News Chemscope International Project Review which lists new plants put into operation since the beginning of 1977 together with projects firmly contracted. These figures give an idea of economic innovative impact for the corresponding product.

Production is given in 1000 metric tons per year together with capacity utilization rates in round brackets and percent.

Demand is given in 1000 metric tons per year as apparent consumption.

Trade figures have been taken from 1976 and 1977 Nimex statistics and given in volume (tons) and value (1000 units of account).

Figures given in brackets here indicate

- the share of EC exports to the CMEA countries within total extra Community exports (importance of CMEA countries as trading partner for the corresponding product).
- the share of EC imports from CMEA countries within total extra community imports.

The last column gives an indication for the extra community trade balance for 1977 in 1000 metric tons for 1977 for each product.

- ← For each product there is a second block in the tables containing the buy back information gathered. This information gives
 - the total volume firmly contracted in metric tons, the period of years covered by all contracts (from the earliest contract starting to the latest contract expiring;
 - corresponding information for contracts still under discussion;
 - the total volumes have been divided by the time space covered of all corresponding contracts and the resulting figure (as a theoretical future average annual buy back volume) related to EC demand for 1977. So the annual buy back volume is expressed in terms of 1977 market share, both for those contract firmly concluded and those still under discussion.

It is important to note that the buy back volumes indicated are buy back products contracted by firms from member countries and consequently going to the European Community.

PRODUCT : *Propylene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	7300	1540	5117 (68)	5000	55807 (35) 27104 (16)	10742 4699	657 (0) 28658 (64)	102 4455	+ 125
CMEA	(1200)	125	(1300)	(900)					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	336 000	7	1982	-	-	-	1	-

PRODUCT : *Benzene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	5327	2709	3790 (72)	4066	29504 (40) 20125 (47)	6745 4217	59305 (27) 55728 (19)	12855 11760	- 245
CMEA	(1700)	2193	<i>without E. Germ.</i> 2029	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	764 000	10	1981	716 000	10	1982	1.8	3.6

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Para Xylene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	1161	-	710 (62)	706	- 2457 (5)	25 577	17533 (16) 15859 (13)	6202 4189	-73
CMEA	316	265	-	-					

Buy-back	firmly contracted ***			still under negotiation			annual buy-back in % of EC demand 1977 contracted	contracted + volume under negotiation
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting		
	200 000	10	1981	166 000	10	1982	2.8	5.2

PRODUCT : *Ortho Xylene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	876	-	549 (62)	589	17130 (23) 7161 (10)	5582 1797	4413 (5) 6490 (10)	1087 1403	-5
CMEA	208	165	-	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977 contracted	contracted + volume under negotiation
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting		
	300 000	13	1981	-	-	-	3.9	-

* figures in brackets indicate capacity utilization in % for 1977

** figures in brackets indicate relative share of EC-extra trade figures in %

*** three more contracts concluded, but no details available

PRODUCT : Methanol

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	3423	775	2416 (70)	2377	28667 (8) 933 (0.4)	2746 156	41789 (45) 61218 (41)	3622 5236	+ 89
CMEA	—	2470	2379	—					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	3 800 000	11	1980	1 000 000	10	—	14,5	18,7

PRODUCT : Maleic Anhydride

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	208	18	115 (53)	85	9987 (37) 11012 (37)	4260 4294	176 (24) 254 (33)	66 112	+ 28
CMEA	—	27	—	—					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	30 000	10	1980	—	—	—	3,5	—

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Phthalic Anhydride*

Region	installed capacity	new plants + projects	production*	demand	EC-export to CMEA**		EC-import from CMEA**		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	891	-	616 (69)	529	21326 (29)	7377	21 (1)	7	+ 85
CMEA	-	245	(250)		17637 (19)	6619	7 (0)	1	

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	100 000	10	1980	-	-	-	1,9	-

PRODUCT : *Acrylonitrile*

Region	installed capacity	new plants + projects	production*	demand	EC-export to CMEA**		EC-import from CMEA**		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	1117	260	774 (68)	766	549 (2)	329	4037 (25)	1666	+ 11
CMEA	-	150	-	-	1657 (65)	697	5656 (41)	2267	

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	300000	12	1978	-	-	-	3	-

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Vinylchloride Monomer (VCM)*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	5015	710	3473 (69)	3368	17 361 (10) 18 497 (8)	4 521 5 064	40 898 (96) 36 185 (100)	9 684 8 877	+ 200
CMEA	-	-	-	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	100 000	10	1981	-	-	-	0,3	-

PRODUCT : *Caprolactam (trade figures for lactams)*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	816	70	550 (67)	386	6 841 (11) 100 (11,5)	6 406 299	4 062 (51) 1 795 (18)	3 156 1 515	- 9
CMEA	-	95	569	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	224 000	8	1980	-	-	-	7,3	-

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : Polyethylene Low Density (LDPE)

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]	
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]		
EC	4443	953	3295 (77)	2563	47 599 (74) 40 864 (5)	23 816	17 241 (11,8) 33 329 (23)	6 604	11 104	+ 664
CMEA	1126	800	-	-						

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	693 000	13	1978	-	-	-	2	-

PRODUCT : Polyethylene High Density (HDPE)

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]	
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]		
EC	1916	324	1393 (77)	927	44 824 (13) 31 424 (7)	27 137	2295 (6) 908 (2)	972	406	+ 384
CMEA	480	1000	-	-						

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	260 000	10	1980	-	-	-	2,8	-

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Polypropylene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	1557	725	942 (60)	661	13496 (75)	8109	333 (1)	124	+ 215
CMEA	(300)	370	-	197					
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977		
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation	
	Japan! 50 000	8	(1978)	-	-	-	0,9	-	

PRODUCT : *Polystyrene*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	2625	425	1551 (60)	1227	47996 (24)	29280	3555 (23)	1338	+ 22
CMEA	674	320	(350)	-					
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977		
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation	
	204 000	8,5	1973	-	-	-	2	-	

* figures in brackets indicate capacity utilization in % for 1977

** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Polyvinylchlorid (PVC)*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	4 305	1 050	3 187 (73)	2 743	35 812 (19)	22 330	9 501 (33)	3 647	+ 135
CMEA	(1 200)	837	(1 000)	—	33 924 (20)	19 897	22 355 (62)	8 312	

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977 contracted	contracted + volume under negotiation
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting		
	635 000	12	1978	—	—	—	1.9	—

PRODUCT : *Ethylene Glycol*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	1 333	(390)	778 (62)	622	61 464 (35)	27 295	598 (3)	63	+ 140
CMEA	—	(370)	—	—	39 848 (24)	14 718	6 890 (24)	1 820	

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977 contracted	contracted + volume under negotiation
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting		
	300 000	10	1979	—	—	—	4.8	—

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Dimethylterephthalate (DMT)*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	1699	270	970 (60)	786	13 258 (28) 17 875 (36)	6284	292 (6) 302 (7)	133 132	+ 45
CMEA	-	130	-	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
***				219 000	10	1982	-	2,8

*** three deals with USSR. Total value 34 m. Specifications not available!

PRODUCT :

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC									
CMEA									

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation

* figures in brackets indicate capacity utilization in % for 1977

** figures in brackets indicate relative share of EC-extra trade-figures in %

PRODUCT : Polyester (fibres)

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	924	99	613 (67)	619	2746 (16)	2941	4217 (19)	3773	- 6
CMEA	-	664	(150)	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	-	-	-	207 000 <i>mitigations</i>	10	1982	-	3,3

PRODUCT : Soda Ash (Na_2CO_3)

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	5605	170	5371 (82)	5176	253	25	196 908 (83)	11256	+ 119
CMEA	-	460	(8 300)	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	1 500 000	6	1980	-	-	-	4,8	-

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Caustic Soda (NaOH)*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	9891	135	7483 (81)	6 378	30 240 (10) 40 366 (10)	2 854 3 175	224 (3) 9664 (72)	39 1195	+ 409
CMEA	-	-	1976 (4400)	-					
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977		
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation	
	340 000	8	1980	-	-	-	0,7	-	

PRODUCT : *Titanium Dioxide*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	920	155	674 (71)	588	10661 (16) 6 830	2 127 (17) 1122			+ 56
CMEA	-	140	-	-					
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977		
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation	
	20 000	8	(1980)	-	-	-	0,4	-	

* figures in brackets indicate capacity utilization in % for 1977

** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : *Ammonia*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	12 221	3 387	9301 (79)	9243	3 (0) 4 (0)	2 4	59 360 (19) 20 471 (8)	6 116 2 217	+ 177
CMEA	20 380	19 350	1976: (20 279)	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	<i>worldwide:</i> 25 600 000	13	1978	-	-	-	<i>EC:</i> 6	-

EC: 7 250 000

PRODUCT : *Urea*

Region	installed capacity	new plants + projects	production *	demand	EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
EC	2 599	1 720	1800 (68)	1 129	3709 (0) 21 (0)	372 3	51 510 (71) 79 520 (68)	4999 7690	+ 1 173
CMEA	-	5091	-	-					

Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977	
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted	contracted + volume under negotiation
	<i>USA:</i> 18 500 000 <i>JP:</i> 900 000 <i>EC:</i> 4 800 000	20 9 15	1978 1978 1978	-	-	-	<i>EC:</i> 33,8	-

* figures in brackets indicate capacity utilization in % for 1977
 ** figures in brackets indicate relative share of EC-extra trade figures in %

PRODUCT : Calcium Ammonium Nitrate

Region	installed capacity		new plants + projects		production *		demand		EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]			
EC					(6500)	2851 **	699(0,3)	1997	381924(43)	31046			-682
CMEA					(14000)								
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977						
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted		contracted + volume				under negotiation
	-	-	-	1 400 000	10	1984	-						5

** Demand for ammonium nitrate

PRODUCT :

Region	installed capacity		new plants + projects		production *		demand		EC-export to CMEA **		EC-import from CMEA **		Extra EG : Export-Import 1977 [000 t]
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]			
EC													
CMEA													
Buy-back	firmly contracted			still under negotiation			annual buy-back in % of EC demand 1977						
	total volume [t]	period [years]	year starting	total volume [t]	period [years]	year starting	contracted		contracted + volume				under negotiation

* figures in brackets indicate capacity utilization in % for 1977

** figures in brackets indicate relative share of EC-extra trade figures in %

III. ACTUAL EC-IMPORT AND FUTURE EC-BUY BACK IMPORT
FROM CMEA COUNTRIES RELATED TO EC DEMAND 1977

Chemical buy-back quantified in relation to

- actual real market share of imports from CMEA countries (1977; virtually without buy back)
 - future hypothetical market share with respect to 1977 demand (only buy-back; not comprising normal trade)
- given in order of decreasing impact by product.

The columns indicate

- EC commercial balance for 1977 in 1000 metric tons giving the difference of extra-community exports and extra-community imports and taken from Nimex statistics.
- EC demand for 1977 in 1000 metric tons taken from EC information system.
- EC imports from CMEA countries
 - . in 1000 metric tons for 1977
 - . in terms of percentage of EC demand 1977
 - . annual average buy-back volume in 1000 metric tons with year starting in round brackets.

Wherever possible firmly contracted buy-back volumes have been differentiated from those still under discussion.

- . average annual buy-back volumes related to 1977 EC demand
- for comparison, the EC rate of capacity utilisation is given for 1977 in percent and for the corresponding product. This information indicates roughly the degree of difficulty of the product with respect to Community overcapacity.

- For each product there is a second block in the tables containing the buy back information gathered. This information gives
 - the total volume firmly contracted in metric tons, the period of years covered by all contracts (from the earliest contract starting to the latest contract expiring;
 - corresponding information for contracts still under discussion;
 - the total volumes have been divided by the time space covered of all corresponding contracts and the resulting figure (as a theoretical future average annual buy back volume) related to EC demand for 1977. So the annual buy back volume is expressed in terms of 1977 market share, both for those contract firmly concluded and those still under discussion.

It is important to note that the buy back volumes indicated are buy back products contracted by firms from member countries and consequently going to the European Community.

ACTUAL IMPORT AND FUTURE BUY-BACK IMPORT FROM CMEA COUNTRIES RELATED TO EC-DEMAND 1977

Product	EC-Commercial balance 1977 Export-Import [000 t]	EC-Demand 1977 [000 t]	E C - I M P O R T F R O M C M E A				EC-Rate of capacity utili- sation 1977 %
			1977 [000 t]	% of EC-Demand 1977	[000 t] (year starting)	Annual buy-back % of EC-Demand 1977	
Urea	+ 1 173	1 129	79,5	7	380 (1978)	33,8	68
Methanol	+ 89	2 377	61,2	2,6	345 (81) u.d.** : 445	14,5 / 18,7	70
Caprolactam	- 9	386	1,79	0,5	28 (1980)	7,3	67
Ammonia	+ 117	9 243	20,4	0,2	558 (1978)	6	79
Calcium amm. nitrate	- 682	2 851*	382	13,4	u.d.: 140 (1984)	5	?
Soda ash	+ 119	5 176	197	3,8	250 (1980)	4,8	82
Ethylene glycol	+ 140	622	6,89	1,1	30 (1979)	4,8	62
Orthoxylene	- 5	589	6,5	1,1	23 (1981)	3,9	62
Maleic anhydride	+ 28	85	0,25	0,3	3 (1980)	3,5	53
Polyester	- 6	619	4,5	0,7	u.d.: 20,7(1982)	3,3	67
Acrylonitrile	+ 11	766	5,65	0,7	15 (1978)	3	68
Paraxylene	- 73	706	15,85	2,2	20 (81) u.d. : 36,6	2,8 / 5,2	62
Dimethylterephtha- late (DMT)	+ 45	786	0,3	0,04	u.d.: 22 (1982)	2,8	60
Polyethylene High Density (HDPE)	+ 384	927	0,9	0,1	26 (1980)	2,8	77
Polystyrene	+ 22	1 227	3,55	0,3	24 (1978)	2	60

* demand for ammonium nitrate

** under discussion

ACTUAL IMPORT AND FUTURE BUY-BACK IMPORT FROM CMEA COUNTRIES RELATED TO EC-DEMAND 1977

Product	EC-Commercial balance 1977 Export-Import [000 t]	EC-Demand 1977 [000 t]	E C - I M P O R T F R O M C M E A				EC-Rate of capacity utili- sation 1977 %
			1977 [000 t]	% of EC-Demand 1977	[000 t] (year starting)	Annual buy-back % of EC-Demand 1977	
Urea	+ 1 173	2 419	79,5	3,3	380 (1978)	15,7	68
Methanol	+ 89	2 377	61,2	2,6	345 (81)+u.d.** : 445	14,5 / 18,7	70
Caprolactam	- 9	386	1,79	0,5	28 (1980)	7,3	67
Ammonia	+ 117	11 223	20,4	0,18	558 (1978)	5	79
Calcium amm. nitrate	- 682	2 851*	382	13,4	u.d.: 140 (1984)	(1,7)*	?
Soda ash	+ 119	5 176	197	3,8	250 (1980)	4,8	82
Ethylene glycol	+ 140	622	6,89	1,1	30 (1979)	4,8	62
Orthoxylene	- 5	589	6,5	1,1	23 (1981)	3,9	62
Maleic anhydride	+ 28	85	0,25	0,3	3 (1980)	3,5	53
Polyester	- 6	619	4,5	0,7	u.d.: 20,7(1982)	3,3	67
Acrylonitrile	+ 11	766	5,65	0,7	15 (1978)	3	68
Paraxylene	- 73	706	15,85	2,2	20 (81)+u.d. : 36,6	28 / 5,2	62
Dimethylterephtha- late (DMT)	+ 45	786	0,3	0,04	u.d.: 22 (1982)	2,8	60
Polyethylene High Density (HDPE)	+ 384	927	0,9	0,1	26 (1980)	2,8	77
Polystyrene	+ 22	1 227	3,55	0,3	24 (1978)	2	60

* demand for ammonium nitrate

** under discussion

correction

ACTUAL IMPORT AND FUTURE BUY-BACK IMPORT FROM CMEA COUNTRIES RELATED TO EC-DEMAND 1977 (continued)

Product	EC-Commercial balance 1977 Export-Import [000 t]	EC-Demand 1977 [000 t]	E C - I M P O R T F R O M C M E A				EC-Rate of capacity utili- sation 1977 %
			1977 [000 t]	% of EC-Demand 1977	[000 t] (year starting)	Annual buy-back % of EC(Demand 1977	
Polyethylene Low Density (LDPE)	+ 664	2 563	33,3	1,3	32,3 (1978)	2	77
Phthalic anh.	+ 85	529	0	0	10 (1980)	1,9	69
Polyvinylchlorid (PVC)	+ 135	2 743	22,35	0,8	53 (1978)	1,9	73
Benzene	- 245	4 066	55,7	1,4	74 (81) u.d. : 145	1,8 / 3,6	72
Propylene	+ 125	5 000	28,6	0,6	48 (1982)	1	68
Polypropylene	+ 215	661	1	0,15	6,25(Japan)	0,9	60
Caustic Soda	+ 409	6 378	9,7	0,15	42,5 (1980)	0,7	81
Titanium Diox.	+ 56	588	2,1	0,4	2,5 (1980)	0,4	71
Vinylchloride	+ 200	3 368	36,2	1,1	10 (1981)	0,3	69

IV. FACT SHEETS :

Buy-back information about CMEA buy-back exports to EC, US and Japan.

- Value of total real and potential chemical buy-back export from CMEA countries (Profile over the time space covered by contracts 1978-1994)

- Value of chemical buy-back by CMEA member country (by contract with contractor, product, and average annual buy-back volume in Mio \$ US).

VALUE OF CHEMICAL BUY-BACK EXPORT OF CMEA COUNTRIES (in million US-\$)

COUNTRY	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
a) SIGNED PROJECTS																	
USSR	556	610	707	904	904	918	908	908	900	852	776	730	646	453	444	444	441
Poland	34	35	94	94	94	146	146	146	116	116	114	113	86	36	86	34	34
East Germany			14	16	41	41	41	41	39	39	25						
Bulgaria	1	3	3	7	7	7	5	4	4	4							
CSSR	5	5	6	6	6	6	5	5									
Romania		5	5	5	5												
Hungaria		-	-	-	-												
CMEA	596	658	829	1032	1057	1118	1105	1104	1059	1011	915	843	732	539	530	478	475
b) SIGNED PROJECTS + PROJ. UNDER DISCUSSION																	
USSR	556	610	707	904	914	928	918	918	1035	987	911	865	781	588	569	569	566
Poland	34	35	94	94	144	196	196	285	255	255	253	252	225	225	175	34	34
East Germany			14	16	50	50	64	64	62	62	48	14	14	14	14	14	
Bulgaria	1	3	3	8	8	8	6	4	4	4							
CSSR	5	5	6	7	7	7	6	6	1	1	1						
Romania		5	5	5	5												
Hungaria		-	-	-	-												
CMEA	596	658	829	1034	1128	1189	1190	1277	1357	1309	1213	1131	1020	827	758	617	600

VALUE OF CHEMICAL BUY-BACK EXPORT OF USSR (in million US-\$)

CONTRACTOR/ PRODUCT	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Salzgitter/ LdPE	13	13	13	13	13	13											
Salzgitter/ LdPE	25	25	25	25	25	25	25	25	25								
Litwin/ P. styrene		19	19	19	19	19	19	19	19	9							
Occ./US fertilizers	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441	441
Monted./ ammonia urea	29 8	29 8	29 8	29 8	29 8	29 8	29 8	29 8	29 8	29							
acrylon. methanol			15 6	15 6	15 6	15 6	15 6	15 6	15 6	15 6	15 6	15 6	15 6				
CJB/ hdPE			7	7	7	7	7	7	7	7	7	7	7				
Klöckner/ PVC/VCM	9	9	9	9	9	9	9	9	9	9	9	9	9	9			
Creus.L./ ammonia			27	27	27	27	27	27	27	27	27	29					
Marub./ acrylon.	6	6	6	6	6												
Snia-V./ caprolactam			28	28	28	28	28	28	28	28							
Snampr./ ammonia		11	11	11	11	11	11	11	11	11	11						
Salzgitter/ mon.glycol		10	10	10	10	10	10	10	10	10	10						
Klöckner/ phthalic.anhyd. fum.acid/urea			7	7	7	7	7	7	7	7	7	7					

VALUE OF CHEMICAL BUY-BACK EXPORT OF USSR (in million US-\$), continued

CONTRACTOR/ PRODUCT	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Mitsui/ ammonia urea	12 13	12 13	12 13	12 13	12 13	12 13	12 13	12 13	12 13	12							
Rhône-P./ ammonia methanol orthoxylyene naphtha not specified*		14	14	14	14	14	14	14	14	14	14	14	25				
Technip/ orthoxylyene paraxylyene benzene diesel oil naphtha				6	6	6	6	6	6	6	6	6	6	6	6		
Krupp-K./ paraxyl. methanol benzene				5	5	5	5	5	5	5	5	5	5	5	5		
Krupp-K./ oil prod. paraxylyene DMT				11	11	11	11	11	11	11	11	11	11	11	11		
				38	38	38	38	38	38	38	38	38	38	38	38		
				35	35	35	35	35	35	35	35	35	35	35	35		
				10	10	10	10	10	10	10	10	10	10	10	10		
				15	15	15	15	15	15	15	15	15	15	15	15		

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF USSR (in million US-\$), continued

<u>CONTRACTOR</u> <u>PRODUCT</u>	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Uhde/ DMT paraxylene methanol				9	9	9	9	9	9	9	9						
Klöckner/ phthalic anh. maleic anh. urea			3 2 2	3 2 2	3 2 2	3 2 2	3 2 2	3 2 2	3 2 2	3 2 2	3 2 2	3 2 2					
CJB/ ldPE						20	20	20	20	20	20	20	20				
Davy P./ methanol				35	35	35	35	35	35	35	35	35	35				
<u>TOTAL</u>	<u>556</u>	<u>610</u>	<u>707</u>	<u>904</u>	<u>904</u>	<u>918</u>	<u>908</u>	<u>908</u>	<u>900</u>	<u>852</u>	<u>776</u>	<u>730</u>	<u>646</u>	<u>453</u>	<u>444</u>	<u>444</u>	<u>441</u>
<u>UNDER</u> <u>DISCUSSION</u>																	
Uhde/ polyester*					10	10	10	10	10	10	10	10	10	10			
Tomsk*									125	125	125	125	125	125	125	125	125
<u>TOTAL</u>					<u>914</u>	<u>928</u>	<u>918</u>	<u>918</u>	<u>1035</u>	<u>987</u>	<u>911</u>	<u>865</u>	<u>781</u>	<u>588</u>	<u>569</u>	<u>569</u>	<u>566</u>

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF POLAND (in million Us-\$)

CONTRACTOR/ PRODUCT	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Krupp/ tit.dioxide*			2	2	2	2	2	2	2	2							
Voest/ melamine, phosph.acid sulfur		1	1	1	1	1	1	1	1	1	1						
Petroc./ PVC caustic soda			27	27	27	27	27	27	27	27	27	27					
Krebs/ soda ash*			30	30	30	30	30	30									
Creus.L./ urea						52	52	52	52	52	52	52	52	52	52		
Occid./ sulphur	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
<u>TOTAL</u>	<u>34</u>	<u>35</u>	<u>94</u>	<u>94</u>	<u>94</u>	<u>146</u>	<u>146</u>	<u>146</u>	<u>116</u>	<u>116</u>	<u>114</u>	<u>113</u>	<u>86</u>	<u>86</u>	<u>86</u>	<u>34</u>	<u>34</u>
<u>UNDER DISCUSSION</u>																	
Coal gasific.proj.*					50	50	50	50	50	50	50	50	50	50			
Chloroprene rubber pr.*								25	25	25	25	25	25	25	25		
Polyester fiber proj.*								64	64	64	64	64	64	64	64		
<u>TOTAL</u>					<u>144</u>	<u>196</u>	<u>196</u>	<u>285</u>	<u>255</u>	<u>255</u>	<u>253</u>	<u>252</u>	<u>225</u>	<u>225</u>	<u>175</u>		

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF EAST-GERMANY (in million US-\$)

<u>CONTRACTOR/ PRODUCT</u>	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Uhde/ PVC caustic soda			10 4	10 4	10 4	10 4	10 4	10 4	10 4	10 4							
Catalytic/ caustic soda*				2	2	2	2	2									
Mitsui/ benzene C ₈ fraction					25	25	25	25	25	25	25						
<u>TOTAL</u>			<u>14</u>	<u>16</u>	<u>41</u>	<u>41</u>	<u>41</u>	<u>41</u>	<u>39</u>	<u>39</u>	<u>25</u>						
<u>UNDER DISCUSSION</u>																	
Fertilizer project							14	14	14	14	14	14	14	14	14	14	14
Polyester fiber proj.					9	9	9	9	9	9	9						
<u>TOTAL</u>					<u>50</u>	<u>50</u>	<u>64</u>	<u>64</u>	<u>62</u>	<u>62</u>	<u>48</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>14</u>

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF BULGARIA (in million US-\$)

<u>CONTRACTOR/ PRODUCT</u>	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Technip/ MEG		2	2	2	2	2											
Klöckner/ PVC				4	4	4	4	4	4	4							
Lurgi/	difficult to assess																
Haldor/ Ammonia & urea ?	1	1	1	1	1	1	1										
<u>TOTAL</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>4</u>							
<u>UNDER DISCUSSION</u>																	
Furfural alcoh.pr.*				1	1	1	1										
<u>TOTAL</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>6</u>	<u>4</u>	<u>4</u>	<u>4</u>							

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF CSSR (in million US-\$)

<u>CONTRACTOR/ PRODUCT</u>	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Chisso/ polyprop.*	5	5	5	5	5	5	5	5									
Mitsubi/ chemicals*			1	1	1	1											
<u>TOTAL</u>	<u>5</u>	<u>5</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>5</u>	<u>5</u>									
<u>UNDER DISCUSSION</u>																	
polypropy- lene pr.*				1	1	1	1	1	1	1	1						
<u>TOTAL</u>				<u>7</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>6</u>	<u>1</u>	<u>1</u>	<u>1</u>						

* beginning estimated

VALUE OF CHEMICAL BUY-BACK EXPORT OF ROMANIA (in million US-\$)

<u>CONTRACTOR/ PRODUCT</u>	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Gen.Tire/ Chemicals *		5	5	5	5												
KTI/ textiles, some urea "small"		-	-	-	-												
<u>TOTAL</u>		<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>												

* beginning estimated

V. FACT SHEETS :

Buy-back information by products concerned :

- value in Mio US \$ and quantities in 1000 metric tons

- duration of contracts indicated with average annual buy-back involved by contract. In a few cases starting and duration of the contract had to be estimated.

CHEMICAL BUY-BACK : Propylene

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

EAST-GERMANY :

Mitsui

11 11 11 11 11 11 11

(To be handled by
Mitsui in Düsseldorf.
Markets : Europe +
Japan)

Quantity (in 1000 ton)

EAST-GERMANY :

Mitsui

48 48 48 48 48 48 48

CHEMICAL BUY-BACK : Benzene

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
EAST GERMANY :																	
Mitsui						10	10	10	10	10	10						
USSR :																	
Technip				11	11	11	11	11	11	11	11	11	11	11	11	11	11
Under discussion :				11	11	21	21	21	21	21	21	21	11	11			
POLAND :					15	16	16	16	16	16	16	16	16	16	16		

Quantity (in 1000 ton)

EAST GERMANY :																	
Mitsui						44	44	44	44	44	44						
USSR :																	
Technip				50	50	50	50	50	50	50	50	50	50	50	50	50	50
Under discussion :				50	50	94	94	94	94	94	94	94	50	50			
POLAND :					68	72	72	72	72	72	72	72	72	72	72		

CHEMICAL BUY-BACK : Paraxylene

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Technip				5	5	5	5	5	5	5	5	5	5				
paraxylene also in deals with Krupp-Köppers (2 x) and Uhde, but not detailed ! Annual value of this contracts : 34 m																	
POLAND :					8	4	4	4	4	4	4	4	4	4	4	4	4
Under discussion																	
				5	13	9	9	9	9	9	9	9	9	9	4		

Quantity (in 1000 ton)

USSR :																	
Technip				20	20	20	20	20	20	20	20	20	20	20	20	20	20
POLAND :					31	15	15	15	15	15	15	15	15	15	15	15	15
Under discussion																	
				20	51	35	35	35	35	35	35	35	35	35	35	35	15

CHEMICAL BUY-BACK : Orthoxylene

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Rhône-Poulenc							3	3	3	3	3	3	3	3	3	3	3
Technip				6	6	6	6	6	6	6	6	6	6				
				6	6	6	9	9	9	9	9	9	9	3	3	3	3

Quantity (in 1000 ton)

USSR :																	
Rhône-Poulenc							10	10	10	10	10	10	10	10	10	10	10
Technip				20	20	20	20	20	20	20	20	20	20				
				20	20	20	30	30	30	30	30	30	30	10	10	10	10

CHEMICAL BUY-BACK : Methanol

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Davy Powerg.				35	35	35	35	35	35	35	35	35	35	35			
Montedison	6		6	6	6	6	6	6	6	6	6	6	6				
Rhône-Poulenc				3	3	3	3	3	3	3	3	3	3				
	6		44	44	44	44	44	44	44	44	44	44	44			38	
POLAND :					12	12	12	12	12	12	12	12	12		12		
Under discussion																	
Methanol also in deals with Krupp, Uhde, but not detailed !																	

Quantity (in 1000 ton)

USSR :																	
Davy Powerg.				300	300	300	300	300	300	300	300	300	300	300			
Montedison	50		50	50	50	50	50	50	50	50	50	50	50				
Rhône-Poulenc				30	30	30	30	30	30	30	30	30	30				
	50		380	380	380	380	380	380	380	380	380	380	380			330	
POLAND :					100	100	100	100	100	100	100	100	100		100		
Under discussion																	

CHEMICAL BUY-BACK : Maleic anhydride

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR : Klöckner			2	2	2	2	2	2	2	2	2	2					
	Quantity (in 1000 ton)																

USSR : Klöckner			3	3	3	3	3	3	3	3	3	3					
--------------------	--	--	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--

CHEMICAL BUY-BACK : Phthalic anhydride

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Klöckner			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Klöckner			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Quantity (in 1000 ton)

USSR :																	
Klöckner			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Klöckner			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

CHEMICAL BUY-BACK : Acrylonitrile

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Montedison			15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Marubeni - Europe	6	6	6	6	6												
	6	6	21	21	21	15	15	15	15	15	15	15	15	15	15	15	15

Quantity (in 1000 ton)

USSR :																	
Montedison			25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Marubeni - Europe	10	10	10	10	10												
	10	10	35	35	35	25	25	25	25	25	25	25	25	25	25	25	25

CHEMICAL BUY-BACK : Vinylchloride

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

USSR :

Klöckner*

3 3 3 3 3 3 3 3 3 3 3 3

Quantity (in 1000 ton)

USSR :

Klöckner*

10 10 10 10 10 10 10 10 10 10 10

* beginning estimated

CHEMICAL BUY-BACK : Caprolactam

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

USSR :

Snia-Viscosia

28 28 28 28 28 28 28 28 28 28

Quantity (in 1000 ton)

USSR :

Snia-Viscosia

28 28 28 28 28 28 28 28

CHEMICAL BUY-BACK : Polyethylene Low Density (LDPE)
 Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Salzgitter	13	13	13	13	13	13											
Salzgitter	25	25	25	25	25	25	25	25	25								
CJB*						20	20	20	20	20	20	20	20				
	38	38	38	38	38	58	45	45	45	20	20	20	20				

Quantity (in 1000 ton)

USSR :																	
Salzgitter	20	20	20	20	20	20											
Salzgitter	37	37	37	37	37	37	37	37	37								
CJB*						30	30	30	30	30	30	30	30				
	57	57	57	57	57	87	67	67	67	30	30	30	30				

* beginning estimated

CHEMICAL BUY-BACK : Polyethylene High Density (HDPE)

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

USSR :

CJB

CJB*

7	7	7	7	7	7	7	7	7	7	7	7					
	14	14	14	14	14	14	14	14	14	14						
7	21	21	21	21	21	21	21	21	21	21	7					

Quantity (in 1000 ton)

USSR :

CJB

CJB*

10	10	10	10	10	10	10	10	10	10	10	10					
	20	20	20	20	20	20	20	20	20	20						
10	30	30	30	30	30	30	30	30	30	30	10					

* Duration of b.b. estimated !

CHEMICAL BUY-BACK : Polypropylene

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

CSSR :

Chisso*

5 5 5 5 5 5 5 5

Quantity (in 1000 ton)

CSSR :

Chisso*

8 8 8 8 8 8 8 8

* beginning estimated, also duration

CHEMICAL BUY-BACK : Polystyrene

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Litwin		19	19	19	19	19	19	19	19	9							

Quantity (in 1000 ton)

USSR :																	
Litwin		24	24	24	24	24	24	24	24	12							

CHEMICAL BUY-BACK : Polyvinylchlorid (PVC)

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR : Klöckner	5	5	5	5	5	5	5	5	5	5							
EAST-GERMANY : Uhde			10	10	10	10	10	10	10	10							
BULGARIA : Klöckner				4	4	4	4	4	4	4							
POLAND : Petrocarbon			27	27	27	27	27	27	27	27	27	27	27				
	5	5	42	46	46	46	46	46	46	46	27	27					

Quantity (in 1000 ton)

USSR : Klöckner	8	8	8	8	8	8	8	8	8	8							
EAST-GERMANY : Uhde			15	15	15	15	15	15	15	15							
BULGARIA : Klöckner				5	5	5	5	5	5	5							
POLAND : Petrocarbon			40	40	40	40	40	40	40	40	40	40	40				
	8	8	63	68	68	68	68	68	68	68	40	40					

CHEMICAL BUY-BACK : Monoethylene glycol

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
BULGARIA :																	
Technip		2	2	2	2	2											
USSR :																	
Salzgitter		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
		12	12	12	12	12	10	10	10	10	10	10	10	10	10	10	10

Quantity (in 1000 ton)

BULGARIA :																	
Technip		6	6	6	6	6											
USSR :																	
Salzgitter		27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
		33	33	33	33	33	27	27	27	27	27	27	27	27	27	27	27

CHEMICAL BUY-BACK : Dimethylterephthalate (DMT)

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

DMT in three deals :

USSR - Krupp/Koppers (2 x) and USSR - Uhde. Quantity not spectified

Total value of this deals 34 m.

Quantity (in 1000 ton)

Under discussion :

POLAND :

50,3 36,5 16,5 16,5 16,5 16,5 16,5 16,5 16,5 16,5 16,5

CHEMICAL BUY-BACK : Polyester

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
All under discussion :																	
EAST-GERMANY :																	
Techn. polyester yarn					9	9	9	9	9	9	9	marketing in America !					
POLAND :																	
polyester filament yarn)																	
polyester film)					64	64	64	64	64	64	64	64	64	64			
polyester chips)																	
polyester fibre)																	
USSR : *					10	10	10	10	10	10	10	10	10	10			
Uhde																	
					83	83	83	83	83	83	83	74	74	74			
					Quantity (in 1000 ton)												

EAST-GERMANY :																	
techn.poly. yarn					5	5	5	5	5	5	5						
POLAND :																	
polyester filament yarn					3,4	9,7	10,8	9,7	8,5	7,3	6,2	5,0	3,9	2,8			
polyester film					1	1	1	1	1	1	1	1	1	1			
polyester chips					-	7	10	10	10	10	10	10	10	10			
polyester fibre					7,5	-	-	-	-	-	-	-	-	-			
					16,9	22,7	26,8	25,7	24,5	23,3	22,2	16,0	14,9	13,8			
USSR :																	
Uhde																	

?

* beginning and duration estimated

CHEMICAL BUY-BACK : Soda ash

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

POLAND :

Krebs *

30 30 30 30 30 30

Quantity (in 1000 ton)

POLAND :

Krebs

250 250 250 250 250 250

* beginning and duration estimated

CHEMICAL BUY-BACK : Caustic soda

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
EAST-GERMANY :																	
UHDE			4	4	4	4	4	4	4	4							
Catalic*				2	2	2	2	2									
			<u>4</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>4</u>	<u>4</u>						

Quantity (in 1000 ton)

EAST-GERMANY :																	
UHDE			30	30	30	30	30	30	30	30	30						
Catalic*				20	20	20	20	20									
			<u>30</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>30</u>	<u>30</u>						

* beginning estimated

CHEMICAL BUY-BACK : Titanium dioxide

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
POLAND : Krupp*			2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5							

Quantity (in 1000 ton)

POLAND : Krupp*			2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5							
--------------------	--	--	-----	-----	-----	-----	-----	-----	-----	-----	--	--	--	--	--	--	--

* beginning estimated

CHEMICAL BUY-BACK : Ammonia

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Occidental	40	138	242	242	242	242	242	242	242	242							
Montedison	29	29	29	29	29	29	29	29	29	29							
Creusot-Loire			27	27	27	27	27	27	27	27	27	27					
Snamprogetti		11	11	11	11	11	11	11	11	11	11						
Mitsui	12	12	12	12	12	12	12	12	12	12	12						
Rhône-Poulenc				5	5	5	5	5	5	5	5	5	5				
	81	190	321	326	326	326	326	326	326	326	43	32	5				

Quantity (in 1000 ton)

USSR :																	
Occidental	350	1200	2100	2100	2100	2100	2100	2100	2100	2100							
Montedison	250	250	250	250	250	250	250	250	250	250							
Creusot-Loire			235	235	235	235	235	235	235	235	235	235					
Snamprogetti		100	100	100	100	100	100	100	100	100	100						
Mitsui	100	100	100	100	100	100	100	100	100	100							
Rhône-Poulenc				40	40	40	40	40	40	40	40	40	40				
	700	1650	2785	2825	2825	2825	2825	2825	2825	2825	375	275	40				

CHEMICAL BUY-BACK : Urea

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR:																	
Occidental	33	33	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
Montedison	8	8	8	8	8	8	8	8									
Mitsui	13	13	13	13	13	13	13	13	13								
Klöckner			2	2	2	2	2	2	2	2	2	2					
Klöckner			2	2	2	2	2	2	2	2	2	2					
	54	54	155	155	155	155	155	155	147	134	134	134	130	130	130	130	130
POLAND :																	
Creusot-Loire						52	52	52	52	52	52	52	52	52	52		
						207	207	207	199	186	186	186	182	182	182		

Quantity (in 1000 ton)

USSR :																	
Occidental	250	250	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Montedison	60	60	60	60	60	60	60	60									
Mitsui	100	100	100	100	100	100	100	100	100								
Klöckner			15	15	15	15	15	15	15	15	15	15					
Klöckner			17	17	17	17	17	17	17	17	17	17					
	410	410	1192	1192	1192	1192	1192	1192	1132	1032	1032	1032	1000	1000	1000	1000	1000
POLAND :																	
Creusot-Loire						400	400	400	400	400	400	400	400	400	400		
						1592	1592	1592	1532	1432	1432	1432	1400	1400	1400		

CHEMICAL BUY-BACK : Fertilizers (nitrogenous)

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

Under discussion :

EAST-GERMANY :

Calcium ammonium nitrate

14 14 14 14 14 14 14 14 14 14 14

Quantity (in 1000 ton)

Under discussion :

EAST-GERMANY :

Calcium ammonium nitrate

140 140 140 140 140 140 140 140 140 140

CHEMICAL BUY-BACK : Naphtha

Value (in million US-\$)

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994

USSR :

Rhône-Poulenc

Technip

14	14	14	14	14	14	14	14	14	14	14						
	35	35	35	35	35	35	35	35	35	35	35					
14	49	49	49	49	49	49	49	49	49	49	49					

Quantity (in 1000 ton)

USSR :

Rhône-Poulenc

Technip

100	100	100	100	100	100	100	100	100	100	100						
	250	250	250	250	250	250	250	250	250	250	250					
100	350	350	350	350	350	350	350	350	350	350	350					

CHEMICAL BUY-BACK : Dieseloil

Value (in million US-\$)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
USSR :																	
Technip				38	38	38	38	38	38	38	38	38	38				

Quantity (in 1000 ton)

USSR /																	
Technip				290	290	290	290	290	290	290	290	290	290				

VI. FACT SHEETS :

A breakdown of economic indicators into product profiles for all individual CMEA and EC member countries.

The information is particularly scarce about demand in CMEA member countries.

The columns indicate :

- installed capacity in 1000 t/a for 1978
- new plants and projects in 1000 t/a capacity :
this information comprises new plants having come on stream since the beginning of 1977 together with project firmly contracted (state : february 1978). This information gives an indication of the economic innovation for the corresponding product market.
- production in 1000 t/a for 1977
- demand in 1000 t/a for 1977
- trade figures for the individual product and for 1976 and 1977 taken from Nimexe statistics, giving Community export and import by quantity and value with CMEA as a whole, but with a breakdown for Community member countries.
The figures given in round brackets on the line for EC indicate the share of trade with Comecon within extra EC export and imports.
- Summary buy-back information.
Wherever non Community buy-back is involved, this is indicated.

PRODUCT : PROPYLENE

COUNTRY	installed capacity		new plants + projects		production		demand		export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a]	1978	[000 t/a]	1977	[000 t/a]	1977	[000 t/a]	1977	Vol. 1976 [t]	Val. 1976 [1000 UA]	Vol. 1976 [t]	Val. 1976 [1000 UA]	
D	2385		415		1552		1949		9753 5225	134 1069	611 14836	94 2246	
F	1415		110		941		734		1920 1513	312 260	- 3038	- 546	
I	905		245		830		832		628 971	126 176	40 7872	8 1197	
UK	1015		260		730		750		- -	- -	- -	- -	
BL	230		90		160		130		442 -	75 -	- -	- -	
N	1350		420		905		600		40901 19395	7767 3194	- 2912	- 466	
IRE									- -	- -	- -	- -	
DK									2163 -	328 -	- -	- -	
EC	7300		1540		5117		5000		55807 (35) 27104 (16)	10742 4699	651 (0) 28658 (64)	102 4455	338000t/7y (1982) -
BULGARIA	105		-		1976 60		requirement 1976 41		-		...		
CZECHOSLOV	1976 ? 680 1978 70		-		1976 46		129		...		...
EASTERN GERMANY	130		6		...		96		...		...		...
HUNGARY	110		-		1976 106		...						
POLAND	124		-		1976 49		59		-		total 1975	11414	
ROMANIA	176		-		1974 65		134		...		...
USSR	1976 510		125		1976 596		...		...		...
CMEA	(1200)		125		(1300)		(900)						

PRODUCT : BENZENE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	1063	284	965	1015	1032 5147	221 983	26105 18290	6041 381	
F	713	420	494	663	- -	- -	4666 10632	1038 2246	
I	896	510	625	730	14182 -	3289 -	24036 26806	4615 5633	
UK	1355	375	971	690	- 1045	- 240	- -	- -	
BL	120		135	325	3138 2969	696 653	2048 -	425 -	
N	1180	1120	600	643	11157 10964	2529 2341	2446 -	736 -	
IRE					- -	- -	- -	- -	
DK					- -	- -	- -	- -	
EC	5327	2709	3790	4066	29504 (40) 20125 (47)	6745 4217	59305 (27) 55728 (19)	12855 11760	764000t/10y (1981) 716000t/10y (1982)
BULGARIA	1976 293	138	1976 57		total 1875 1875	7142 t 2944 t	total 1875 1875		
CZECHOSLOV.	249	150	1976 168		total 1975	12835 t	total 1975	13512 t	
EASTERN GERMANY	38	250			...				
HUNGARY	1975 29,5 1980 90	-	1976 34		total 1975 1976	24818 t 27023 t	total 1975 1976	5425 t 4880 t	
POLAND	1976 149	700	1976 154		total 1975	3178 t	total 1975	11444 t	
ROMANIA	1976 100	190	1976 159		...			...
USSR	1976 820	765	1976 1457		1975 total 1976	108 t 19 t		...	
CMEA	(1700)	2193	Without E.Germ. 2029						

x) 3 more contracts concluded;
no details available

PRODUCT : PARA XYLENE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	319	-	185	260	20 460	25 141	14437 13348	5149 3507	
F	100	-	58	77	-	-	2589 2511	901 682	
I	277	-	153	80	-	-	-	-	
UK	930	-	265	119	-	-	-	-	
BL	-	-	-	88	- 1997	-	428	134	
N	75	-	50	84	-	- 436	79	18	
IRE		-			-	-	-	-	
DK		-			-	-	-	-	
EC	1161	-	710	706	- 2457 (5)	25 577	17433 (16) 15859 (13)	6202 4189	200000 t/10y (1981) 166000 t/10y (1982)
BULGARIA	12	-							
CZECHOSLOV.	40	-							
EASTERN GERMANY	30	-							
HUNGARY	-	-							
POLAND	55	100							0
ROMANIA	18	-							
USSR	161	165							
CMEA	316	265							

PRODUCT : ORTHO XYLENE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	282	-	190	230	-	1	-	-	
F	140	-	7	80	-	-	739	93	
I	245	-	138	129	-	-	4322	1072	
UK	154	-	95	110	17130	5581	5751	1310	
					7161	1797	-	-	
BL	-	-	-	40	-	-	-	-	
N	55	-	55	-	-	-	91	15	
IRE		-			-	-	-	-	
DK		-			-	-	-	-	
EC	876	-	549	589	17130 (23)	5582	4413 (5)	1087	300.000 t/13 y (1981)
					7161 (12)	1797	6490(10)	1403	-
BULGARIA	20	-							
CZECHOSLOV.	15	-							
EASTERN GERMANY	-	-							
HUNGARY	27	-							
POLAND	-	-							
ROMANIA	36	-							
USSR	110	165							
CMEA	208	165							

PRODUCT : METHANOL

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	1460	330	887	1121	5572 921	616 117	19690 30850	1816 2744	
F	440	-	376	317	5147 4	502 2	1696 1047	159 104	
I	398	115	233	302	5241 -	4 -	816 2189	57 183	
UK	695	-	570	395	12707 8	1163 37	5092 2071	539 185	
BL	-	-	-	63	- -	- -	4412 2253	358 182	
N	430	330	350	180	- -	- -	3781 7049	262 568	
IRE		-			- -	- -	- -	- -	
DK		-			- -	- -	6302 15759	431 1270	
EC	3423	775	2416	2377	28667 (8) 933(0.4)	2746 156	41789 (45) 61218 (41)	3622 5236	3800000 t/11 y (1980) 1000000 t/10 y (1982)
BULGARIA	23	-	27		total 1975 1976	758 -	total 1975 1976	11489 t 12147 t	
CZECHOSLOV.	100	-	99			4486 t	12673 t 28210 t		
EASTERN GERMANY	250	-	246						
HUNGARY	70 1976	-	-		1178 208		37293 t 38780 t		
POLAND	220	500	201		36369 ...		10366 t ...		0
ROMANIA	293	-	126		3400 ...		... ...
USSR	3350	1970	1680		total 1975 1976	157000 t 215000 t			
CMEA		2470	2379						

PRODUCT : MALEIC ANHYDRIDE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	76	-	37	22	3048 5972	1268 2369	- 23	- 11	
F	34	-	20	16	400 300	162 120	16 -	7 -	
I	58	18	34	20	6499 4738	2811 1804	- -	- -	
UK	27	-	18	22	- -	- -	- 100	- 44	
BL	13	-	6	1	- 2	- -	- -	- 11	
N		-	-	4	40 -	19 -	120 -	41 -	
IRE		-	-		- -	- -	- -	- -	
DK					- -	- -	40 111	18 46	
EC	208	18	115	85	9987 (37) 11012 (37)	4260 4294	176 (24) 254 (33)	66 112	30000 t/10y (1980)
BULGARIA		-	-		total 1975 1976	- -	total 1975 1976	480 t 550 t	
CZECHOSLOV.		-	-						
EASTERN GERMANY		-							
HUNGARY		-	-		total 1976 :	40 t	total 1976 :	879 t	
POLAND		-							0
ROMANIA		-							
USSR		27							
CMEA		27							

PRODUCT : PHTHALIC ANHYDRIDE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	318	-	246	206	3862 1680	1364 1583	21 -	7 1	
F	132	-	87	96	2004 198	626 61	- -	- -	
I	230	-	144	100	9850 10518	3473 3370	- -	- -	
UK	140	-	99	81	5610 5241	1914 1605	- -	- -	
BL	60	-	40	27	- -	- -	- -	- -	
N	11	-	-	19	- -	- -	- -	- -	
IRE		-			- -	- -	- -	- -	
DK		-			- -	- -	- -	- -	
EC	891	-	616	529	21316 (29) 17637 (19)	7377 6619	21 (1) 1 (0)	7 1	100000t/10y (1980)
BULGARIA		-	1976 0,1		- -		1975 1976	5110 t 8061 t	
CZECHOSLOV.		-	1976 24						
EASTERN GERMANY		-							
HUNGARY	1975 6 1980 21	15	1976 6		total 1975 379 t 1976 20 t		total 1975 4389 t 1976 5258 t		
POLAND		-	1976 36				1975 9167 t		
ROMANIA		-	1975 32 1974 24						
USSR		230	1976 119						
CMEA		245	(250)						

PRODUCT : ACRYLONITRILE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t)	Val. 1977 (1000 UA)	Vol. 1976 (t)	Val. 1977 (1000 UA)	
D	370	-	252	240	548 104	327 67	- 158	- 58	
F	135	-	125	117	-	-	224	114	
I	267	-	170		- 1553	- 630	3813 5498	1552 2209	
UK	205	200	150		1 903	2 -	-	-	
BL		-	-	29	-	-	-	-	
N	140	60	80	60	-	-	-	-	
IRE		-			-	-	-	-	
DK		-			-	-	-	-	
EC	1117	260	774	766	549 (2) 1657 (0,5)	329 697	4037 (25) 5656 (41)	1666 2267	300000t/12y (1978)
BULGARIA		-	...		total 1975 1976	10865 13024			
CZECHOSLOV.		-	-						
EASTERN GERMANY		-	...						
HUNGARY		-	-		total 1976	126 t	total 1976	4571 t	
POLAND		-	1975 12						
ROMANIA		-	...						
USSR		150	1976 89						
CMEA		150							

PRODUCT : VINYLCHLORIDE MONOMER (VCM)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	1342	-	913	1005	1780 8232	522 2218	40898 36185	9684 8871	
F	930	200	620	665	- 516	- 135	-	-	
I	953	200	760	758	10243 5959	2463 1622	-	-	
UK	590	-	410	410	-	-	-	-	
BL	850	-	450	260	5338 1848	1536 540	-	-	
N	350	310	320	270	- 1942	- 549	-	-	
IRE	-	-	-	-	-	-	-	-	
DK	-	-	-	-	-	-	-	-	
EC	5015	710	3473	3368	17361 (10) 18497 (8)	4521 5064	40898 (96) 36185 (100)	9684 8871	100000t/10y (1981) -
BULGARIA	150	-	...	...	...	...	...	...
CZECHOSLOV.	170	-	-	-	...	...	...	...
EASTERN GERMANY	-	200	...	...	...	...	...	...
HUNGARY	160	160	-	-	...	...	total 1976	4038 t	
POLAND	-	205	...	...	...	...	...	...
ROMANIA	200	-	...	...	...	...	...	...
USSR	-	270	...	...	...	...	...	...
CMEA	-	-	-	-	-	-	-	-	

PRODUCT : CAPROLACTAM (trade figures for lactams)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	190	-	120	145	-	-	751 791	635 680	
F	-	-	0	15	550 100	1477 299	28 -	33 -	
I	181	-	140	105	-	-	1868 935	1379 770	
UK	-	70	0	51	-	-	- 1	- 2	
BL	240	-	115	-	6211 -	4929 -	- -	1 -	
N	215	-	175	70	-	-	- 48	- 11	
IRE					-	-	1405 -	1080 -	
DK					-	-	10 20	28 52	
EC	816	70	550	386	6841 (11) 100 (11,5)	6406 299	4062 (51) 1795 (18)	3156 1515	224000 t/8y (1980)
BULGARIA		15	1976 19		total 1976 :	300 t			
CZECHOSLOV.		-	92		total 1976 :	2557 t	total 1976 :	143 t	
EASTERN GERMANY		-	43						
HUNGARY		-	7				total 1976 :	2027 t	
POLAND		-	61						
ROMANIA		-	27						
USSR		80	320		total 1975: 22000 t 1976: 10000 t				
CMEA		95	569						

PRODUCT : POLYETHYLENE LOW DENSITY (LDPE)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	1028	100	740	801	5436 4130	2873 2129	15530 25601	5830 8465	
F	970	225	715	542	14477 7763	6869 3179	527 1824	241 788	
I	860	210	610	510	7881 6574	2832 2620	21 120	12 33	
UK	495	70	390	430	2203 615	1004 531	- 558	- 168	
BL	520	348	350	160	4881 4313	2938 3133	23 3026	8 809	
N	570		490	120	12254 17464	6083 7814	14 -	3 -	
IRE					- -	- -	- -	- -	
DK					467 5	217 5	1126 2200	510 841	
EC	4443	953	3295	2563	47599 (7,4) 40864 (5)	23816 19411	17241 (11,8) 33329 (23)	6604 11104	693 000t/13y (1978)
BULGARIA	80	50	...		...		...
CZECHOSLOV.	110	80	1976 7		...		...
EASTERN GERMANY	60	-	...		...		...
HUNGARY	40	-	1976 46		...		...
POLAND	92	100	...		...		...
ROMANIA	84	60	1975 105		...		...
USSR	660	510	...		...		...
CMEA	1126	800			...		...

PRODUCT : POLYETHYLENE HIGH DENSITY (HDPE)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	944	40	695	367	242122 21054	14046 13631	545 579	250 271	
F	285	-	239	176	53859 3984	8173 2064	10 246	4 103	
I	325	150	172	154	17564 503	1082 347	41 2	21 1	
UK	112	54	95	130	-	-	25 20	11 9	
BL	170	-	120	50	31971 5883	3836 3508	22 20	9 7	
N		80	72	50	-	-	1641 -	673 -	
IRE					-	-	1 -	- -	
DK					477 -	- -	10 41	4 15	
EC	1916	324	1393	927	44824 (13) 31424 (7)	27157 19550	2295 (6) 908 (2)	972 406	260000t/10y (1980)
BULGARIA	10								
CZECHOSLOV.	80	80	60						
EASTERN GERMANY	20								
HUNGARY	-								
POLAND	-								
ROMANIA	30	120							
USSR	340	800							
CMEA	480	1000							

PRODUCT : POLYPROPYLENE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	389	170	250	182	1010 1249	619 786	84 56	56 27	
F	270	160	91	104	1575 68	910 39	22 41	11 19	
I	230	-	210	125	9232 7089	5262 4035	140 -	32 -	
UK	340	-	247	195	473 650	676 959	6 18	6 9	
BL	208	185	74	25	- 1119	- 534	63 -	11 -	
N	120	210	70	30	1206 1700	642 780	- 20	- 6	
IRE					- -	- -	18 861	8 384	
DK					- -	- -	- 20	- 7	
EC	1557	725	942	661	13496 (7,5) 11875 (5)	8109 7133	333 (1) 1016 (3)	124 452	Japan ca. 50000 t/8y
BULGARIA	1979 80	110		1976 2	-		total 1975 871 t 1976 1596 t		
CZECHOSLOV.	1978 110	30	1975 110	" 35	...		...
EASTERN GERMANY	1978 10	-		" 30	...		...
HUNGARY	1979 40	40		" 10	total 1975 1976	254 t 4510 t	total 1975 10624 t 1976 16952 t		
POLAND	1978 30	-		" 35	total 1975	2040 t	total 1975	8313 t	
ROMANIA	1980 60	60		" 5					
USSR	1978 80	130		" 80					
CMEA	(300)	370		" 197					

PRODUCT : POLYSTYRENE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	777	95	480	430	-	-	2119 3046	995 1140	
F	615	115	285	260	22713 6362	2443 3782	- 21	- 16	
I	368	120	242	245	55222 6238	5769 3382	267 395	101 148	
UK	329	70	214	175	36912 5821	3742 3639	411 55	193 24	
BL	230		135	55	33669 4254	3118 2586	10 -	4 -	
N	360	25	195	62	54281 14957	14208 8206	20 21	4 5	
IRE					8 -	-	- 17	- 5	
DK					486 -	-	5 -	3 -	
EC	2625	425	1976 1551	1227	47996 (24) 37632 (20)	29280 21595	2832 (19) 3555 (23)	1300 1338	204000 t/8,5 y (1979)
BULGARIA	12	-	1976 19		total 1975 3331 t 1976 1069 t		total 1975 538 t 1976 607 t		
CZECHOSLOV.	50	-	1976 43		total 1975 106336 t		total 1975 232360 t		
EASTERN GERMANY	50	-	...						
HUNGARY	-	-	...		total 1975 1976	- 453 t	total 1975 15353 t 1976 22102 t		
POLAND	32	20	1976 33		total 1974	278 t	total 1975	12757 t	
ROMANIA	30	-	1975 18		...		total 1974	2600 t	
USSR	500	300	1976 176		1975 total 62300		1975 62000 t total 1976	53000 t	
CMEA	674	320	(350)						

PRODUCT : POLYVINYLCHLORID (PVC)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	1285	90	960	963	6623 4568	4385 3288	6236 15125	2244 5428	
F	860	150	645	642	2225 1004	1555 716	1584 2428	669 1000	
I	945	200	717	459	26640 28286	15925 15847	51 514	23 195	
UK	635	300	390	400	238 11	365 11	1000 550	401 217	
BL	250	250	205	109	6 50	5 29	337 1629	137 633	
N	330	60	270	170	80 5	95 6	50 56	69 57	
IRE					- -	- -	- 1986	- 751	
DK					- -	- -	243 67A	104 31	
EC	4305	1050	3187	2743	35812 (19) 33924 (20)	22330 19897	9501 (33) 22355 (62)	3647 8312	635000t/12y (1978)
BULGARIA	1975 35	120	1976 28		total 1975 1 1976 -		total 1975 7685 t 1976 16324 t		
CZECHOSLOV.	90	17	1976 140						
EASTERN GERMANY	200	100	1976 ...						
HUNGARY	50	150	1976 43		total 1975 9347 t 1976 11515 t		total 1975 16720 t 1976 28780 t		
POLAND	130	200	1976 134		total 1975 1174 t		total 1975 21620 t		
ROMANIA	190	-	1976 147		...		...
USSR	450	250	1976 368		...		1975 30215 t 1976 19826 t		
CMEA	(1200)	837	(1000)						

PRODUCT : ETHYLENE GLYCOL

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	325	(250)	181	264	8522 8043	3421 2789	- 1086	- 259	
F	220	-	108	102	2081 1	805 2	- 3292	- 868	
I	115	100	54	60	296 1	109 -	- 441	- 127	
UK	200	40	125	100	1944 10813	645 3421	- 735	- 242	
BL	253	-	150	36	26016 10483	12772 4935	- -	- -	
N	220	-	160	60	22605 10507	9543 3571	598 1175	63 284	
IRE		-			- -	- -	- -	- -	
DK		-			- -	- -	- 161	- 40	
EC	1333	(390)	778	622	61464 (35) 39848 (24)	27295 14718	598 (3) 6890(24)	63 1820	300.000 t/10y (1979)
BULGARIA		40			...		...
CZECHOSLOV.		-			12440t total 1975 2822t 1976		6892 t total 1975 2890 t 1976		
EASTERN GERMANY		-			...		...
HUNGARY		-			-		-		
POLAND		55			...		...		0
ROMANIA		25			...		...
USSR		(250)			...		25500 t total 1975 29185 t 1976		
CMEA		(370)							

PRODUCT : DIMETHYLTEREPHTHALATE (DMT)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t)	Val. 1977 (1000 UA)	Vol. 1976 (t)	Val. 1977 (1000 UA)	
D	679	130	400	375	-	-	280	123	
F	175	-	125	106	188	67	21	10	
I	205	140	95	95	-	-	-	-	
UK	240	-	135	137	-	-	-	-	
BL	130	-	55	18	13238 17687	6284 7032	-	-	
N	270	-	160	55	-	-	-	-	
IRE		-			-	-	-	-	
DK		-			-	-	-	-	
EC	1699	270	970	786	13258 (28) 17875 (36)	6284 7099	292 (6) 302 (7)	133 132	- 219000t/10y(1982)
BULGARIA		10							
CZECHOSLOV.		-							
EASTERN GERMANY		-							
HUNGARY		-							
POLAND		-							
ROMANIA		-							
USSR		120							
CMEA		130							

PRODUCT : POLYESTER (fibres)

COUNTRY	installed capacity	new plants + projects	production	demand	export 1976		import 1976		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 (t)	Val. [1000 UA]	Vol. 1976 (t)	Val. [1000 UA]	
D	426	-	323	...	-	-	2181	1924	
F	104	-	74	...	273	317	2074	1930	
I	185	83	74	...	2453	2499	120	102	
UK	159	-	102	...	-	-	1153	1242	
BL		-	-		208	258	854	742	
N	50	-	40	...	-	-	297	199	
IRE		16			-	-	12	19	
DK					20	125	2	4	
EC	924	99	613	619	208 (1,6) 2746 (16)	258 2941	6777 (27) 4217 (19)	6207 3773	207000 t/10 y (1982) (minimum)
BULGARIA		6.7	...						
CZECHOSLOV.		30	17						
EASTERN GERMANY		-	...						
HUNGARY		-	-						
POLAND		75	55						
ROMANIA		47	...						
USSR		505	46						
CMEA		664	(150)						* several types of polyester all under negotiation

PRODUCT : SODA ASH (Na₂ CO₃)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	1500	-	1350	1383	10 9	9 11	75800 86555	4307 5118	
F	1485	-	1365	1144	- -	- -	8742 17650	503 1070	
I	900	-	640	695	60 -	2 (?) -	46928 50202	2453 2527	
UK	1850	80	1400	1365	- -	- -	1091 3270	72 248	
BL	400	-	340	380	- -	- -	1064 3473	40 228	
N	370	90	276	209	6 10	- (?) 11	12997 15506	521 848	
IRE		-			- -	- -	977 680	61 47	
DK		-			2 52	2 3 (?)	19001 19572	1156 1170	
EC	5605	170	5371	5176	78 (0) 71 (0)	13 25 (?)	166600 (78) 196908 (83)	9113 11256	1500000 t/6y (1980)
BULGARIA		-	1045 1976		1975 1976	total 656178 t 745408 t	- -		
CZECHOSLOV.		-	118 1976		1975 1976	total 14592 t 12596 t	1975 total 76104 t 1976 total 162862 t		
EASTERN GERMANY		-	1976 829 1977 840			...	...
HUNGARY		-	-		1975 1976	total 9179 t 10746 t	1975 total 170275 t total 154099 t		
POLAND		460	726 1976		1975 1976	total 162887 t ...	- ...		
ROMANIA		-	693 1975		1975 1976	total	1975 total 350500 t 1976 total ...		
USSR		-	4842 1976		1975 1976	total 62776 t 60345 t	1975 total 567637 t 1976 total 550967 t		
CMEA		460	(8300)						

PRODUCT : CAUSTIC SODA (NaOH)

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/"
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	3734	-	3081	2574	7288 5099	888 662	77 5135	5 656	
F	1718	-	1324	1147	- 1	- 1	22 1801	10 215	
I	1589	195	1160	917	22925 35154	1961 2499	- 13	- 5	
UK	1555	-	1138	975	27 110	5 12	12 227	3 34	
BL	780	-	390	365	- 1	- -	2 1177	1 133	
N	515	40	390	400	- 1	- 1	8 911	3 103	
IRE		-			- -	- -	- 260	- 31	
DK		-			- -	- -	103 140	17 18	
EC	9891	135	7483	6378	30240 (10) 40366 (10)	2854 3175	224 (3) 9664 (72)	39 1195	340000t/8y (1980)
BULGARIA		-	1976 87		1975 total 949 t 1976 total 443 t		1975 total 15833 t 1976 total 12844 t		
CZECHOSLOV.		-	1976 293		1975 total 6737 t 1976 total 19814 t		1975 total 20442 t 1976 total 12183 t		
EASTERN GERMANY		-	1977 423 1976 441						
HUNGARY		-	1976 81		1975 total 9755 t 1976 total 6615 t		1975 total 139307 t 1976 total 109690 t		
POLAND		-	1976 389		1975 total 44576 t 1976 ...				
ROMANIA		-	1975 566		1975 total 222674 t 1976 ...				
USSR		-	1976 2604		1975 total 39274 t 1976 total 43814 t		1975 total 194331 t 1976 total 106313 t		
CMEA		-	1976 (4400)						

PRODUCT : TITANIUM DIOXIDE

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/''
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	303	36	220	203	5563 3569	3809 2378	320 305	196 161	
F	169	-	120	85	64 369	43 334	605 326	315 172	
I	104	60	70	74	7191 5262	4902 3172	963 872	471 460	
UK	244	9	195	190	1367 569	906 407	736 624	346 329	
BL	65	50	37	19	700 892	462 539	8 -	4 -	
N	35	-	32	17	- -	- -	360 -	184 -	
IRE		-			- -	- -	- -	- -	
DK		-			- -	- -	47 -	30 -	
EC	920	155	674	588	14890 (21) 10661(16)	10122 6830	3099(27) 2127(14)	1546 1122	20000t/8y (1980)
BULGARIA		-	...			...		...
CZECHOSLOV.		4	21			...		...
EASTERN GERMANY		-	...			...		...
HUNGARY		-	-		total 1276	162 t	total 1976	8767 t	
POLAND		36	-			...		...
ROMANIA		-	...			...		...
USSR		100	...			...		...
CMEA		140							

PRODUCT : AMMONIA

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/
	(000 t/a) 1978	(000 t/a) 1977	(000 t/a) 1977	(000 t/a) 1977	Vol. 1976 (t) 1977	Val. (1000 UA)	Vol. 1976 (t) 1977	Val. (1000 UA)	
D	2795	550	1989	1835	3 2	2 1	- 496	- 63	
F	2411	962	2033	2126	- -	- -	1015 2887	113 327	
I	2242	725	1136	1279	- 2	- 3	8166 7855	985 924	
UK	1910	330	1400	1700	- -	- -	- -	- -	
BL	668	-	577	724	- -	- -	- -	- -	
N	2195	370	2166	1578	- -	- -	- -	- -	
IRE		450			- -	- -	- -	- -	
DK		-			- -	- -	50179 9173	5018 903	
EC	12221	3387	9301	9243	3 (o) 4 (o)	2 4	59360 (19) 20411 (8)	6116 2217	total 25600000 t/13y (1978) EC:7250000/13y (1978)
BULGARIA	1209 1976	-	920 1976		total 1975 : 1976 :	6579 t 8481 t	- -		
CZECHOSLOV.	2179 1976	449	881 1976		total 1975 : 1976 :	17965 t 5340 t	total 1975 : 1976 :	13975 t 69617 t	
EASTERN GERMANY	2640 1976	-	1361 1976 1374 1977						
HUNGARY	1199 1976	27	855 1976		total 1975 : 1976 :	37600 t 101653 t	total 1975 : 1976 :	20736 t 2017 t	
IRELAND	3336 1976	995	2099 1976		total 1975 : 1976 :	5240 t	total 1975 : 1976 :	76212 t	
ROMANIA	2640 1976	2168	1895 1976						
USSR	7177 1976	15710	12268 (?) 1976		total 1975 : 1976 :	.88 163			
CMEA	20380	19350	20279 (?) 1976						* all contracted

PRODUCT : UREA

COUNTRY	installed capacity	new plants + projects	production	demand	export		import		buy-back : contracted/duration under negotiation/''
	[000 t/a] 1978	[000 t/a] 1977	[000 t/a] 1977	[000 t/a] 1977	Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D	390	330	370	330	1 21	1 3	34082 46406	3500 4737	
F	310	-	165	191	3600 -	358 -	2 1544	1 150	
I	948	1060	390	330	- -	- -	10145 9015	817 871	
UK	165	-	140	142	- -	- -	11531	832	
BL	105	-	90	58	108 -	13 -	759 -	54 -	
N	681	-	645	78	- -	- -	160	16	
IRE		330			- -	- -	1885 6875	182 687	
DK					- -	- -	4437 3989	445 397	
EC	2599	1720	1800	1129	3709 (o) 21 (o)	372 3	51510 (71) 79520 (68)	4999 7690	USA:18500000+20y(1978) * Jp : 9000000+ 9y(1978) EC : 48000000+15y(1978)
BULGARIA		-	291		total 1975 : 428879 t 1976 : 394930 t		total 1975 : 1976 :	- -	
CZECHOSLOV.		300	81		...		...	...
EASTERN GERMANY		-	...		...		...	...
HUNGARY		-	152		total 1976 : 96343 t		total 1976 : 123164 t		
POLAND		396	...		...		...	...
ROMANIA		420	...		...		...	...
USSR		3975	2242		total 1976 : 677		...	...
CMEA		5091							

* USA + Japan : contracted
EC : 800.000 contracted/4 Mio under negot

PRODUCT : CALCIUM AMMONIUM NITRATE

COUNTRY	installed capacity [000 t/a] 1978	new plants + projects [000 t/a] 1977	production [000 t/a] 1977	demand [000 t/a] 1977	export		import		buy-back : contracted/duration under negotiation/"
					Vol. 1976 [t] 1977	Val. [1000 UA]	Vol. 1976 [t] 1977	Val. [1000 UA]	
D			1452 1976		-	-	215674 224727	16691 13730	
F			1469 1976		-	-	290465 142188	21732 11235	
I			797 1976		-	-	-	-	
UK			1045 1976		-	-	-	-	
BL			608 1976		-	-	8734 3413	586 248	
N			1153 1976		-	-	-	-	
IRE					699	0	-	-	
DK					-	-	3735 1050	309 90	
EC			(6500)	2851 **	-	-	8948 10546	659 743	
					699 (o)	65	527556 (61) 381924 (42)	40027 31046	- 1400000 t/10y (1984)
BULGARIA			663 1976		1975 total	595548 tN	-	-	
CZECHOSLOV.			562 1976		1976	643082 tN	-	-	
EASTERN GERMANY			776 1976		...	...	...	...
HUNGARY			492 1976		1975 total	14606 tN	1975 total	53950 tN	
POLAND			1547 1976		1976 total	54487 tN	1976 total	89525 tN	
ROMANIA			1292 1975		1975 total	403400 tN	-	-	
USSR			8609 1976		1975 total	626800 tN	...	...
CMEA			(14000)		1975 total	359250 tN	-	-	
					1976	...	...	...

** Demand for ammon. nitrate