



AKSA AKRILIK KIMYA SANAYI



November 2011



Akkok Group Companies

CHEMICALS

AKSA, AK-KİM

ENERGY

AKENERJİ, SEDAŞ

TEXTILES

AK-AL, AK-TOPS, AKSA EGYPT

REAL ESTATE DEVELOPMENT

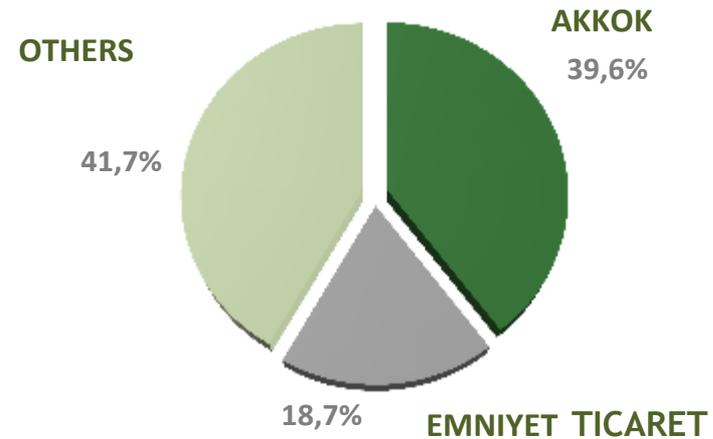
AKMERKEZ, AK TURİZM, AKİŞ

OTHER SERVICES

AK-PA, DİNKAL, AKPORT, AKTEK,
AKMERKEZ LOKANTACILIK (Paper Moon)



AKKOK (Million US\$)	2006	2007	2008	2009	2010
Net Sales	1,314	1,337	1,514	2,166	2,400
Export	342	346	326	332	372



STRATEGIC BUSINESS UNITS of AKSA ACRYLIC



STANDARD ACRYLIC FIBER BUSINESS UNIT

- Largest acrylic fiber producer under one single roof in the world;
- 13.2% global market share;
- Turkey's sole local producer having 70% local market share.



TECHNICAL FIBERS BUSINESS UNIT

- High value-added products / Develop fibers for technical end-use areas;
- 50% global market share in outdoor fibers



CARBON FIBER BUSINESS UNIT

- AKSA and DOW Chemical have signed a MOU on 6 June 2011 to form integrated carbon fiber and derivatives Joint Venture
- Current capacity, 1,500 tpa will be increased to 3,500 tpa by July 2012.
- Strategic goal; 5% market share by 2015 & 10% by 2020.



ENERGY BUSINESS UNIT

- Acquired 70 Mwe capacity Natural Gas power plant from Akenerji;
- Currently investing in 100 Mwe capacity dual gas power generation plant;
- Commissioning has started in November 2011



ACRYLIC FIBER BUSINESS UNIT



WHAT IS ACRYLIC FIBER?

Acrylic fibre is a synthetic fibre that highly resembles wool,



Wool (natural fiber)



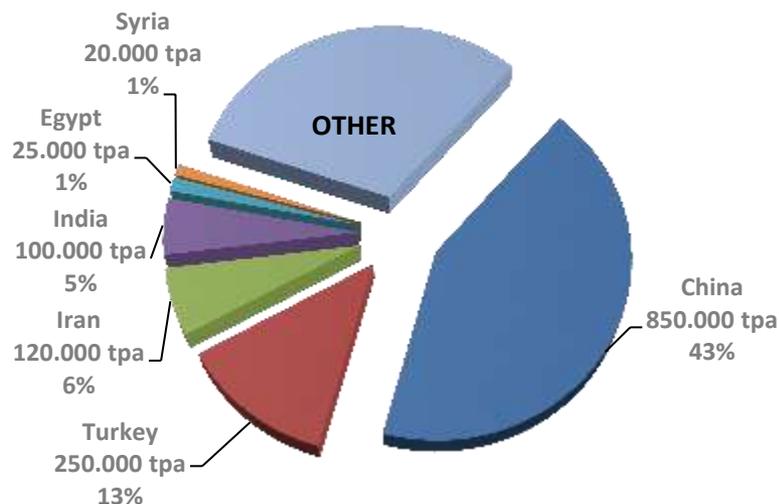
Acrylic Fiber (synthetic fiber)

- Used in blends with natural and other synthetic fibers or by themselves,
- Easily washed and keep dimensional stability/resistant against sunlight & chemical substances,
- Dyed in brilliant colours,
- Natural and warm appearance and touch.

ACRYLIC FIBER SECTOR IN BRIEF

Acrylic fiber market accounts for 2 million tonnes in 2010. The global demand for acrylic fiber in 2020 is expected to be around the same level as 2 million tonnes.

Biggest Consumption Market is China . During 2007-2010 shrank by 20% / adopts self sufficiency strategy/invests on new capacity no more



2010	Consumption (tonnes)	%	Production (tonnes)	%
Asia+Pacific	1.135.000	57	1.135.000	57
Europe	165.000	8	405.000	21
Middle East	175.000	9	35.000	2
Turkey	250.000	13	265.000	13
USA	205.000	10	140.000	7
Africa	50.000	3	0	0
Toplam	1.980.000	100	1.980.000	100

Sector has 20% idle capacity. Europe accounts for excess capacity.

Far East balanced capacity and demand,

Shut downs (Europe, USA, Far East...) and consolidations have taken place for last 10 years.



HAVING 42 YEARS OF EXPERIENCE IN ACRYLIC FIBER INDUSTRY...

- Leader in Turkey and in international markets in terms of capacity, size, pre-and post-service quality, product diversity & flexibility;
- Low cost leader;
- Production capacity : 308,000 ton/year;
- Capacity Utilization Rate:86% in 2010, 90% for Q32011

SUCCESS THAT COMES FROM A DIVERSITY OF PRODUCTS...

Major Acrylic Fiber Uses;



Apparel

Home Textiles & Furnishings



Industrial Uses



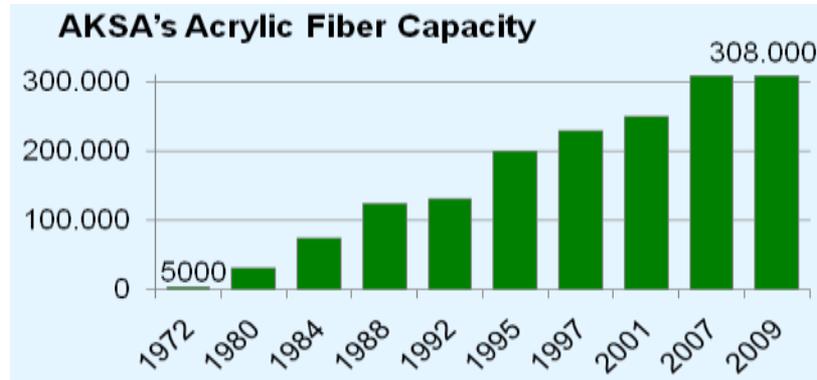
AKSA's Development Over 40 Years



AKSA 1971
Initial Capacity 5,000tpa



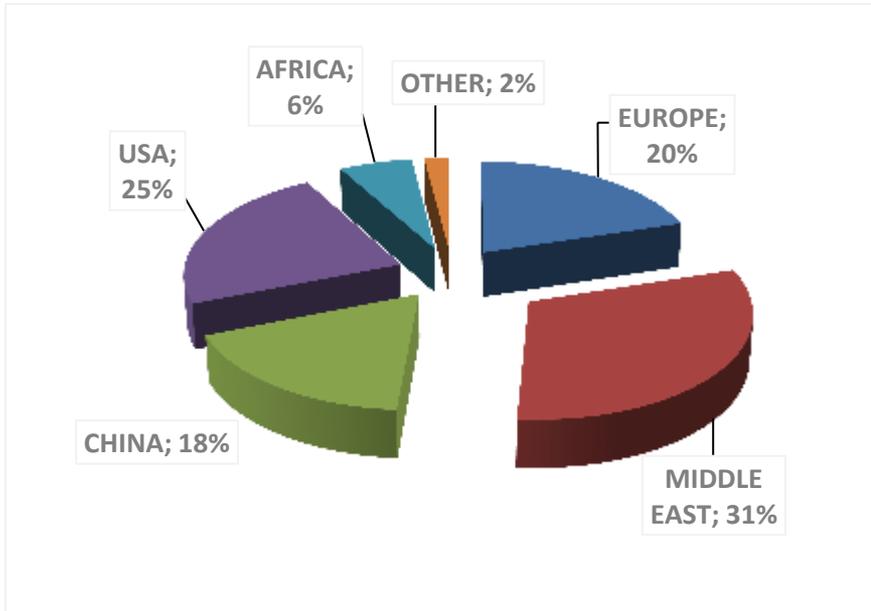
AKSA Today
Capacity 308,000tpa



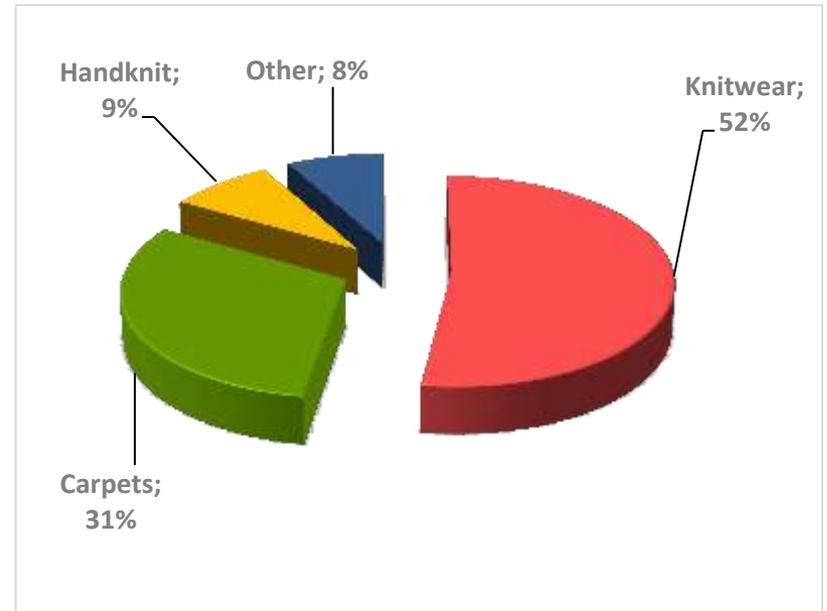
By the end of 2007, capacity reached 308,000 tpa.

2011 (Jan-Oct) / SALES BREAKDOWN

EXPORT SALES BREAKDOWN (2011 Jan-Oct)



DOMESTIC SALES BREAKDOWN (2011 Jan-Oct)





ACRYLIC FIBER INDUSTRY PLAYERS



AKSA (TURKEY) / Production Capacity: 308,000 tpa

MONTEFIBRE (SPAIN) / 95,000 tpa

- In 2009, MonteFibre shut down the last facility in Italy, Jilin and MonteFibre founded JiMont Jilin Qifeng and Jimont, 2 factories, have a cumulative production capacity of 240,000 tpa

DRALON (GERMANY) / 187,000 tpa

FORMOSA (TAIWAN) / 65,000 tpa

BIRLA (THAILAND & EGYPT) / Egypt:35,000 tpa /Thailand:100,000 tpa

JILIN (CHINA) / 135,000 tpa

SHANGHAI PETROCHEMICALS (CHINA) / 150,000 tpa



THREAT OF SUBSTITUTES

GLOBAL PRODUCTION OF TEXTILE FIBERS (1000 TONS)												
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	AGR
Synthetic Fibers	32.101	31.686	33.907	35.511	37.953	38.165	41.277	44.523	42.640	44.600	47.380	3,97%
Polyester	19.073	19.244	20.956	22.258	24.406	24.701	27.808	31.094	30.650	32.000	35.000	6,98%
PP fibers	5.984	5.815	5.913	6.159	6.303	6.463	6.473	6.444	5.940	6.100	6.000	0,03%
Polyamide	4.063	3.745	3.947	3.992	4.017	3.865	3.883	3.895	3.510	3.300	3.800	-0,74%
Acrylics	2.669	2.555	2.742	2.678	2.743	2.632	2.535	2.446	1.930	2.000	1.980	-3,26%
AKSA %	8,0%	8,3%	8,4%	9,3%	10,0%	10,7%	11,7%	10,8%	12,6%	13,2%	13,2%	2,40%
Others	312	327	349	424	484	504	578	644	610	600	600	7,54%
Cellulosics	2.755	2.692	2.715	2.855	3.096	3.138	3.296	3.592	3.235	2.950	3.100	1,32%
Cotton	19.749	19.814	20.623	20.120	21.974	24.398	25.707	26.704	24.450	22.300	24.500	2,42%
Wool	1.250	1.180	1.357	1.274	1.219	1.231	1.227	1.218	1.210	1.190	1.200	-0,45%
Jute	4.015	3.065	3.222	3.232	3.179	3.250	3.200	3.200	3.300	3.240	3.200	-2,49%
Linen	463	588	721	773	751	792	770	780	800	820	800	6,26%
Ramie	130	179	201	269	269	250	250	250	250	250	250	7,54%
Silk	86	82	92	97	115	133	145	156	150	150	150	6,38%
TOTAL	60.549	59.286	62.838	64.131	68.556	71.357	75.872	80.423	76.035	74.900	80.580	3,23%
acrylic share / total textile fibers	4,40%	4,30%	4,40%	4,20%	4,00%	3,70%	3,30%	3,00%	2,50%	2,70%	2,46%	
acrylic share / total synthetic fibers	8,30%	8,10%	8,10%	7,50%	7,20%	6,90%	6,10%	5,50%	4,50%	4,50%	4,18%	

Substitutes compete with price differentiation, Preference of acrylic fiber is sustained until price difference is 1 US\$/kg. During 2000-2010, while the annual growth rate of acrylic fiber market is -3,26% , Aksa's annual production growth rate is 2.4 %.

Assuming that the world population will continue to rise, it is estimated that natural fiber production increases will be limited and there will be above-average, pa 5.9% growth in synthetic fiber demand over 10 years. The global demand for acrylic fiber in 2020 is expected to be around the same level as 2 million tonnes.

COST STRUCTURE OF ACRYLIC FIBER

The key cost component is the raw material Acrylonitrile

- Acrylonitrile prices fluctuates depending on the oil prices and the demand –supply balance;
- 30% of ACN locally sourced from PETKIM, The rest is heavily imported from Europe .

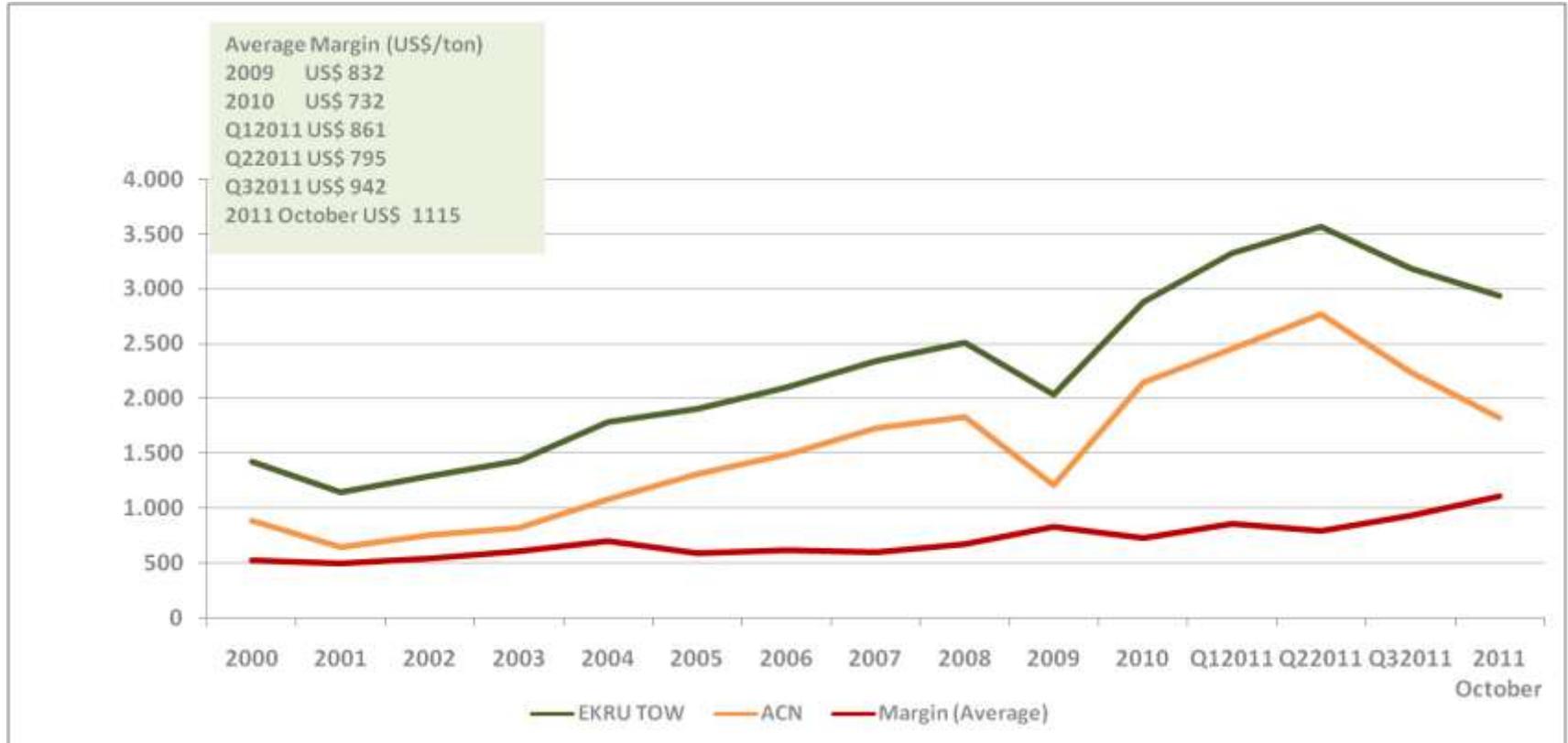
The other important cost component is “The Energy”

- Continuously improving energy specific consumption through investments;

Labor Costs

- High rate of production per capita;
- Low labor rate compared to European competitors.

ECRU TOW - ACN PRICE MARGIN (US\$/ton)

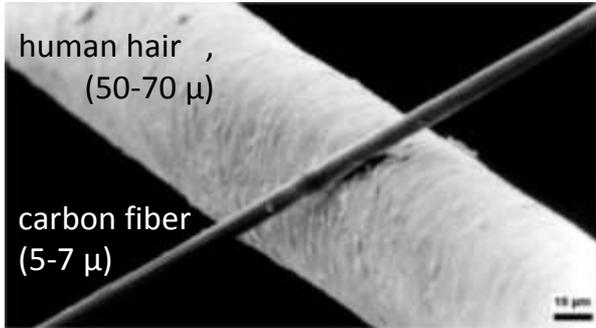


Source: PCI Average of US/Europe/Far East Prices

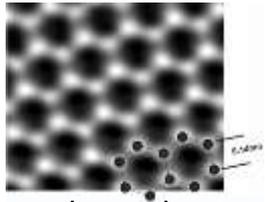
CARBON FIBER BUSINESS UNIT



WHAT IS CARBON FIBER?



a carbon fiber and a human hair
(source: wikipedia)

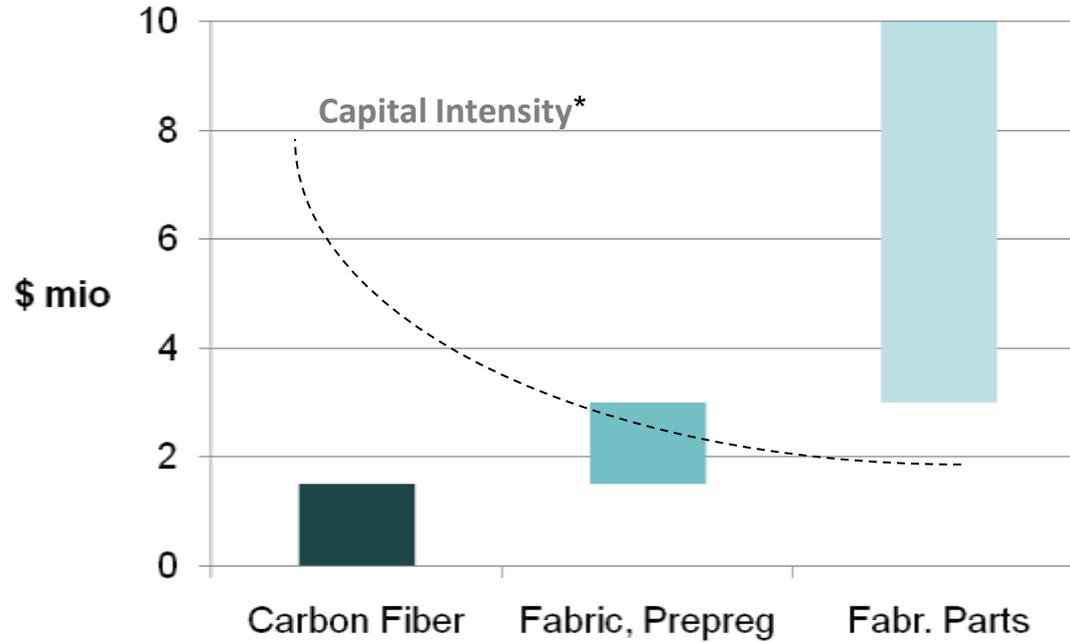


graphene sheet
(source: wikipedia)



↙
↘ "3k"
= 3,000
filaments

- Carbon fibers are extremely fine fibers (typ, 5-7 μ in dia,) consisting mostly of carbon atoms,
- Carbon fiber is >95% carbon,
- The structure of carbon fiber is similar to graphite: sheets of carbon atoms, arranged in hexagonal patterns, aligned along the axis of the fiber,
- Carbon fibers are produced in tows (yarns) ranging from 1,000 filaments (1k), to 3k, 6k, 12k, 24k, 50k, etc.



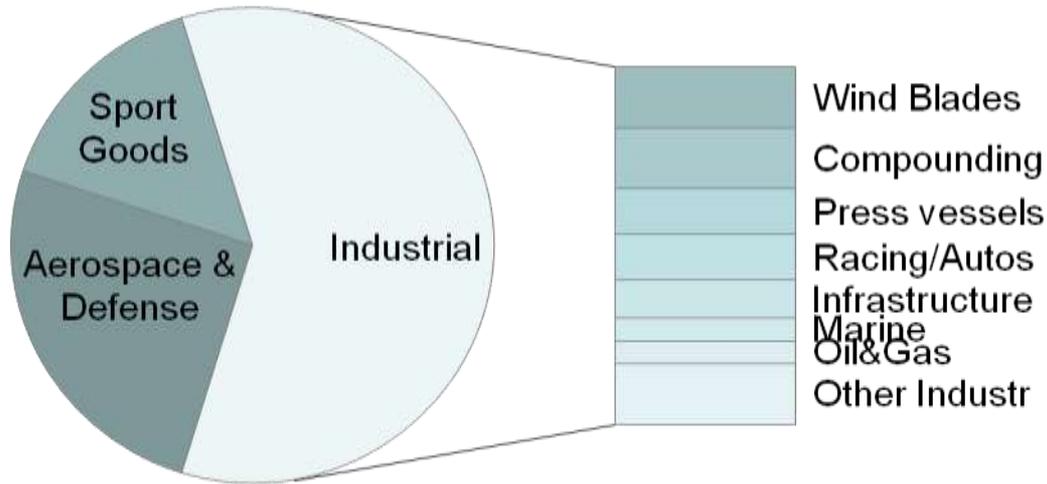
Facilities Required:
Precursor Facility
Carbonization
Facility

Facilities Required:
Weavers/Looms,
Prepreg Lines

Facilities Required:
Fabric Layup
Curing Equipment

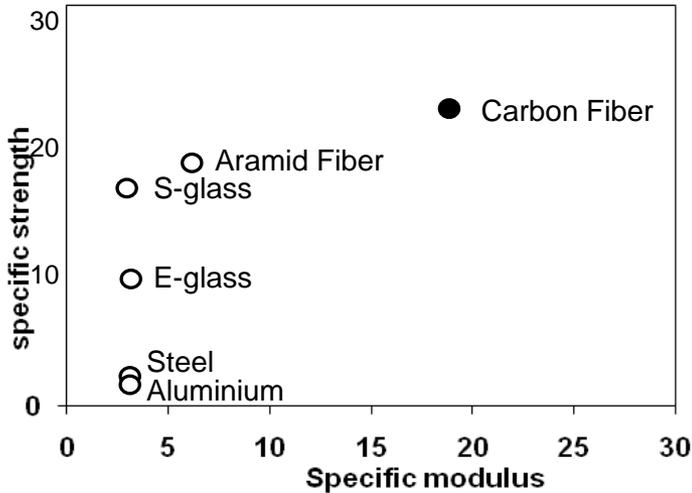
*Investment required in technology and production facilities,

**Current Demand for Carbon Fiber
< 40.000mt p.a.; > US\$1B**

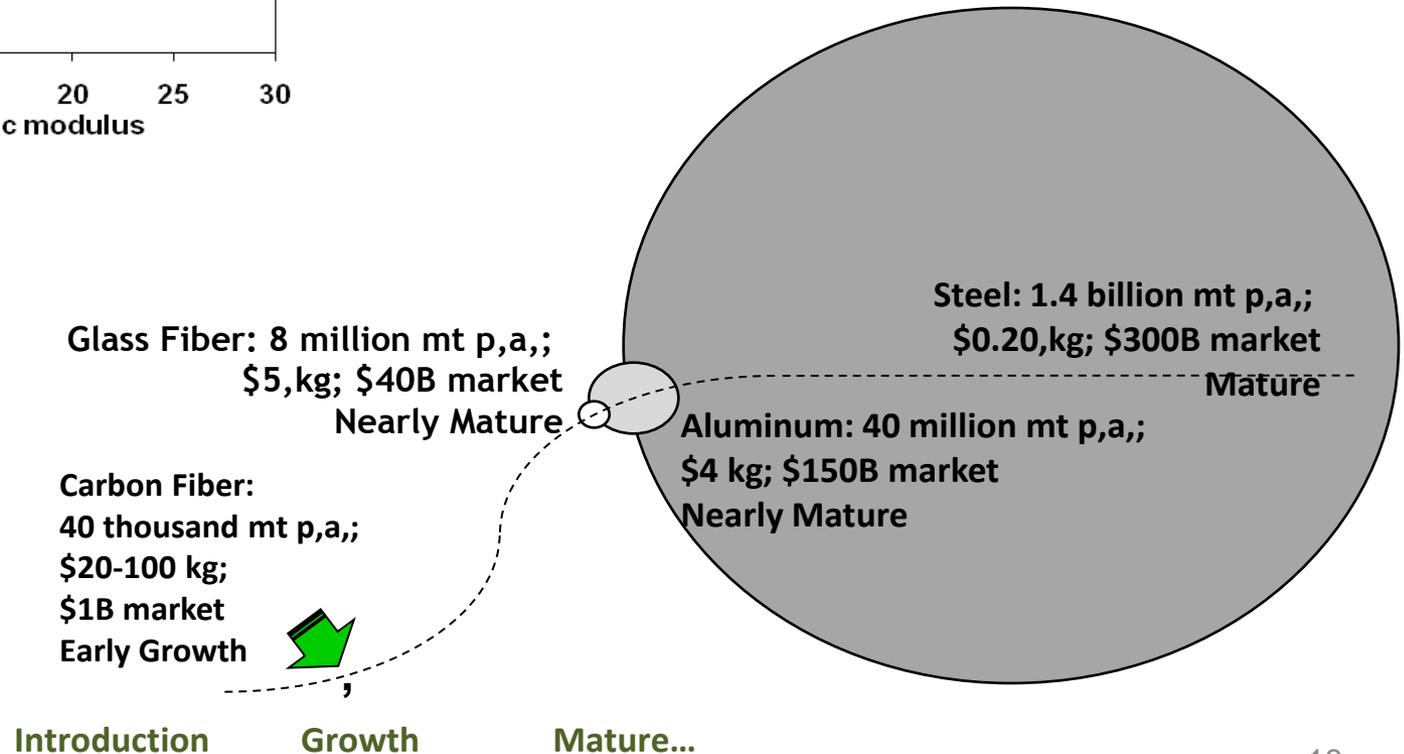


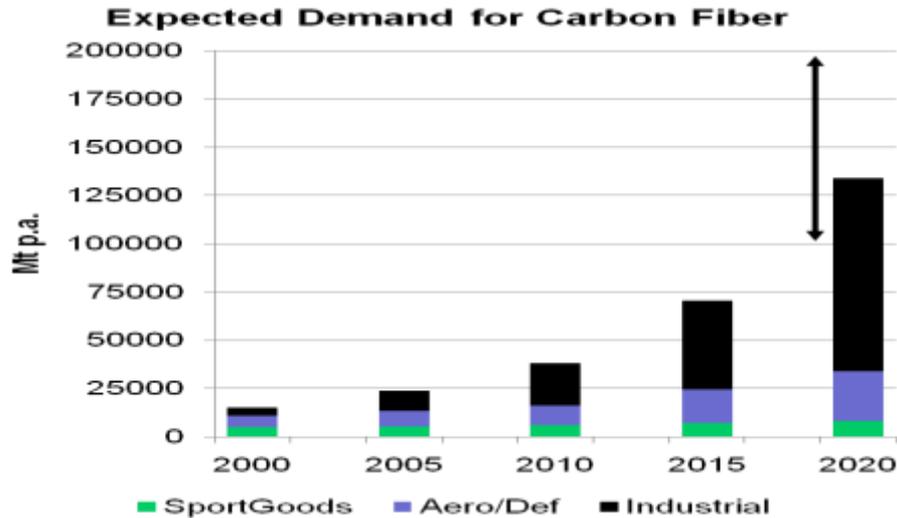
**AKSA is targeting
Industrial Applications**

THE CARBON FIBRE MARKET IS EARLY IN ITS DEVELOPMENT COMPARED TO OTHER STRUCTURED MATERIALS



- Carbon Fiber is a structural reinforcement with high specific strength and stiffness,
- High specific tensile strength
- High specific elastic modulus
- Light in weight & strong





Carbon fibre demand was around 20,000 tonnes in 2004, The demand then doubled in the four years to 2008, We expect the market (currently 40,000 tonnes) to double by 2015 and double again by 2020.

Industrial Applications are expected to make up the majority of future demand.

Market for CF	2010	2015	2020
Mt	40	>80,000	~150.000 (100.000-500.000)
Value	US\$ 1,0-1,5 B	US\$ 2-3 B	US\$ 3-15 B



Industrial Apps

2010 vs 2020:

Wind:

5,000t → 15,000-50,000t

Compounding:

5,000t → 15,000-50,000t

Pressure Vessels:

3,000t → 15,000-50,000t

Autos:

2,500t → 20,000-100,000t

Infrastructure:

2,000t → 5,000-25,000t

Others:

5,000t → 15,000-50,000t

Aerospace Apps

2010 vs 2020:

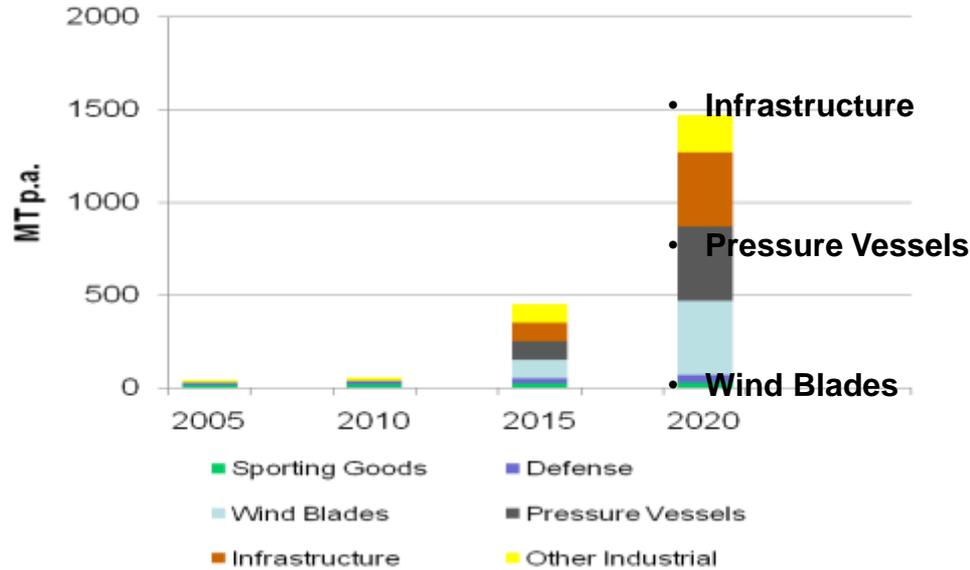
8,000t → 25,000-30,000t

Sports Goods

2010 vs 2020:

7,000t → 10,000-15,000t

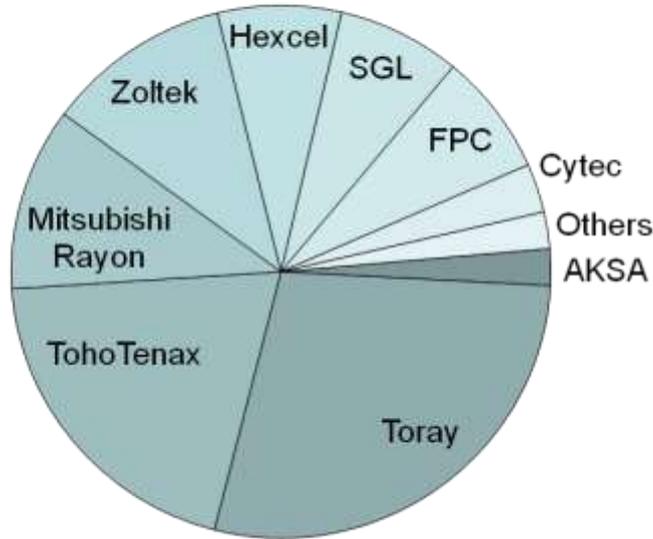
EXPECTED GROWTH IN DEMAND FOR CARBON FIBER IN TURKEY



Demand for Carbon Fiber in 10 years is expected to be 1,000-1,500 tpa in Turkey.

Aksa's target is to support the increased use of carbon fiber based composites in Turkey. Considering the very undersized local market for carbon fibre of only around 50-70 tpa, Aksa is in touch with the government to create a "Composite Valley" near Yalova.

Carbon Fiber Capacity



Market Research:

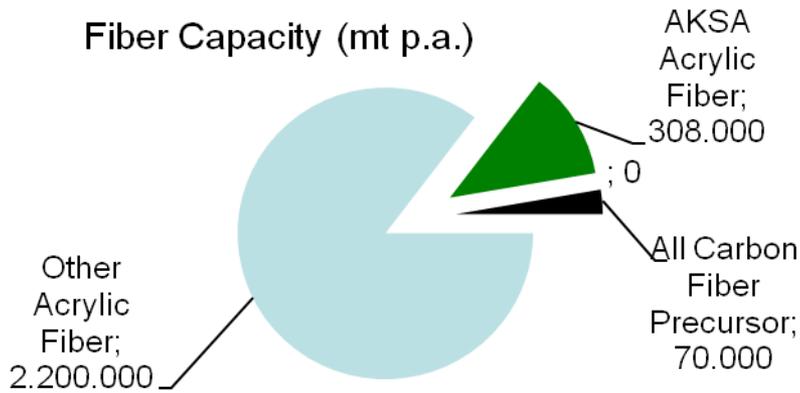
- Carbon fiber has been available commercially since the 1970's,
- Demand has grown irregularly depending on new applications,
- Tight supply conditions have occurred every few years
- There appears to be an “un-met need” in the market for—high quality, reliably supplied, competitively priced carbon fiber

- With the world’s largest plant producing acrylic fiber production under one roof,
- With 40+ years of know-how, own technology and experience in acrylic fiber and specialty technical fibers,
- With the resources and ability to develop PAN precursor and carbonization technology in house,
- With the resources to facilitate to produce PAN precursor and carbon fiber,

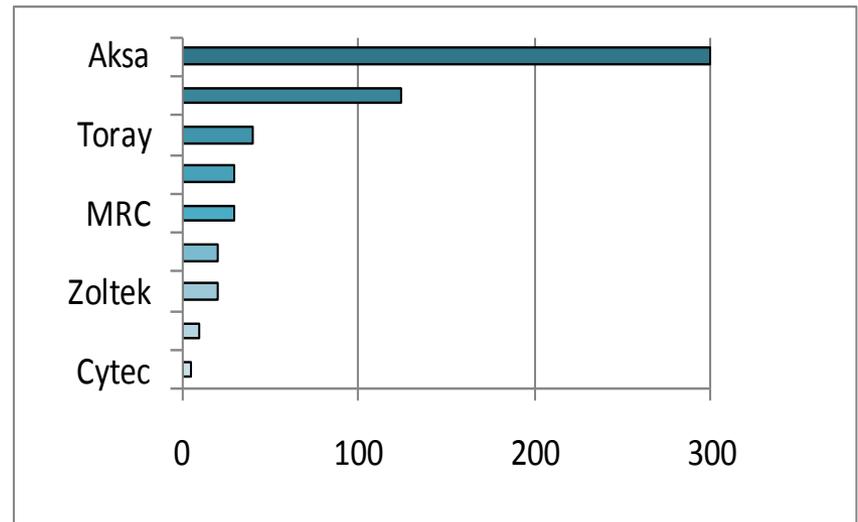
AKSA decided to develop PAN precursor and enter the carbon fiber business.



Having the world's largest capacity for acrylic fiber production under a single roof, AKSA's infrastructure is unmatched by any carbon fiber producer.



Acrylic Fiber and Precursor Capacity of Carbon Fiber Producers (000mt)



AKSA's infrastructure is uniquely able to supply 100.000 or 200.000 mt of PAN precursor –enough for 50.000-100.000 mt of carbon fiber...

AKSA IN CARBON FIBER

Development of AKSACA carbon fiber

- **2008** Startup of Carbon Fiber Pilot Production Line
- **2009** Startup of 1.500 tpa Carbon Fiber Production Line
- **2010** 1.500 tpa production rate achieved on Carbon Fiber Production Line less than 1 year from startup.
- **2011** 1.800 tpa production rate achieved on Carbon Fiber Production Line



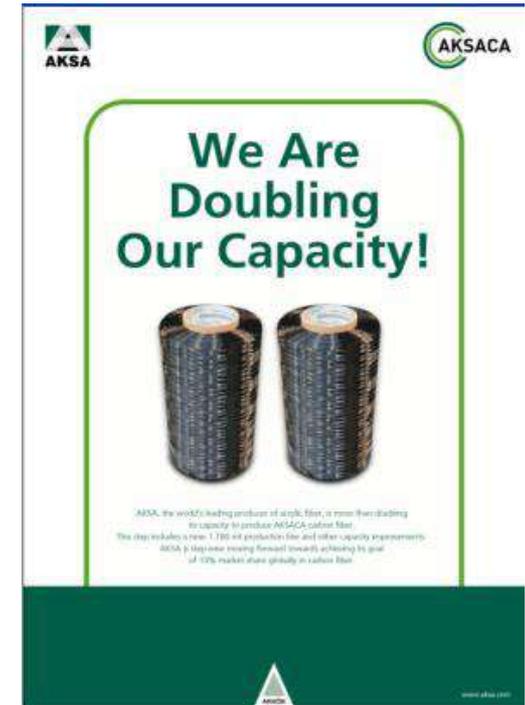
- **Capital Intensive** – Initial capital cost of a precursor and carbon fiber production facility is very high, depreciation is significant,
- **Half of cost is linked to the price of oil** – Acrylonitrile and the energy to convert and process it into carbon fiber.



AKSA is not disadvantaged in any cost category:

- AKSA purchases / takes delivery of more Acrylonitrile than any other fiber producer in the world; delivery is by ocean tankers direct to the facility.
- AKSA produces own electricity and steam on site.
- Labor rates in Yalova are comparably favourable with carbon fiber producers operating in other places.
- AKSA's workforce and management are oriented to producing quality products at low sustainable costs.

- Targeting industrial applications where high quality, reliably supplied; competitively priced carbon fiber is wanted;
- Intending to further develop our portfolio of products over time;
- Support the increased use of carbon fiber based composites in Turkey;
- AKSA and the Dow Chemical have signed a MOU with the intent to form a joint venture to manufacture and globally commercialize carbon fiber and derivatives. The companies will examine opportunities to develop and market a broad range of products and technical service offerings in the carbon fiber-based composites industry.
- Aksa will increase capacity from 1,500 tpa today to 3,500 tpa by July 2012 (both increasing the capacity of current line by 300 tpa and construction of new line with 1,700 tpa)





AKSA + DOW Carbon Fiber Joint Venture



FOR IMMEDIATE RELEASE

Dow and Aksa Sign Memorandum of Understanding to Form Integrated Carbon Fiber and Derivatives Joint Venture

Business to offer carbon fiber and derivatives to growing energy, transportation and infrastructure markets.

MIDLAND, Mich., USA and ISTANBUL, TURKEY – June 6, 2011 – (BUSINESS WIRE) – The Dow Chemical Company (NYSE: Dow), through its wholly-owned subsidiary Dow Europe GmbH, and Aksa Akrilik Kimya Sanayii A. Ş. (Aksa) (ISE: AKSA) today announced a Memorandum of Understanding (MOU) with the intent to form a joint venture to manufacture and globally commercialize carbon fiber and derivatives.

Through this agreement, both companies will work together to explore opportunities to create fully-integrated production facilities for the manufacture and global supply of carbon fibers and derivatives. The companies will examine opportunities to develop and market a broad range of products and technical service offerings in the carbon fiber-based composites industry.

The Dow Chemical Company
Dow combines the power of science and technology with the “Human Element” to passionately innovate what is essential to human progress. The Company’s diversified industry-leading portfolio delivers a broad range of technology-based products and solutions to customers in approx 160 countries. In 2010, Dow had annual sales of \$53.7 billion and employed approximately 50,000 people worldwide. The Company’s more than 5,000 products are manufactured at 188 sites in 35 countries across the globe.

- Partnering respective strengths to achieve a common goal
- Sharing risk



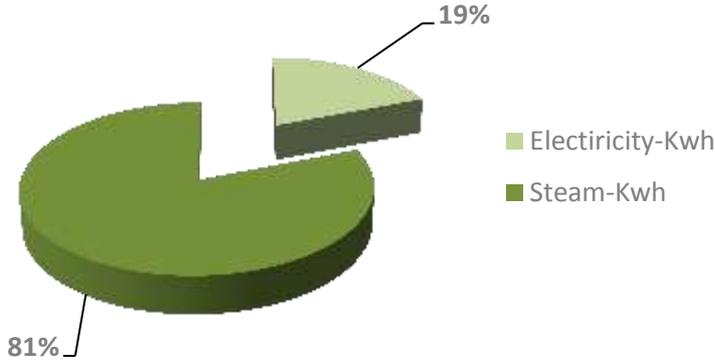
LONG-TERM MAIN STRATEGIC GOALS (2015)

- Generate at least US\$1.2 billion sustainable revenue in its Strategic Business Areas,
- Achieve at least 15% EBITDA margin,
- Maintain capacity utilization in Acrylic Fiber Business and low-cost leadership through cost saving projects,
- Target 5% market share in Carbon Fiber in 5 years and 10% market share in 10 years,
- Achieve at least 30-35% EBITDA margin in Carbon Fiber Business Area,
- Develop a downstream industry in Turkey for Carbon Fiber,
- Develop new technical fibers to create added value and end-use areas except textile industry.

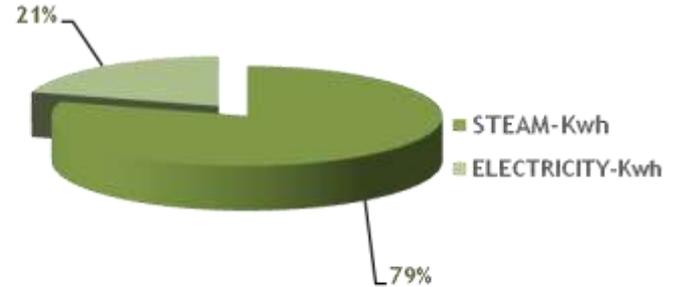
ENERGY BUSINESS UNIT

ENERGY PRODUCTION & TURNOVER

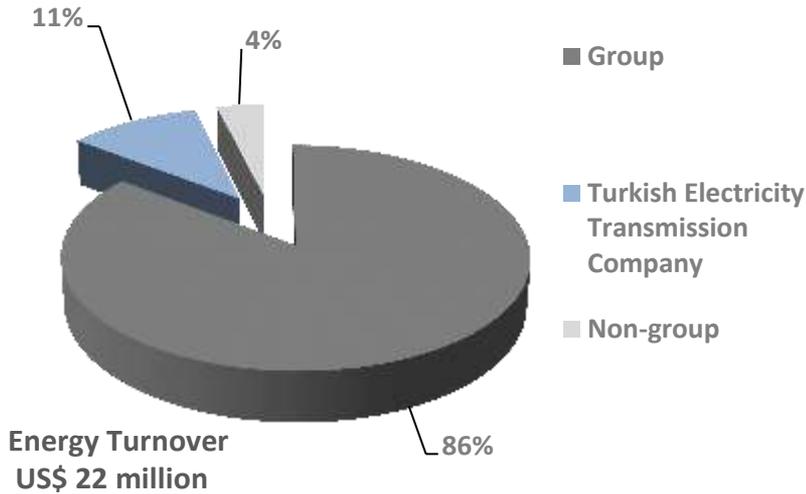
PRODUCTION (JAN-OCT 2011)



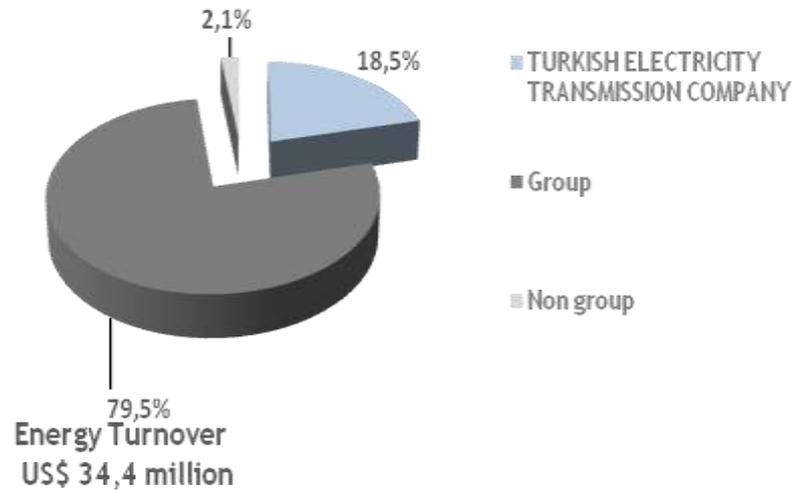
PRODUCTION (2010) KWH



ENERGY TURNOVER(JAN-OCT 2011)



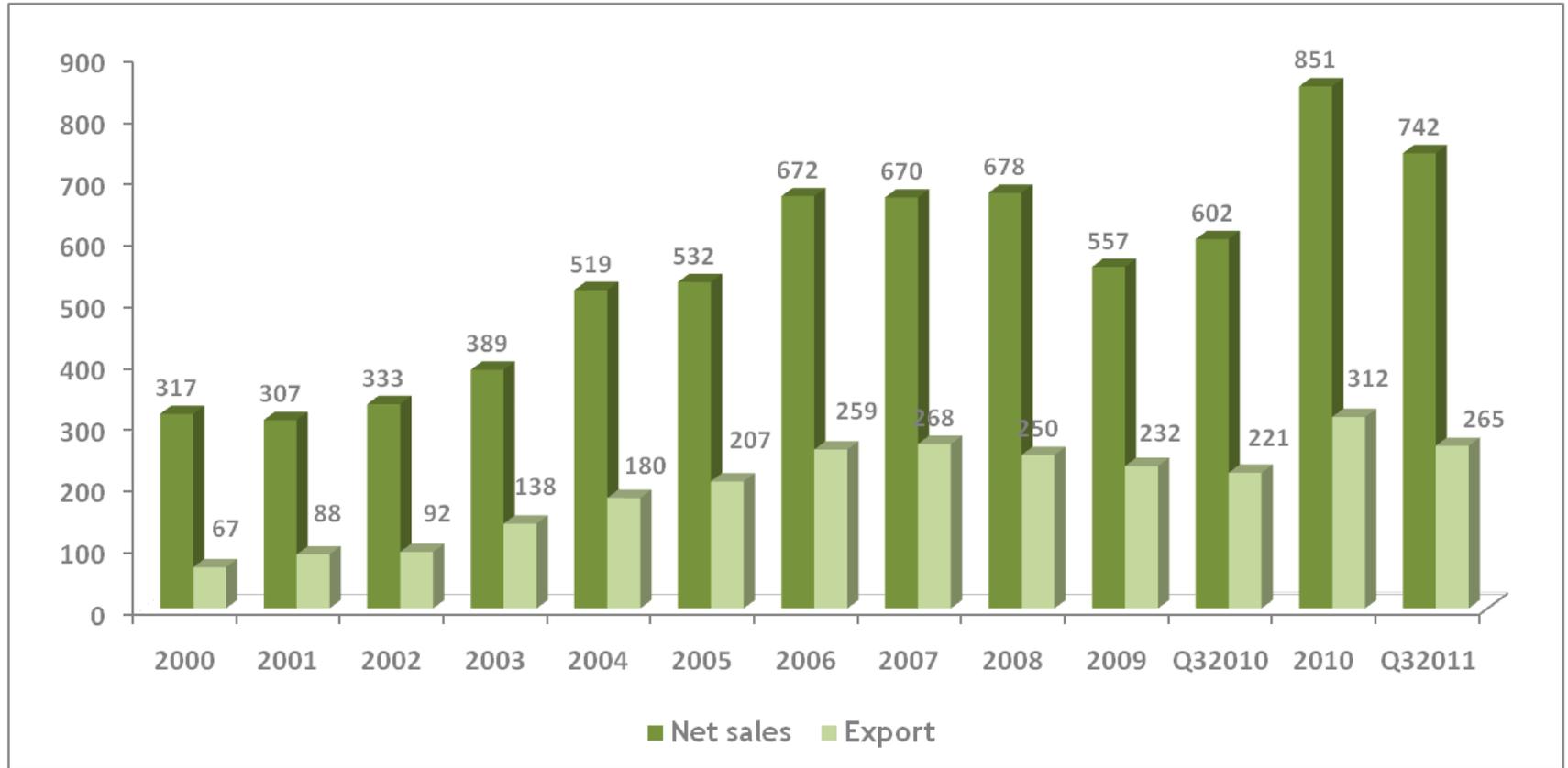
ENERGY TURNOVER (2010)



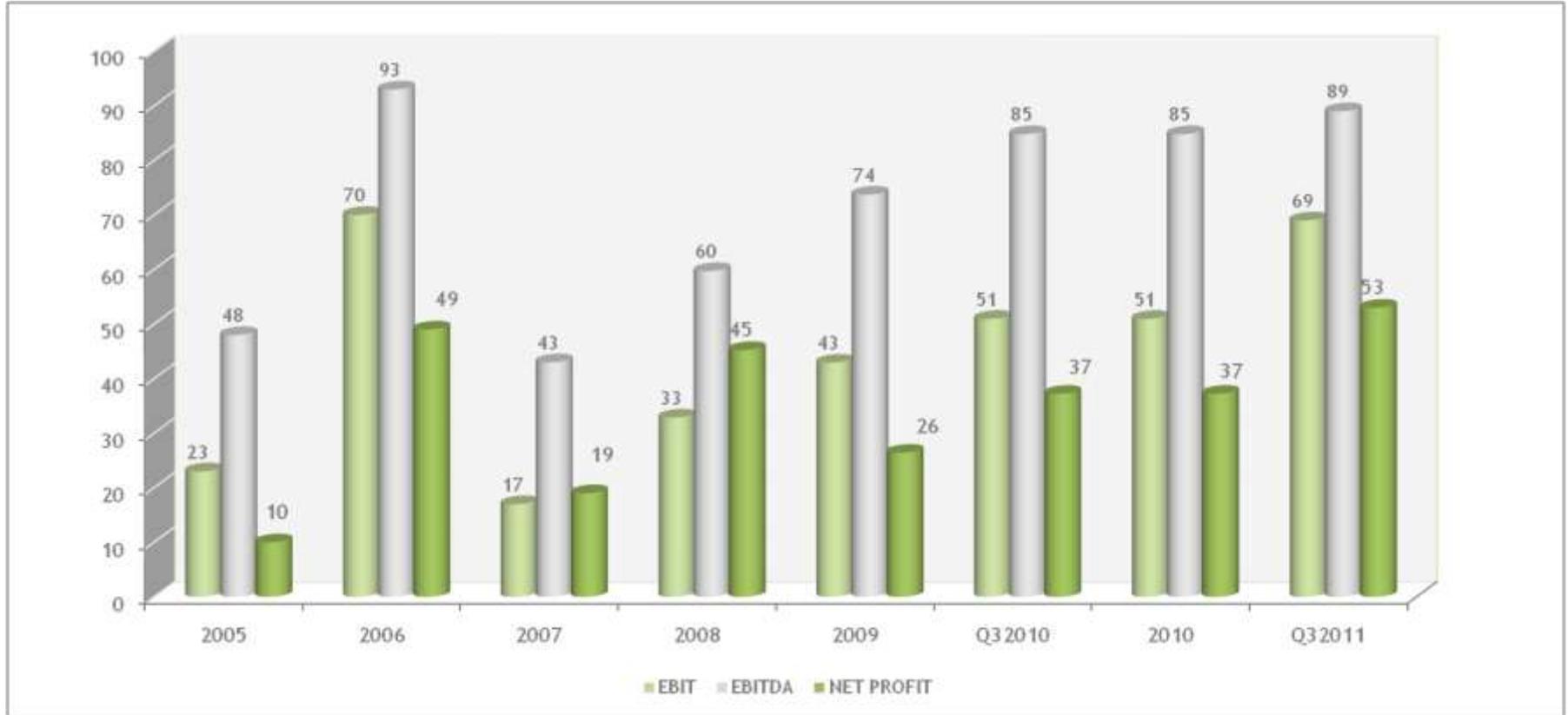
2012 BUDGET FIGURES

	2012 Budget	2011 Year-end Forecasts
Net Sales	US\$900-950 Million	US\$950-1.000 Million
AF	US\$750-770	US\$850-880
Technical Fibers	US\$67-72	US\$60-65
CF	US\$40-45	US\$25-28
Energy	US\$50-56	US\$40-45
Exports	US\$340-360 Million	US\$350-375 Million
AF CUR	%85-%90	85%-90%
EBITDA margin	10%-12%	10%-12%
CAPEX	US\$90-100 Million	US\$160-170 Million

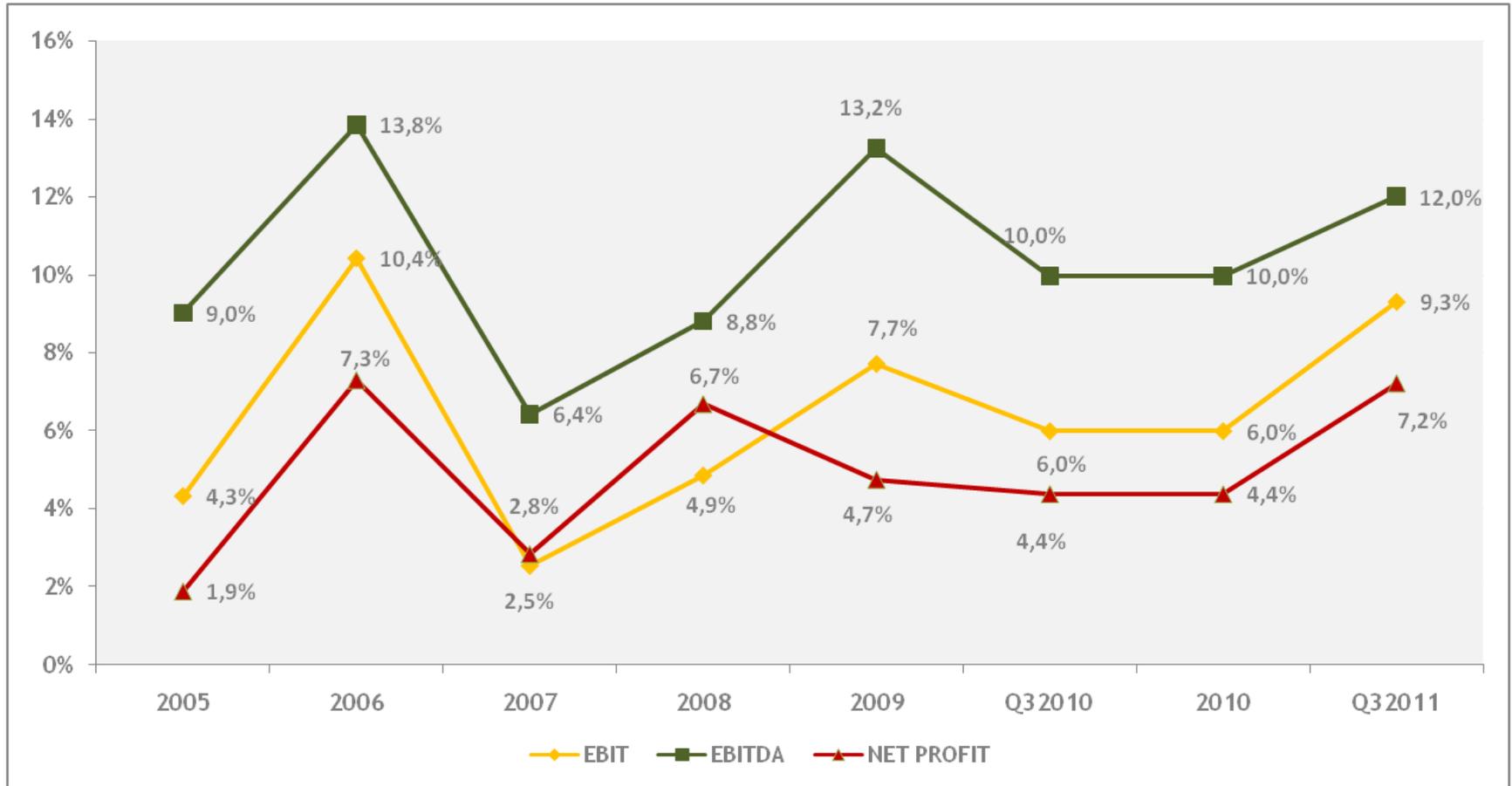
NET SALES & EXPORT (FOB) (US\$ million)



EBIT - EBITDA - NET PROFIT (US\$ million)



EBIT - EBITDA - NET PROFIT (%)



INVESTMENT-PROFIT-DIVIDEND

2000-Q32011:

- Total Investment : US\$ 619,9 million
- Total Net Profit : US\$ 428,7 million
- Total Dividend : US\$ 81,9 million



SUMMARY INCOME STATEMENT

Income Statement (US\$ Million)	2007	2008	2009	Q32010	2010	Q32011
Net Sales	670	678	557	602	851	742
EBITDA	43	60	74	52	85	89
EBIT	17	33	43	27	51	69
NET PROFIT	19	45	26	18	37	53



BALANCE SHEET

Balance Sheet (US\$ Million)

		2008	2009	2010	Q32011
ASSETS		707	809	836	859
Current Assets		376	391	388	410
	Liquid Assets	27	64	37	37
	Receivables	264	218	212	197
	Inventories	64	74	89	133
	Other	22	35	51	44
Long Term Assets		331	418	448	449
	Long Term Trade Receivables	8	8	6	5
	Financial Assets	18	18	18	15
	Tangible Assets	282	354	417	412
	Intangible Assets	0,128	4	3	2
	Other Long Term Assets	23	34	4	16
LIABILITIES		707	809	836	859
Current Liabilities		158	209	227	283
	Financial Liabilities	67	88	85	79
	Trade Payables	75	110	135	197
	Derivative Financial Instruments	1	0	0	0
	Other Short Term Liabilities	15	11	7	7
Long Term Liabilities		100	121	118	127
	Financial Liabilities	80	91	90	105
	Trade Payables	0	2	0	0
	Derivative Financial Instruments	3	3	3	3
	Provisions for Debt and Expenses	5	6	7	6
	Deferred Tax Liabilities	9	9	9	6
	Other Long Term Liabilities	3	10	9	7
Shareholders' Equity		449	479	491	449



THANK YOU

<http://www.aksa.com>
[http :// www.aksaca.com.tr](http://www.aksaca.com.tr)

