

Business Principles Progress Report 2007 Appendix 1: – Page 1

This table summarises the Environmental activities of Alfa Laval in each “link” of a simplified value chain.

Value Chain Step.	1. Customer needs and Company Strategy	2. Design and development	3. Suppliers	4. Manufacture	5. Logistics and distribution
A. Context notes	<p>“The World is seeking a number of ways to reduce emissions, produce fresh, clean water and use less energy. Over the past 125 years, Alfa Laval has offered its customers solutions that help them to generate, reuse and protect natural resources – such as energy and water – in industrial processes” Lars Renström, CEO Alfa Laval – Annual report 2007.</p>	<p>Many products are used in environmental protection applications. See case studies. link>></p>	<p>Increasingly, sourcing is from developing economies in Asia, central and East Europe.</p> <p>Alfa Laval’s supply strategy is to retain the production of components or products that contain our unique technological competence (either product, materials or production process) and outsource non key components</p>	<p>The manufacturing processes are mainly metal pressing, forming cutting, turning and milling which are not energy, water or chemical intensive.</p> <p>Alfa Laval has approx. 5,200 (4,800) employees in production, spread over 26 major plants, of which 16 are located in Europe, 6 in Asia, 3 in the US and 1 in Brazil.</p> <p>Manufacturing and service represent approx. 34 % of Alfa Laval’s total CO₂-e emissions.</p>	<p>Alfa Laval distributes products worldwide. It has centralised warehousing in a few key locations. All transportation (trucks etc) are subcontracted.</p> <p>Goods transportation represents approximately 43 % of Alfa Laval’s total CO₂-e emissions</p>
B. Significant Opportunities	<p>More demand for new “clean tech” products due to climate change and increased focus on sustainability is a driver for Alfa Laval’s products and technologies.</p> <p>Largest environmental opportunity is to increase market share of compact heat exchangers in energy intensive industries replacing conventional less efficient heat recovery solutions. Potential is to save millions of tons of CO₂-e per year.</p>	<p>Many new product developments are focussed on improved efficiency and applications that save customers natural resources and energy.</p> <p>Several developments provide solutions to environmental impacts of customers’ industrial processes.</p> <p>New products can have lower life cycle environmental impact than the ones they replace. (excluding customer impacts).</p>	<p>Because developing economies are and will continue to be key markets for Alfa Laval, the source of supply comes closer to the customer which should reduce transportation emissions. E.g. Alfa Laval sells 33% volume in Asia but only sources 18% of total purchasing value there.</p> <p>We can influence and educate suppliers to have Environment Management systems to reduce their own Greenhouse Gas (GHG) emissions.</p>	<p>Reduction of energy consumption and use of black and grey chemicals.</p>	<p>Reduction of GHG emissions by reducing amount of air freight.</p> <p>Influence transportation suppliers to set GHG reduction targets and adopt pro-active approach to reducing environmental impact.</p>
C. Significant Risks	<p>Alfa Laval products are used in many industries to optimise the process efficiency when extracting energy or food (etc) from natural resources. If these customer industries have negative ecological or environmental impact then Alfa Laval could be “blamed” for having been complicit in this issue.</p>	<p>Inclusion of hazardous materials and chemicals in the product itself or in the production processes needed to produce the product.</p>	<p>Movement of supply chain to Asia drives scope 1 and 2 emissions in the production phase of value chain because (compared to Scandinavia) more energy is produced from coal fired power stations.</p>	<p>Use of grey and black listed chemicals with resultant health and safe disposal issues.</p> <p>Some of sites may have been manufacturing sites for several decades. Gradual soil contamination from small spills of oils and other chemicals over many years or from preceding processes.</p>	<p>Alfa Laval freight volume is not a significant proportion of the volume carried by the freight carriers.</p> <p>The goods are predominantly made of steel and so do not represent a significant environmental hazard if involved in an accident during shipping.</p>
D. Significant impacts	<p>Alfa Laval has a global supply chain strategy which can have a significant environmental impact. (see logistics column).</p>	<p>No significant impacts for the R&D function itself. See Use value chain step for product information.</p>	<p>1st tier suppliers production processes are not energy or water intensive. No obvious significant impacts.</p>	<p>Main impact is GHG emissions from consumption of electricity. Production processes are not energy or water intensive. No other obvious significant impacts.</p>	<p>GHG emissions, Air pollution due to emissions from combustion of oil based fuel particularly in air freight</p>

Business Principles Progress Report 2007 Appendix 1: – Page 2

This table summarises the Environmental activities of Alfa Laval in each “link” of a simplified value chain.

Value Chain Step.	1. Customer needs and Company Strategy	2. Design and development	3. Suppliers	4. Manufacture	5. Logistics and distribution
E. Boundary conditions for our environment improvement activities.	At group level we have decided that different boundary conditions exist for our environmental work in each stage of the value chain.	Design and Development Activities in the major product development departments that, combined, represent approximately Q% of 2007 total Alfa Laval product sales volume	Suppliers who, combined, represent 80% purchased value of Alfa Laval products.	Plants with less than 100 employees need to demonstrate how they achieve and maintain legal compliance. All other sites have to have a detailed EMS and set impact reduction targets. link for more information of EMS>>	All goods transportation purchased directly by Alfa Laval. Normally, this is transportation between different Alfa Laval plants during manufacture and assembly, to distribution centres and to end customers.
F. Specific projects During 2007	Development of a simple yet reliable definition of our business that can be accurately defined as “Clean Tech”. This project will conclude in 2008.	Common Life cycle analysis process for all core product development centres agreed in 2007. This is being implemented as an integral part of new product design process in 2008.	New Supplier environmental survey initiated in 2007. Results available in 2008 and follow up actions to be decided.	Alfa Laval EMS implementation at all Plants. Improved processes to reliably update the grey and black list of chemicals and materials. Reduction of grey chemicals and elimination of black chemicals by end 2010.	Classification of all transport suppliers according to their environmental management activities. started 2007 Identify product lines that can be moved from air freight to surface transportation starts 2008
G. Key performance (KPIs) indicators and current targets:	Main target is reduction of CO ₂ -e emissions in all Group internal processes adjusted for volume. ¹ Target is to reduce group level emissions from our own processes by 15% during the period 2007-2011 with base year 2006 adjusted for production volume. (see value chain descriptions for more details)	% of new products that have lower life time impact when compared with product being made obsolete or competing technologies ² .	% of suppliers with an environmental management system (EMS). % suppliers with GHG reduction targets ³ .	Tonnes CO ₂ -e per million direct labour hours. -Reduction 3% per year on average 2007- 2011 base year 2006. ⁴ Volume of black & grey chemicals.	Average tonnes CO ₂ -e per tonkm of shipped goods. ⁵ Reduction 3% per year on average 2007- 2011 base year 2006.
H. Headline 2007 values (2006)	Total CO ₂ -e emissions from own operations = 93,000 tonnes (86,000), Total CO ₂ -e tonnes per employee = 8.61 (8,67) Total CO ₂ -e Tonnes per Million SEK sales = 3,74 (4,34)	No values yet available – None expected for some years until the measurement process is stable.	No values available yet – base year expected to be 2008.	Figures available June 2008	Figures available June 2008
I. Scope relating KPIs and targets	¹ Excludes direct and indirect emissions from small office locations where measurement is impractical and impact is proportionally small.	² Use life phase excluded. Because, if included, so many products would show a net positive impact this value would not then help to drive improvements in the other stages of the life cycle.	³ Suppliers who, combined, represent 80% direct purchasing value (i.e. excludes indirect value such as office paper, energy (see Manufacturing); company cars (see sales and marketing), transportation (see logistics)).	⁴ Plants representing in 2007 representing 98% of production value. Excludes acquisitions until they are incorporated in the reporting tool – max 3 years after acquisition.	⁵ The measurements includes transports purchased via Alfa Laval but excludes the local /local transports due to low impact and they are for the time being impossible to follow up.

Business Principles Progress Report 2007 Appendix 1: – Page 3

This table summarises the Environmental activities of Alfa Laval in each “link” of a simplified value chain.

Value Chain Step.	6. Sales and Marketing	7. Use	8. After Sales, upgrading, repairs and service	9. Scrap and recycling	Whole Alfa Laval Group.
A. Context notes	Alfa Laval's products are sold in over 100 countries using multiple sales channels. These include own sales and service engineers, distributors, agents and engineering contractors. Employee travel and cars (whole Group represents approximately 23 % of Alfa Laval's total CO ₂ -e emissions	Alfa Laval provides products and services to many different industries. The Alfa Laval mission is “To optimise the performance of our customers' processes. Time and time again”.	Alfa Laval offers service through a global network of service technicians and 37 service workshops in 29 countries. The installed base of Alfa Laval equipment is constantly growing because the life expectancy of the products is long.	A high percentage of products are manufactured from stainless steel and other ferrous materials which are produced from recycled steel (approx 80%).	Alfa Laval's organisation is characterised by having a Q employees spread over a wide global reach of 52 countries on all continents. Companies vary in size with 49% companies with less than 50 employees; 70% with less than 100 employees and 90% with less than 300 employees.
B. Significant Opportunities	Increase the use of environmental facts in sales discussions to better show the advantages of Alfa Laval products versus competitors in environmental “pay-back” terms as well as financial and other process advantages.	Many products are used in environmental protection applications. See case studies. link >> Already, compact heat exchangers are estimated to be saving over 10 million tons CO ₂ -e compared to the normal heat transfer technology in oil refineries.	Good after sales support increases the efficiency of customers' processes thus reducing energy consumption with less waste of process product	Alfa Laval products have a long life expectancy normally measured in decades. Improve recycling qualities of packaging material and improve recycling information.	Alfa Laval develops and sells products and solutions that contribute to energy, waste and pollution reduction in industrial and maniple processes.
C. Significant Risks	Products could be used by customers who act negligently in relation to the environment.	Alfa Laval products are used in many industries to optimise the process efficiency when extracting energy or food (etc) from natural resources. If these customer industries have negative ecological or environmental impact then Alfa Laval could be “blamed” for having been complicit in this issue.	Water pollution from uncontrolled disposal of cleaning chemicals and pollutants/metals. Use of black and grey listed chemicals in repair workshops.	Customers could dispose of products without adequate cleaning resulting in their process material entering the waste stream. We regard this issue as our customer's and largely outside our sphere of influence.	See each “link” in the value chain.
D. Significant impacts	GreenHouse Gas (GHG) emissions from sales employee's transportation and offices.	For heat exchangers there is no direct impact during use. For other products most impact result from: Energy to drive the product. Cleaning chemicals and water used in cleaning-in-place processes.	GHG emissions from transportation of equipment from customers to service workshops an back; service technicians' transportation.	Packaging waste from product distribution. At the end of useful life by the products are usually recycled through established scrap metal industry.	GHG emissions are probably the largest impact from the internal working of the company.

Business Principles Progress Report 2007 Appendix 1: – Page 4

This table summarises the Environmental activities of Alfa Laval in each “link” of a simplified value chain.

Value Chain Step.	6. Sales and Marketing	7. Use	8. After Sales, upgrading, repairs and service	9. Scrap and recycling	Whole Alfa Laval Group.
E. Boundary conditions for our environment improvement activities.	Own employed sales organisation. Other sales channels are omitted.	All major product families.	All service and repair workshops. Employee business travel (of which many are in service functions)	Recyclability in LCA (see new product design).	We tailor the reporting according to the significance of the Alfa Laval entities. Many entities lack critical mass to build detailed competence in environmental reporting – in these we focus on legal compliance. ³
F. Specific projects During 2007	Reduction of GHG impacts from company cars. Analysis of transportation patterns and their environmental impacts.	See design and development step of the value chain.	All service workshops to reach Bronze level in Alfa Laval EMS Reduce GreenHouse Gas (GHG) emissions by 3% per year 2006 to 2010. Improved implementation of grey and black list chemical control..	Alfa Laval's environmental packaging specification was produced in 2007 It is now being implemented with target to cover 80% of purchased volume by 2010.	We have been implementing a group wide EMS reporting tool for collecting detailed environmental data from all significant sites during 2006 and 2007. Data and more information is scheduled to be available in June 2008.
G. Key performance (KPIs) indicators and current targets:	CO ₂ -e g/km of company car fleet. Reduction by minimum 3% per year.	See design and development step of the value chain.	Tonnes CO ₂ -e per million direct labour hours. -Reduction 3% per year on average 2007- 2011 base year 2006. ^{8.1} Volume of black & grey chemicals. ^{8.1}	Increase percentage of scrap from factories that is recycled. Decrease scrap, rework and claims. 80% of purchased packaging volume compliant with environment spec. by 2010.	We will be publishing KPI according to Global reporting Initiative G3 guidelines for 2007. This is scheduled to be available in June 2008.
H. Headline 2007 values (2006)	Figures available June 2008	N/A	Figures available June 2008	Figures available June 2008	See Value Chain Step 1. Customer needs and company strategy.
I. Scope relating KPIs and targets	^{6.1} All leased and owned cars in Europe and Americas. (Asia excluded so far). ^{6.1} Travel and transport for whole group – we do not subdivide this to sales and service personnel.	The product range and customer applications are much diversified. Sales have been continuous for over 125 years. Consequently, apart from inclusion in the LCA analysis in new product development, we have not been able to establish any useful overall KPI for the environmental effects in the use phase.	^{8.1, 8.2} These values are consolidated in KPI for manufacturing plants (see manufacturing “link” of value chain.		*Companies acquired are excluded from GRI indicators for the first 3 years of ownership during the period when business processes are integrated and reporting methods adopted.