

SWOT Analysis and Benchmarking Study

ASTURIAS

Part II

“THE DEVELOPMENT OF THE CHEMICAL INDUSTRY IN ASTURIAS”

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Structure

- 1. Employment**
- 2. Turnover**
- 3. Trade balance**
- 4. Number of companies in size category**
- 5. Number of employees by size category**
- 6. Distribution of companies and employees by sector of activity**
- 7. Development of turnover related to the size of companies**
- 8. Energy consumption**
- 9. Others indicators**
- 10. Subsidies for investments. Chemical enterprises**
- 11. List of main chemical companies in Asturias.**

“THE DEVELOPMENT OF THE CHEMICAL INDUSTRY IN ASTURIAS”

General overview based on statistical data relating to Chemical activity in Asturias. The categories have been classified by the European Regulation NACE Review 1.1:

DG24 Chemical Industry
 DH25 Manufacturing of Rubber and Plastic Products

DG/24	Manufacture of chemicals and chemical products
24.1	Manufacture of basic chemicals
24.2	Manufacture of pesticides and other agro-chemical products
24.3	Manufacture of varnishes and similar coatings, printing ink and mastics
24.4	Manufacture of pharmaceuticals, medicinal chemicals and botanical products
24.5	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
24.6	Manufacture of chemical products
24.7	Manufacture of man-made fibres
DH/25	Manufacture of rubber and plastic products
25.1	Manufacture of rubber products
25.2	Manufacture of plastic products

1. Employment.

The combined number of employees of the Chemical, and Plastic and Rubber Industries in Asturias represents 4.6% of the total Processing Industry of the region and 1.11% of both the Chemical Industry and Plastic and Rubber in Spain.

The chart shows that there has been a sustainable increase in the Chemical Industry (DG/24), as indicated by a 39.6% growth over the last five-year period. Similarly, the Plastic and Rubber Industry has grown by 19.8% in the 1998-2002 periods, although the overall number of employees in the sector has decreased in the last year. This reduction, however, has not greatly affected the 4-year growth trend of the DG24 and DH25 categories combined: +34.4%.

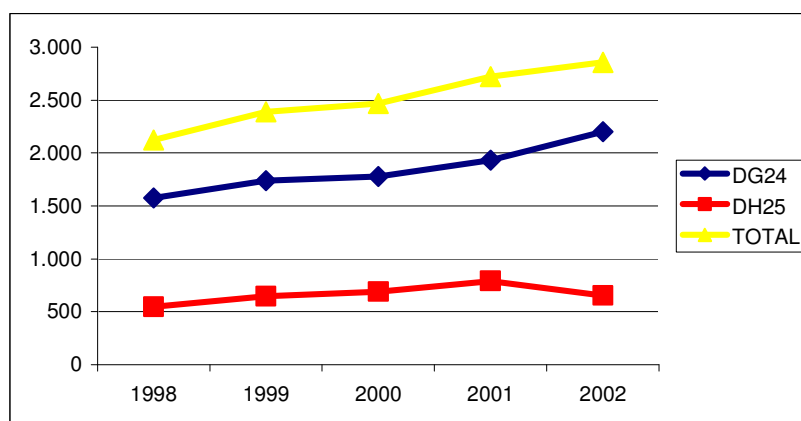
The gradual development in the chemical industry is significant, considering that the processing industry in Asturias has suffered a reduction of 1,253 employees from 2001 to 2002. 27.1% of the jobs created in the Processing Industry in Asturias over the past 5 years have been generated by the chemical industry.

Employment Trend in the Chemical Industry and Processing Industry

Asturias	1998	1999	2000	2001	2002	98-02	Δ %
DG24 Chemical Ind.	1,577	1,740	1,779	1,931	2,202	625	39.6%
DH25 Plastic and Rubber 24+25	546	648	690	791	654	108	19.8%
Processing Industry Asturias	2,123	2,388	2,469	2,722	2,856	733	34.5%
Spain DG24 + DH25	59,272	58,663	61,547	63,224	61,971	2,699	4.6%
Spain DG24 + DH25	236,142	241,983	252,810	259,171	257,044	20,902	8.9%

Source: Encuesta Industrial Anual de Empresas y DIRCE del INE. SADEI own calculations.

Employment 1998-2002



2. Turnover.

The turnover in the Chemical sector in Asturias during the past 5 years has increased by 67.1%, as a reaction to a growth of 72.1% in the Chemical Industry DG24.

This rate is higher than the overall increase in turnover of 37.5% in the processing industry in Asturias and well above the 28.4% increase in the nation's chemical industry. The plastic and rubber sector's turnover has also gone up by 34.8%.

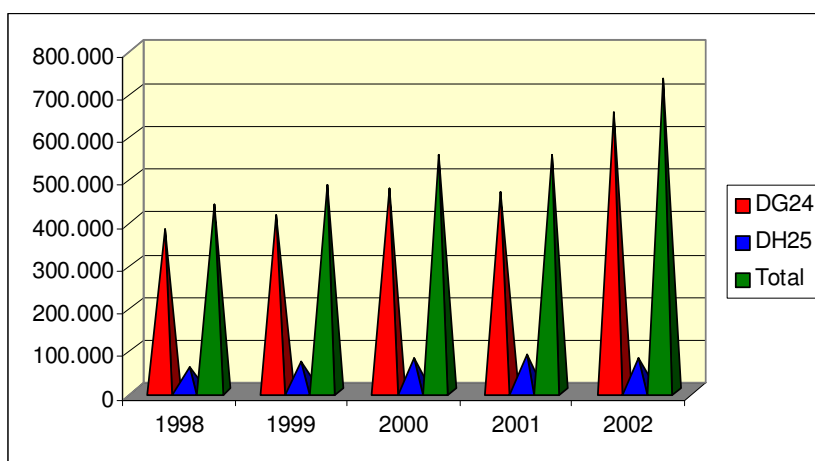
The growth in the employment rate and the even greater increase in turnover have caused a significant improvement in the productivity and efficiency of the region's chemical companies.

Turnover Trends in the Chemical Industry and Processing Industry

Asturias	1,000 €					98-02	Δ %
	1998	1999	2000	2001	2002		
DG24 Chemical Ind.	377,715	414,175	475,554	466,784	650,104	272,389	72.1%
Foreign turnover	106,154	107,875	126,901	129,822	155,182	49,028	46.18%
In %	28.10	26.04	26.70	27.81	23.87	-4.23	-15.00%
DH25 Plastic and Rubber	58,204	69,801	76,715	84,501	78,476	20,272	34.8%
Foreign turnover	2,504	2,980	1,935	2,423	2,997	493	19.69%
In %	4.30	4.27	2.52	2.86	3.82	-0.48	-11.16%
24+25	435,919	483,976	552,269	551,285	728,580	292,661	67.1%
Foreign turnover	108,656	107,889	128,836	133,895	157,999	49,343	45.41%
In %	24.92	22.30	23.32	24.28	21.68	-3.24	-13.00%
Processing Industry Asturias	7,752,365	8,007,238	9,287,691	9,939,454	10,659,447	2,907,082	37.5%
Foreign turnover	1,337,240	1,305,850	1,671,160	1,567,300	1,807,930	470,690	35.20%
In %	17.24	16.30	18.00	15.77	16.96	-0.28	-1.62
Spain DG24 + DH25	42,890,620	44,516,690	50,881,180	53,907,040	55,070,790	12,180,170	28.4%
Foreign turnover	8,237,742	9,098,379	11,286,676	12,341,872	13,812,009	5,574,267	67.66%
In %	19.20	20.44	22.18	22.90	25.08	5.88	30.62%

Sources: Statistical Spanish Information (INE) and The Spanish Institute for Foreign Trade (ICEX)

Turnover 1998-2002



3. Trade Balance

The region's processing industry's exports totalled 1,807.93 mill euros in 2002. The income, only from the chemical industry, represented 8,7% of this figure.

Exports	DG24+DH25 mill €	Processing Industry Asturias mill €	%
1998	108.656	1,337.24	8.1%
1999	107.889	1,305.85	8.3%
2000	128.836	1,671.16	7.7%
2001	133.895	1,567.30	8.5%
2002	157.999	1,807.93	8.7%

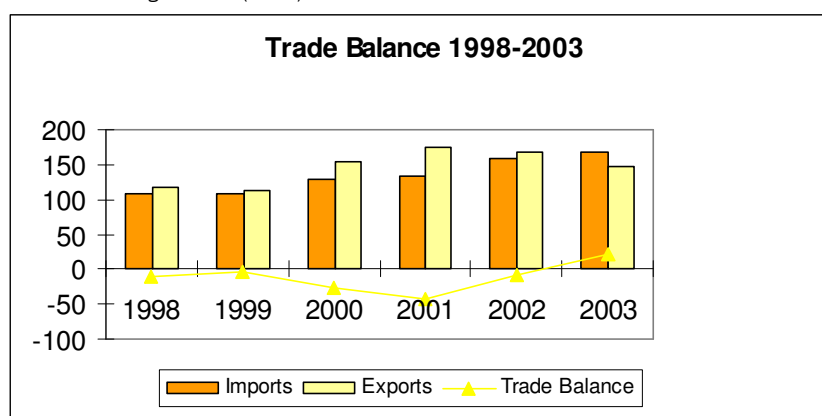
Source: The Spanish Institute for Foreign Trade (ICEX)

Exports in the Chemical Industry have remained constant, around 8.2%, within the Asturian Processing Industry. The growing importance of this industry in the Asturian economy is proved by its upward trend in the Processing Industry, which is only stopped in the year 2000. The growth of exports in the Chemical sector is similar in the processing industry. Between the periods 1998-2002, both have considerably grown: the Chemical sector has gone up by 45.4% and the Processing Industry has grown by 35.2%, with a slight fall of the exports for both in 1999.

There is an upward trend in exports and imports between 1998-2003. However, the performance of the trade balance has been uneven in the last years. Although between 1999-2000 it dropped by 90.4%, from 2001 to 2003 it grew by 101.1% and it had a positive balance in the year 2003. This change in the market trend balance took place between 2001-2003, when exports grew by 25.5% and imports fell by 16%.

	<i>Trade Balance. Chemical industry (mill €)</i>			<i>Trade Balance</i>
	<i>Exports</i>	<i>Imports</i>		
1998	108.656	118.333		-9.69
1999	107.889	112.521		-4
2000	128.836	155.212		-26.376
2001	133.895	175.596		-41.701
2002	157.999	166.809		-8.810
2003	168.387	147.647		20.740

Source: The Spanish Institute for Foreign Trade (ICEX)

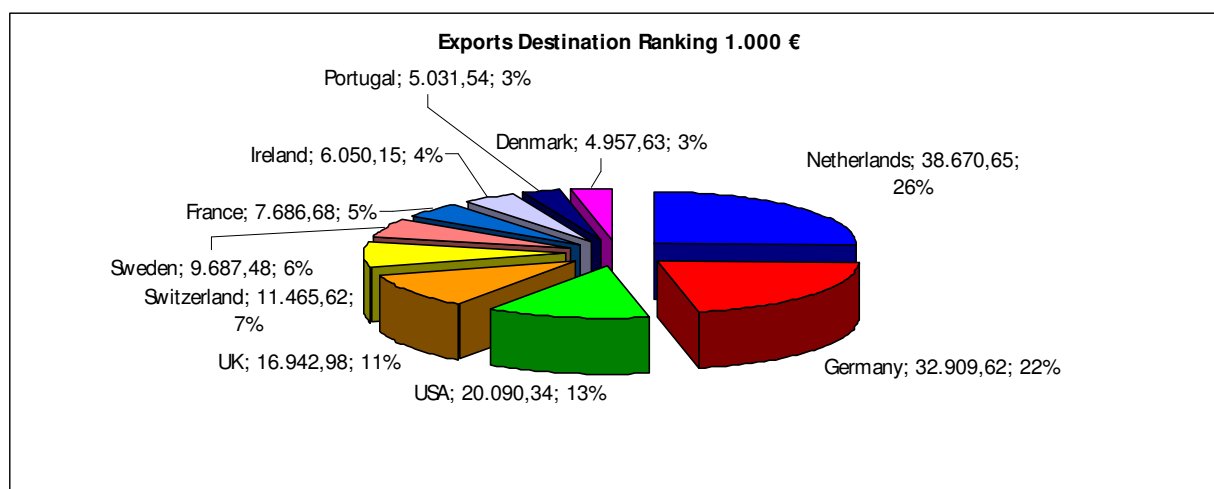


Analysing the Asturian trade balance for the year 2003, we can see that only three sectors of the Chemical Industry had a positive balance: organic basic chemicals, pharmaceuticals and agro-chemical products. Organic basic chemicals and pharmaceuticals represent 99.6% of the positive balance in the trade balance.

Organic basic chemicals, plastics and inorganic basic chemicals represent 80.3% of the total imports balance. Organic basic chemicals and pharmaceuticals represent 85.7% of the total exports balance, being the organic sector by 59.1%.

2003 Trade balance by sector 1,000 €	Exports	Imports	Trade balance
<i>Inorganic Basic Chemicals</i>	10,351.214	31,349.659	-20,998.444
<i>Organic Basic Chemicals</i>	99,624.82	45,116.08	54,508.74
<i>Agro-chemical products</i>	7,319.18	6,923.36	395.82
<i>Pharmaceuticals</i>	44,776.68	194.41	44,582.27
<i>Plastics</i>	3,413.99	42,175.75	-38,761.75
<i>Rubber</i>	371.73	4,818.94	-4,447.21
<i>Synthetic rubber</i>	0.00	3.35	-3.35
<i>Ceramics</i>	5.12	1,324.67	-1,319.55
<i>Paints, varnishes, printing ink and adhesives</i>	248.22	3,716.74	-3,468.52
<i>Detergents and cosmetics</i>	438.53	1,164.67	-726.14
<i>Agrofood</i>	0.00	242.19	-242.19
<i>Other chemical products</i>	1,838.01	10,617.12	-8,779.11
Total	168,387.494	147,646.939	20,740.566

Source: The Spanish Institute for Foreign Trade (ICEX)



4. Number of companies in size category

The table below shows the number of chemical companies attending the NACE Review 1.1. Although it highlights that the majority of firms belong to NACE 25.2, the main activity in Asturias' chemical industry is the production of carbon-based chemicals, fertilizers, pharmaceutical products, cosmetic and paper. In addition, DuPont manufactures other specialized products.

Six firms have been created in the Chemical industry and 3 in Plastics and Rubber between 1998 and 2002.

Asturias		<i>Local Units</i>					98-02
		1998	1999	2000	2001	2002	
		Number					
DG/24	Manufacture of chemicals and chemical products	49	59	62	58	55	6
24.1	Manufacture of basic chemicals	13	10	12	13	12	
24.2	Manufacture of pesticides and other agro-chemical products	1	0	0	0	0	
24.3	Manufacture of varnishes and similar coatings, printing ink and mastics	5	4	4	3	3	
24.4	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	4	3	3	3	3	
24.5	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	19	25	24	22	20	
24.6	Manufacture of chemical products	7	16	18	16	16	
24.7	Manufacture of man-made fibres	0	1	1	1	1	
DH/25	Manufacture of rubber and plastic products	44	51	53	50	47	3
25.1	Manufacture of rubber products	21	22	23	21	20	
25.2	Manufacture of plastic products	23	29	30	29	27	
TOTAL		93	110	115	108	102	9

Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)

The figures below are related to the development of local companies by employment size range. An analysis of the Chemistry industry DG24 points out that all the companies have less than 500 employees. There are only 3 companies over 50. By 83.6% of the companies (year 2002) have less than 20 employees.

DG/24 Asturias		<i>Chemical industry</i>				
		1998	1999	2000	2001	2002
		Number				
Companies		49	59	62	58	55
Local units with ... employees	< 20	41	52	53	49	46
	20...49	5	4	6	6	6
	50...99	2	2	2	2	1
	100...199	0	0	0	0	1
	200...499	1	1	1	1	1
	500...999	0	0	0	0	0

> 1000 0 0 0 0 0

Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)

In the Manufacturing of Rubber and Plastics sector, the trend is similar and 89.3% of the companies employ less than 20 workers in 2002.

DH/25 Asturias		1998	1999	2000	2001	2002
		Number				
Companies		44	51	53	58	47
Local units with ... employees	< 20	41	46	48	49	42
	20...49	2	4	4	6	4
	50...99	0	0	0	2	0
	100...199	0	0	0	0	0
	200...499	1	1	1	1	1
	500...999	0	0	0	0	0
	> 1000	0	0	0	0	0

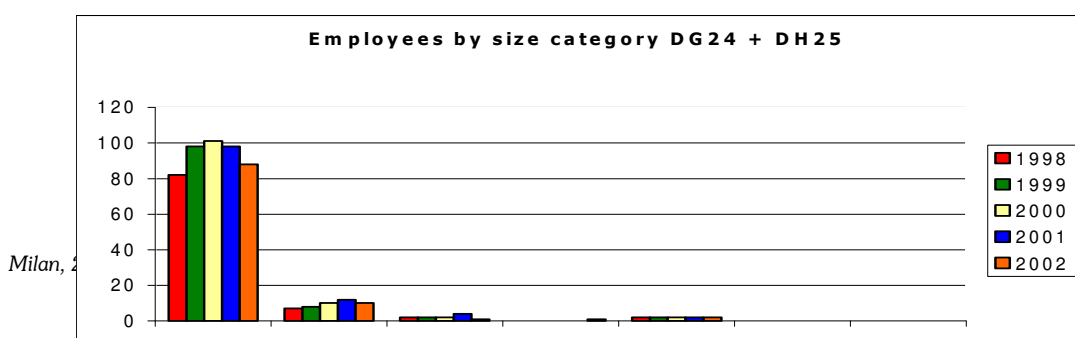
Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)

Summing up, the chemical industry in Asturias is, by large, comprised of numerous small-sized companies (86.27%). Only 2 companies employ more than 200 employees and none more than 500.

There has been a slight increase in the total number of companies, from 93 in 1998 to 102 in 2002. The growth rate in the Chemical industry has been of 12.2% and in Plastics and Rubber of 6.8%.

DG/24 + DH/25 Asturias		1998	1999	2000	2001	2002
		Number				
Companies		93	110	115	116	102
Local units with ... employees	< 20	82	98	101	98	88
	20...49	7	8	10	12	10
	50...99	2	2	2	4	1
	100...199	0	0	0	0	1
	200...499	2	2	2	2	2
	500...999	0	0	0	0	0
	> 1000	0	0	0	0	0

Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)



5. Number of Employees by size category (*)

Data not available. Similar to turnover trends, these statistics are not public.

(*) As a valuable measure, the next table shows the productivity trend in the chemical industry and in the manufacturing of plastic and rubber.

Regarding the Chemical industry DG24, both the turnover and the number of employees has had a sustainable increase. Moreover, turnover has grown by 72,1% in the last 5 years while the employment rate has gone up by 39.6%. Both of these have caused a dramatic increase in productivity -23.26%-, which is above Asturias' average for the processing Industry.

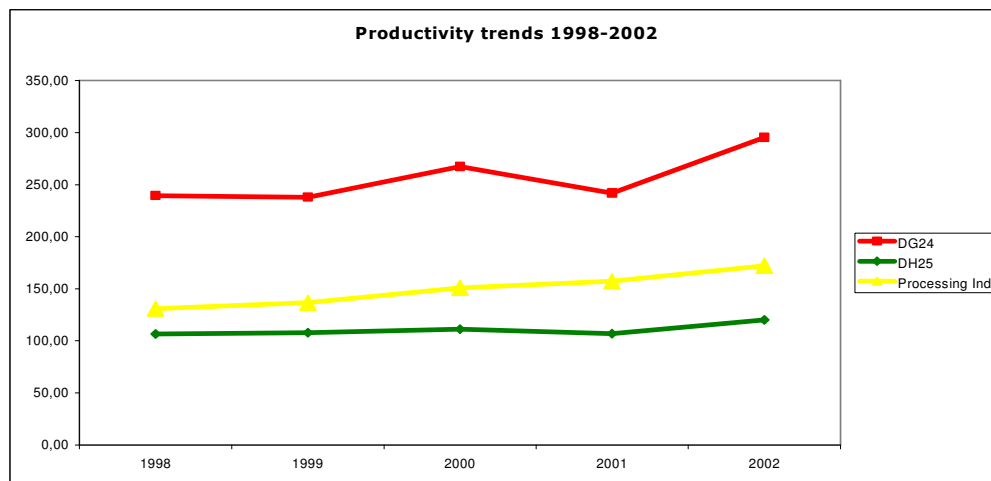
The rubber and plastics DH25 manufacturing industry has also increased its productivity -12.6%- but it is still below the region's processing industry average.

DG/24 Asturias	<i>Chemical industry</i>				
	1998	1999	2000	2001	2002
Productivity 1,000 □	239.51	238.03	267.32	241.73	295.23
Processing Industry Asturias	130.79	136.50	150.90	157.21	172.01

Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)

DH/25 Asturias	<i>Manufacturing of rubber and synthetic material</i>				
	1998	1999	2000	2001	2002
Productivity 1,000 □	106.60	107.72	111.18	106.83	119.99
Processing Industry Asturias	130.79	136.50	150.90	157.21	172.01

Source: Statistical Spanish Information (INE) (Encuesta Industrial Anual de Empresas / DIRCE)



6. Distribution of companies and employees by sector of activity

Sector	Companies		Employees	
	1998	2002	1998	2002
	Number			
DG/24	49	55	1,577	2,202
24.1	13	12		
24.2	1	0		
24.3	5	3		
24.4	4	3	Data not available	
24.5	19	20		
24.6	7	16		
24.7	0	1		
DH/25	44	47	546	654
25.1	21	20	Data not available	
25.2	23	27		
TOTAL	93	102	2,123	2,856

7. Development of turnover related to the size of companies (*)

Data not available. These statistics are not public due to the key position and the relevance of the large companies based in Asturias. In some categories, data is only related to one company, and figures such as turnover or number of employees are not available

8. Energy Consumption.

Energy consumption from 1998 to 2002. Chemical Industry and Plastic and Rubber

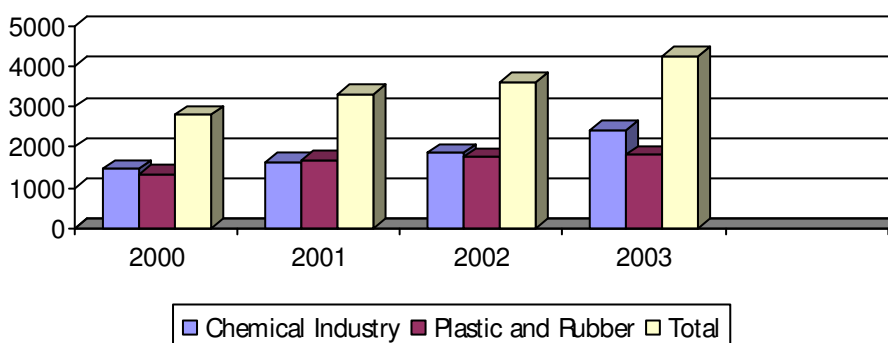
Asturias		2000	2001	2002	2003*	98-02	98-03*
Energy consumption	<i>1,000MJ</i>						
Chemical Industry		1,461	1,633	1,857	2,436	27.10%	66.75%
Plastic and Rubber		1,330	1,673	1,764	1,814	32.63%	36.39%
Total		2,791	3,306	3,621	4,250	29.74%	52.27%

*Provisional data

The energy consumption in the chemical sectors has increased to 29.74% (+1.459 million MJ) in the period 2000-2002. For chemical industry, this growth was by 27.10% (+0.396 million MJ), which is slighter than the growth of this consumption in the plastic sector, by 32,63% (+0.434 million MJ).

Regarding provisional data for 2003 it is observed a significant growth of the energy consumption for both chemical and plastic sectors since 1998 to 2003 (+52.27%). The chemical industry energy consumption increased 66.75%, while the increment for the plastic sector is 36.39%. This data reveal a substantial growth of the energy consumption in the chemical industry between 2002-2003, 31.1%.

Energy consumption. Chemical sector



Comparing energy consumption development to turnover progression, there has been a mayor improvement of the energy efficiency in the Plastic and rubber industry that in Chemical industry. In 2000 17.33 MJ of energy were needed to produce a turnover of 1,000 €. In 2002 this rate has increased to 22.48 MJ.

Energy Efficiency from 1998 to 2002. Chemical Industry and Plastic and Rubber

Asturias		2000	2001	2002*	00-02
Energy Efficiency	<i>MJ/1,000€</i>				
Chemical Industry		3.07	3.50	2.86	-6.8
Plastic and Rubber		17.33	19.80	22.48	29.72
Total		5.00	6.00	5.00	0

9. Other indicators.

Asturias		Man-hours per wage earner				
		1998	1999	2000	2001	2002
DG24	h	1,746	1,742	1,724	1,709	1,693
DH25		1,795	1,801	1,790	1,818	1,761

R&D Expenditure 1,000 €			
Year 2000	Asturias	Spain	%
DG24	4,573	731,143	0.62
DH25	3,063	238,484	1.28
Total sectors	114,586	5,718,988	2

Source: R&D Survey 2000. Statistical Spanish Information (INE) INE

R&D Employees(units)			
Year 2000	Asturias	Spain	%
Total sectors	2,889	120,617.9	2.4

Source: R&D Survey 2000. Statistical Spanish Information (INE) INE

Medium and High-tech companies (including chemical industry)			
Year 2002	Number of companies	R&D Expenditure (1,000€)	R&D Employees
Asturias	18	5,782	176
Spain	1,579	952,636	14,818

Source: R&D Survey. Statistical Spanish Information (INE) INE

10. Subsidies for investments. Chemical enterprises.

Asturias offers a wide range of financial support for investment in chemical sector. Subsidies cover up to 40% of the investment. Besides, investments can also be financed by soft loans under more advantageous conditions than those offered on the market.

Tables below show the total investment of Chemical Industry (NACE 24, 25) and the chemical processes (NACE 13.20, 26.11, 26.2*, 26.3*, 26.5*, 27.1*, 27.2*, 27.4*, 27.5*), as well as the subsidies awarded to this projects.

2001-2003		National Subsidies (Regional Economic Incentives Act "LIR" + Develop coal mining areas "MINER" + CDTI + PROFIT)				
NACE Review 1.1	13	24	25	26	27	TOTAL
investment	320,000.00	33,921,835.67	51,341,770.38	72,972,015.24	14,345,871.32	172,581,492.61
Direct Subsidies (A)	36,000.00	9,916,830.86	11,566,993.57	14,796,694.60	1,783,627.78	38,100,146.81
Loans (B)	12,000.00	1,895,060.00	742,450.00	4,965,000.00	1,864,000.00	9,478,510.00
% Total support (A+B)	15.00%	34.82%	23.98%	27.08%	25.43%	27.57%

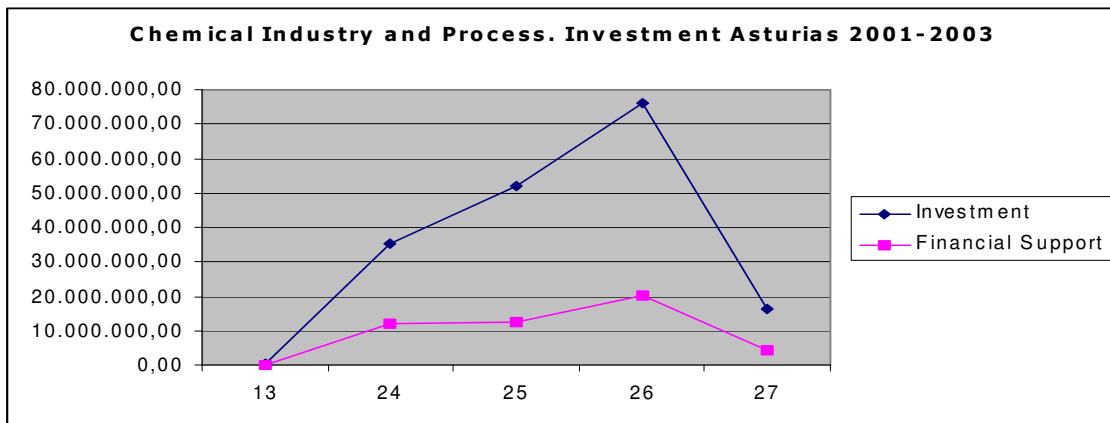
Source: IDEPA

2001-2003		Regional Subsidies (R&D&Innovation Regional Program + IDEPA grants for improvement competitiveness)				
NACE	13	24	25	26	27	TOTAL
investment	136,032.00	1,225,989.98	898,159.45	2,956,740.46	1,840,136.55	7,057,058.44
Direct Subsidies (A)	33,327.90	257,301.01	204,522.51	467,980.31	448,409.13	1,411,540.86
% Total support (A+B)	24.50%	20.99%	22.77%	15.83%	24.37%	20.00%

Source: IDEPA

2001-2003		TOTAL INVESTMENT AND FINANCIAL SUPPORT				
NACE	13	24	25	26	27	TOTAL
investment	456,032.00	35,147,825.65	52,239,929.83	75,928,755.70	16,186,007.87	179,38,551.05
Direct Subsidies (A)	69,327.90	10,174,131.87	11,771,516.08	15,264,674.91	2,232,036.91	39,511,687.67
Loans (B)	12,000.00	1,895,060.00	742,450.00	4,965,000.00	1,864,000.00	9,478,510.00
% Total support (A+B)	17.83%	34.34%	23.95%	26.64%	25.31%	27.27%

Source: IDEPA



11. List of main chemical companies in Asturias.

Company	Employees	Turnover (€)
NACE 24		
Du Pont Ibérica, S.L.	1,020	>6,000,000
Industrial Química del Nalón	258	>6,000,000
Alvargonzález Contratas, S.A.	211	>6,000,000
Fertiberia, S.A.	133	Data not available
Fundación Laboral de minusvalidos Santa Bárbara	130	Between 3,001,000 and 6,000,000
Química Farmaceutica Bayer, S.A.	113	>6,000,000
Asturpharma, S.A.	111	>6,000,000
Tratamientos Asfálticos, S.A.	82	>6,000,000
Ibérica de Revestimientos, S.A.	76	>6,000,000
General Asturiana de Obras y Servicios, S.L.	50	>6,000,000
Industrias Roko, S.A.	40	Between 3,001,000 and 6,000,000
Praxair Ibérica, S.A.	39	>6,000,000
Europea de Pinturas Especiales, S.L.	35	Data not available
Asturlak, S.L.	32	Between 301,000 and 450,000
Servicios Internacionales Reunidos, S.A.	30	Between 601,000 and 1,200,000
Carus Nalón, S.L.	29	Between 3,001,000 and 6,000,000
Asturquimia, S.L.	24	Between 2,101,000 and 3,000,000
Agar de Asturias, S.A.	23	Between 1,201,000 and 2,100,000
Al Air Liquide España, S.A.	22	Data not available
Praxair España, S.L.	21	Data not available
NACE 25		
Linpac Plastics Pravia, S.A.	450	>6,000,000
Mecanizaciones y Fabricaciones, S.A.	178	>6,000,000
Industrias Metálicas Ruiz, S.A.	39	Between 3,001,000 and 6,000,000
Rodapin, S.A.	33	Between 3,001,000 and 6,000,000
Clear Pack, S.A.	30	>6,000,000
S.A. Bernar	30	Between 601,000 and 1,200,000
Vulcanizados Trancho, S.A.	30	Between 3,001,000 and 6,000,000
Polysier, S.A.	27	Between 1,201,000 and 2,100,000
Canalizaciones Especiales y Materiales, S.L.	20	Between 3,001,000 and 6,000,000
General de Juguetes, S.A.	20	Between 0 and 150,000
Bolsaplast Asturias, S.L.	18	Between 2,101,000 and 3,000,000
IPSA Construcciones Navales, S.L.	18	Between 1,201,000 and 2,100,000
Juntas Industriales y Navales, S.L.	16	Between 1,201,000 and 2,100,000
Poliescarp, S.L.	16	Between 601,000 and 1,200,000
Fabrica de accesorios para doble acristalamiento	15	>6,000,000
Berbetores Industrial, S.L.	14	Between 1,201,000 and 2,100,000
Corveflex, S.A.	12	Between 1,201,000 and 2,100,000
Juntas y Vulcanizados Industriales, S.L.	12	Between 601,000 and 1,200,000
Plásticos Tito, S.L.	12	Between 601,000 and 1,200,000
Resinastur, S.L.	12	Between 451,000 and 600,000

Source: IDEPA Database

