



Sihtasutus REC Estonia



Profitable Environmental Management (PREMA[®]) 2006

**- Economical, Ecological and
Organisational Benefits for
Estonian SMEs -**

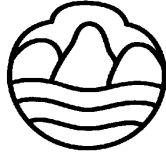
In brief

method, instruments and
case studies

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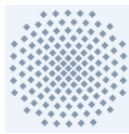
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Bundesministerium für
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1. Profitable Environmental Management

PREMA® is a programme developed by German Agency for Technical Co-operation (GTZ) on behalf of the Federal Ministry for Economic Co-operation and Development (BMZ) for micro, small and medium-sized companies. It aims at practically identifying, developing and implementing measures designed to substantially

- ⇒ **reduce production costs,**
- ⇒ **improve environmental performance, and**
- ⇒ **enhance organisational capabilities.**

PREMA® is designed for owners and managerial staff of micro, small, medium-sized and even big companies, as well as for enterprises of supply chains or industrial areas.

The full **PREMA® programme** consists of several instruments to introduce an integrated, effective and profitable management system in (groups of) companies. The programme is **modular** and flexible so that the various tools and methods can be combined or adjusted to suit the specific requirements of each group of companies or type of institutional client. Time requirements range from three days to an engagement for up to eight months.

In order to enhance organisational capabilities, **PREMA®** also trains the **presentation, visualisation, moderation and team-building techniques** which are required to implement measures, to enhance the knowledge and problem-solving capacities existing within the company, as well as for effective networking between companies.

The **PREMA®** training programme is **creative and interactive**: it builds upon the professional and personal experience of participants and aims at transferring in a sustainable way the newly acquired knowledge and skills into the companies.

PREMA® mostly allows for **inexpensive implementation** with an indispensable minimum of external input and, consequently, for **wide application** in a great number of companies.

The modular combination of instruments promotes the initiation of a **continuous improvement process**, which reaches from immediate implementation of limited changes to the introduction of complex management systems in the fields of quality, environment, and workplace safety. **PREMA®** can be linked to other management systems and lays a good foundation for achieving certification according international standards, e.g. ISO norms on quality, environment, health, safety / social issues, and substantially decreases the required work, time and cost.

2. The Methodological Key Elements of PREMA®

a. The Triple Win

By adequately taking into consideration these three components, i.e. cost management, environmental management and organisational learning, a **triple win** can be achieved (**key element 1**):

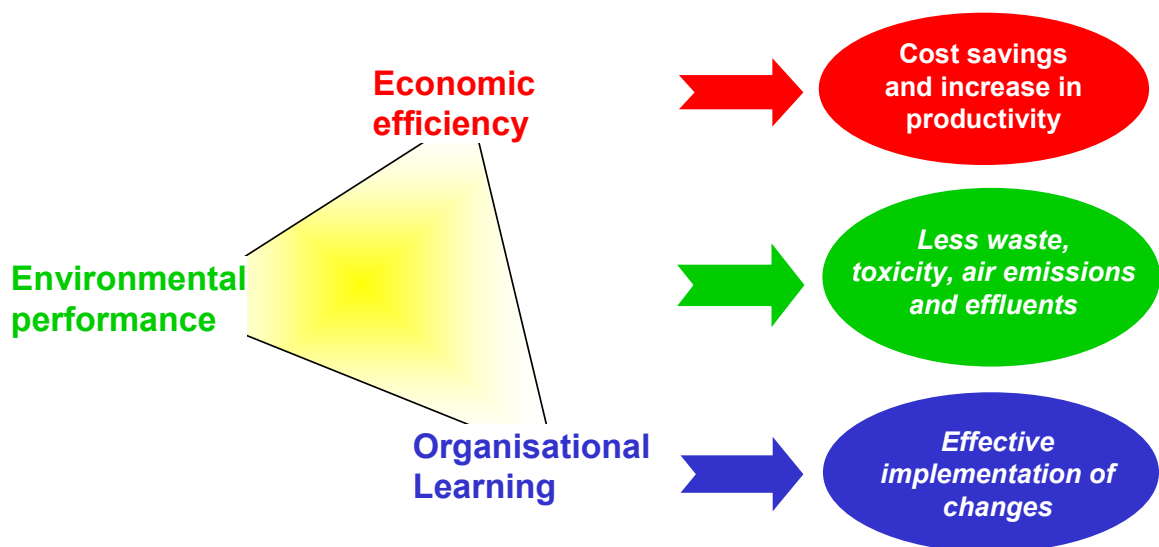


Fig.1: key element 1 / triple win

PREMA® offers this *triple win* to companies through

- ⇒ a systemic approach for the quick identification of problems, their impact and causes, as well as easy-to-implement measures in the field of quality, environment and workplace safety/ social issues; and/or
- ⇒ the systematic analysis of improvements potentials through the Non-Product Output approach (**key element 2**).



b. The Non Product Output Approach (NPO)

Non Product Output (NPO): all material, Energy and water which is in the production process but does not end up in the final product

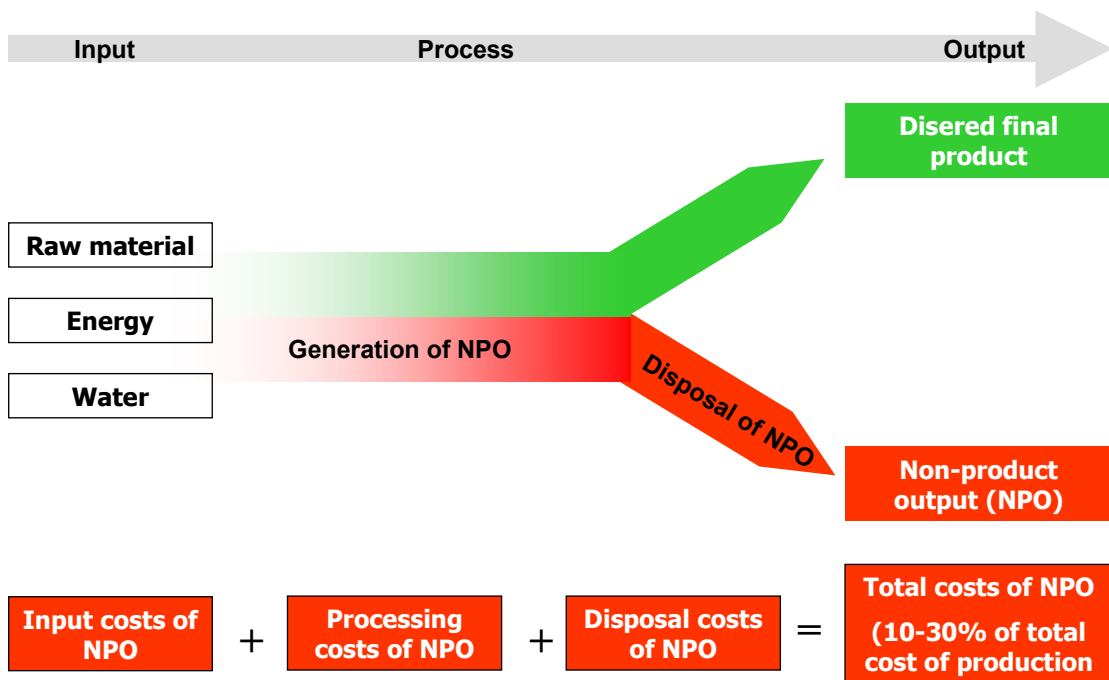


Fig.2: key element 2 / Non Product Output Approach (NPO)

c. The PREMA[®] Cycle of Change

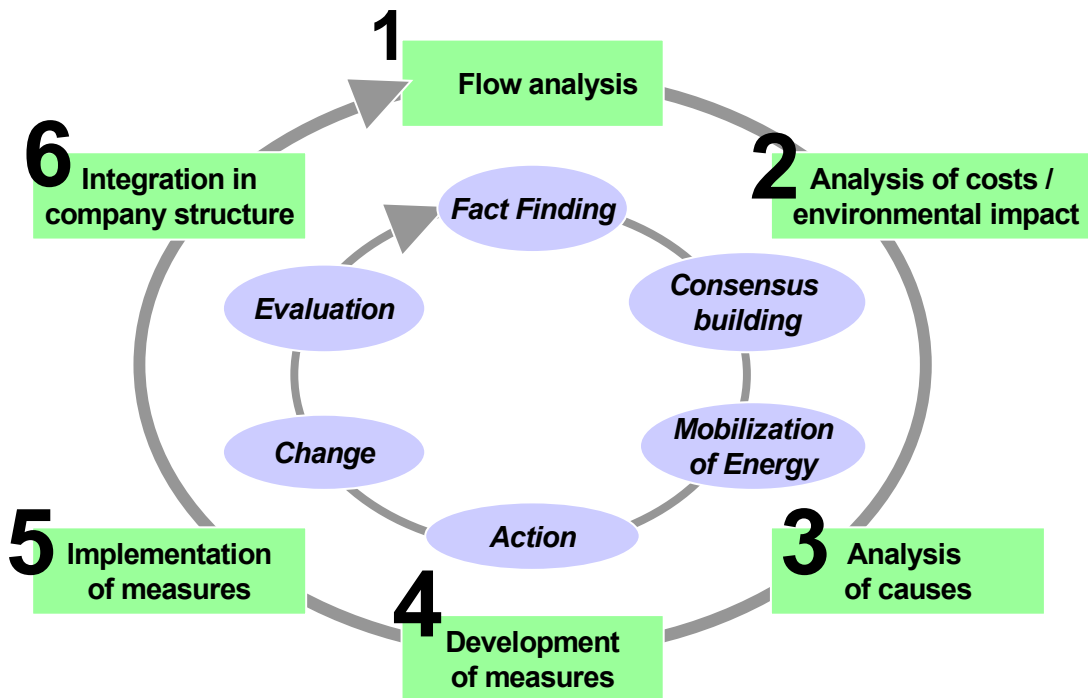


Fig.3: key element 3 / The PREMA[®] Cycle of Change

This cycle is based on the assumption that change processes, in order to be successful and sustainable, have to **go through a determined sequence of phases**. If this sequence is not adhered to, or is blocked at a certain stage, the process will run into conflicts, **resistance**, or will even peter out or fail completely. The consequences of "incomplete cycles" are "project torsos" or "project fragments" who increase resistance to change.

In the application of **PREMA[®]**, the **external cycle** reflect the technical steps followed by the different modules. The **inner cycle** serves as a 'map' for the change to be implemented by company staff involved in **PREMA[®]**, in order to achieve effective implementation of measures thus reducing NPO and creating a triple win for the company.

3. Elements of a PREMA®-programme

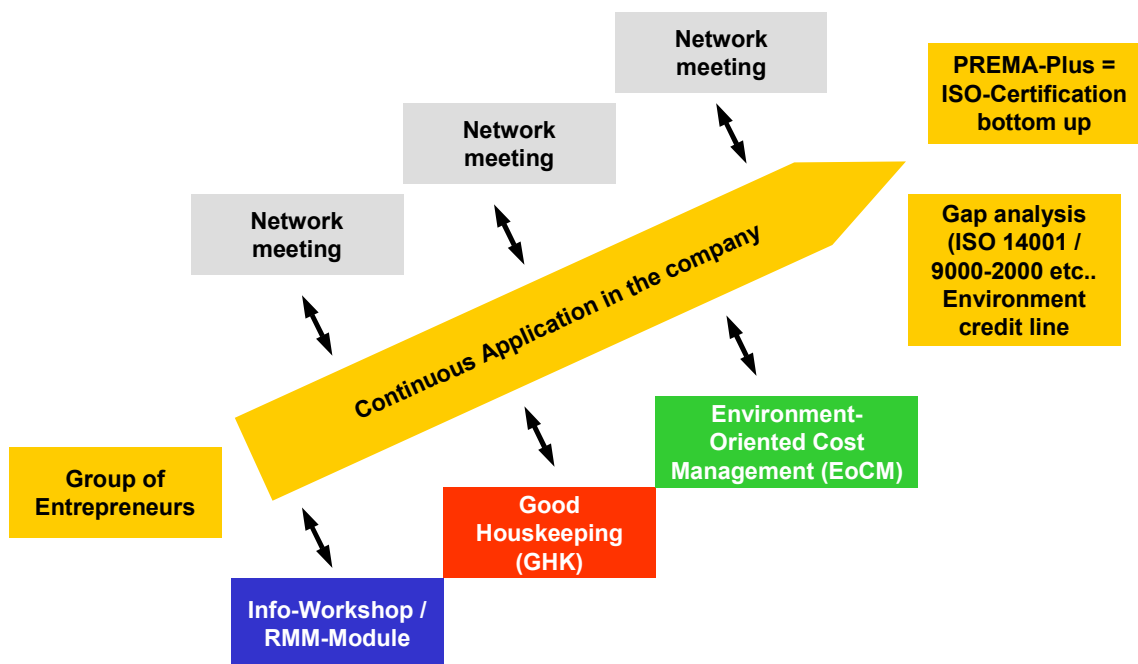


Fig.3: key element 3 / Elements of PREMA®-programme

PREMA® comprises short training sessions or a complete programme of up to six or eight months for owners and managerial staff of micro, small, medium-sized or big companies, including from supply chains or industrial zones.

It is structured in interactive training workshops conducted by qualified and authorised trainers and consultants, and networking meetings of the entrepreneurs, which may be maintained beyond the duration of the programme.

As additional options the modules Chemical Management (ChM) and Profitable Social Management (PSM) haven been developed with other GTZ projects.





4. The Modalities for PREMA[®] Training

PREMA[®] training courses are offered by authorised and registered trainers and consultants in cooperation with local partner institutions which are qualified through workshops and/or on the job.



Participants will receive a certificate issued by GTZ / **PREMA[®]**net and may become members of the **PREMA[®]**-network, which ensures the diffusion of information on new developments in the field of Profitable Environmental Management, the quality control concerning methods and trainers, and offers training-of-trainers', coaching, upgrading, and support to institutional clients for the introduction of **PREMA[®]**.

5. The comprehensive PREMA[®] programme – overview

a. Standard Modules

Activities & Duration	Results
<p>Resource Management Module</p> <p>(RMM[®])</p> <p>3-day training workshop</p> 	<ul style="list-style-type: none"> ▪ informations about the relevance of an efficient use of raw materials and energy, and the basic interrelations between product design, work planning and organisation, as well as costing, ▪ know how to use flow-charts for the identification of weaknesses in the production process ▪ methods for the transfer of ideas into practical changes in their own company, ▪ membership of a network to assist each other in improving resource use in their companies
<p>Networking Meetings</p> <p>e.g. 1 day per month facilitated by an external moderator; 2 meetings if RMM is stand alone</p>	<ul style="list-style-type: none"> ▪ elaborate profitable, environmentally sound solutions and action strategies for problems which have occurred in the company's routine operations with counselling technique Action Learning Set (ALS)
<p>Good Housekeeping Module (GHK[®])</p> <p>3-day training workshop 0,5 day company visit</p> 	<ul style="list-style-type: none"> ▪ know how to use flow-charts, mind-maps, checklists, and action plans etc. for the identification of improvement potentials (resource use), assessment of its economic, environmental, organisational, workplace safety effects, for the analysis its causes and development and assessment of measures ▪ methods for the transfer of ideas into practical changes in their own company, ▪ achieve cost reductions, environmental, organisational, and workplace safety benefits in a short time period, ▪ use GHK as entry into process of continuous improvement
<p>Networking Meetings</p>	<ul style="list-style-type: none"> ▪ as above



<p>Environment-Oriented Cost Management Module (EoCM®)</p> <p>4 trainings of 2 – 3 days each, 2-4 company visits 4 networking meetings</p> <p>for bigger companies a separate 6-8 months programme</p> <p>EoCM Profitable Environmental Management</p> 	<ul style="list-style-type: none"> engage in systematically and continuously reducing the costs of Non-product Output, NPO, i.e. any output which does not form part of the final product thus reducing production costs, decreasing the company's negative environmental impact, and initiating a process of internal organisational learning by increasing transparency and motivating staff to actively contribute to further improvements
<p>Networking Meetings</p>	<ul style="list-style-type: none"> as above
<p>PREMAplus Module</p> <p>PREMAplus Profitable Environmental Management</p> 	<ul style="list-style-type: none"> analyse the gap with regard to management systems according to ISO 19001-2000, 14001 and OHSAS 18001 decide about (type of) certification



6. Case Studies

a. PREMA® in Wolfenbuettel and Braunschweig, Germany

Between November 2001 and August 2002, the first **PREMA®** programme (**P**rofitable **E**nvironmental **M**anagement) in Germany was implemented in the region of Wolfenbuettel, Lower Saxony. In the years 2003 and 2004 the Chamber of Handicraft, Braunschweig was implementing another project, using the **PREMA®** -Method in small and medium sized enterprizes.

Participants in the programmes were sixteen companies from the producing and service industry and from various sectors (see table 1). They should be motivated to identify and implement measures that lead to a “triple win” to be achieved by **PREMA®**: cost reduction, environmental benefits and organisational improvements.

Table 1: PREMA programme in Wolfenbuettel and Braunschweig : Participating companies

Company	Sector	Site	No. of employees
Kümper + Schwarze	construction	City of Wolfenbuettel	170
NANKO die Möbeltreppe	carpentry	City of Wolfenbuettel	25
AWO-Arbeiterwohlfahrt	retirement home	City of Wolfenbuettel	97,5
IMWAB	special-purpose machines	City of Wolfenbuettel	13
Holzhof Börßum	carpentry	District of Wolfenbuettel	9
Richter's Altstadt-Bäckerei	bakery	City of Wolfenbuettel	83
Reisebüro Schmidt	travel agency	City of Wolfenbuettel	65
Lebenshilfe Helmstedt-Wolfenbüttel GmbH	care centre for disabled persons	City of Wolfenbuettel	130
Carl Schumacher	construction	City of Wolfenbuettel	ca. 150
Dollenberg	insulation	City of Wolfenbuettel	ca. 30
Struß GmbH	carpentry	City of Braunschweig	22
Kemper GmbH	carpentry	City of Braunschweig	32
Strang und Bähre GmbH	ventilating and air-conditioning systems	City of Braunschweig	45
GS Gabelstaplerservice	garage	City of Braunschweig	18
Bäckerei Warnecke	bakery	District of Goslar	12
Behrens GmbH	carpentry	City of Salzgitter	40



In the frame of the above mentioned projects, the trainings shown in Figure 4 (Introductory module, Good Housekeeping, Environment-oriented Cost Management) as well as four half-day network meeting (every 4 to 6 weeks) took place. Most of the companies were continuously represented by one person, some by the manager, others by employees in different functions (e.g. quality manager, master).

The assessment of the first project after two years by the Frei Universität Berlin showed that 8 of 10 companies implemented measures of operational environmental management in the frame of the **PREMA®**-Project. The participants of the project reinvested about 23.000 € and realised a calculable profit of about 150.000 € (net) by these measures (s. table 2). For some of the measures there have been no calculations of the realised profits so that the actual value of money might be higher.

In addition to the above mentioned project partner, the local chamber of commerce and industry, as well as the competent chamber of handicrafts and regional trade guild were likewise involved in the project. The project became publicly known through various reports in the local press and through public event both ahead of and during the programme implementation. The progress and results of the project were likewise published.



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Table 2: Choice of case studies and results of the “PREMA – Project” in Wolfenbüttel

Measures	Economical impact	Ecological Impact	Organisational Impact
AWO – Altenzentrum (retirement home)			
Optimizing waste management by	<ul style="list-style-type: none"> Reduced disposal costs Efficient employment 	<ul style="list-style-type: none"> Reduced waste amounts by recycling 	<ul style="list-style-type: none"> Defined disposal and recycling area Efficient use of working hours
Altstadtbäckerei Richter (bakery)			
Optimizing waste management by	<ul style="list-style-type: none"> Reduced disposal costs 	<ul style="list-style-type: none"> Reduced waste amounts (50%) by recycling and avoidance 	
Electricity peak monitoring installation	<ul style="list-style-type: none"> Investment 4.500 € once Cost reduction 1221€ during 5 month with a maximum value of 120 KW Pay back periode ~ 2 years 	<ul style="list-style-type: none"> Reduced energy consumption 	
Optimizing the compressed air system	<ul style="list-style-type: none"> Investment 1.000 € once Cost reductions not calculable 	<ul style="list-style-type: none"> Increased operating time of the compressor Reduced energy consumption 	<ul style="list-style-type: none"> Forming awareness about energy and costs
Reduction of plastic waste and labour input through the use of reusable velcro polythene sheets	<ul style="list-style-type: none"> Investment 5.250 € once Cost reduction 5.600 – 7.500 €/a Pay back periode < 11 month 	<ul style="list-style-type: none"> Reduction of non returnable plastics of about 40 % 	<ul style="list-style-type: none"> Hygienic improvements Efficient use of working hours
Less inputs and workload through a new system for spray fats	<ul style="list-style-type: none"> Investment 814 € once Cost reduction 350 €/a Pay back periode > 1 year 	<ul style="list-style-type: none"> Reduction of spray fat consumption of about 10 % 	<ul style="list-style-type: none"> Hygienic improvements Efficient use of working hours
Less returns of dough due to improved organisational structures	<ul style="list-style-type: none"> No investments Cost reduction 7.800 €/a Reduction of returns by 30% to 40% Pay back periode immediately 	<ul style="list-style-type: none"> Reduction of flour, energy and water consumption about 3 – 5% 	<ul style="list-style-type: none"> Forming awareness about costs and environment Improved planning and ordering



Measures	Economical impact	Ecological Impact	Organisational Impact
Dollenberg Isolierungen (insulation)			
modified organisational structures <ul style="list-style-type: none"> ▪ Loading of the companies vehicles with material and working instructions in the eveningg 	<ul style="list-style-type: none"> ▪ No Investment ▪ Cost reduction 36.000 €/a through reduction of travel time by ½ hour a day ▪ Cost reduction 2.400 €/a through reduction of fuel consumption by 20%-25% ▪ Pay back periode immediately 	<ul style="list-style-type: none"> ▪ reduction of fuel consumption 20%-25% by traffic jam avoidance 	<ul style="list-style-type: none"> ▪ Increasing of employees motivation because of clear structures
Reduction of container scrap metal <ul style="list-style-type: none"> ▪ Systematic registration of scrap metal amounts ▪ Infoming the staff about the value ▪ Interdiction of the disposal of larger sheet metal pices ▪ Systematical organizing of the storage 	<ul style="list-style-type: none"> ▪ No Investments ▪ Cost reduction 6.000 € by the consequent use of larger sheet metal pieces ▪ Pay back periode immediately 	<ul style="list-style-type: none"> ▪ Saving of raw materials by reducing scrap metal amounts through the use of larger pieces about 80% ▪ Reduced waste amounts 	<ul style="list-style-type: none"> ▪ Forming awareness for the value and the reuseability of metal pieces
IMWAB GmbH (special purpose machines)			
Reduction of costs, waste and delivery periods through optimised purchase of cut to size plastic material	<ul style="list-style-type: none"> ▪ No investments ▪ Cost reduction 5.100 € through reduction of material waste and reduction of purchase price by 5% ▪ Pay back periode immediately 	<ul style="list-style-type: none"> ▪ Due to the optimised cutting system, the raw material is used more efficiently, reducing waste material by approx. 5% each. 	<ul style="list-style-type: none"> ▪ Forming awareness



Measures	Economical impact	Ecological Impact	Organisational Impact
Nanko GmbH (carpentry)			
Less cutting waste through improved cutting strategy	<ul style="list-style-type: none"> ▪ Cost reduction 54.000 € to 80.000 €/a by reducing the raw material consumption ▪ Pay back periode < 1 month 	<ul style="list-style-type: none"> ▪ Efficient use of the resource wood 	<ul style="list-style-type: none"> ▪ Forming awareness by employees education
Reduction of varnish consumption through introduction of a new varnishing technique	<ul style="list-style-type: none"> ▪ Investment 4.000 € once ▪ Cost reduction 15.000 €/a ▪ Pay back periode 4-5 month 	<ul style="list-style-type: none"> ▪ Reduced varnish consumption about 60% ▪ Less varnish waste for disposal 	<ul style="list-style-type: none"> ▪ Forming awareness ▪ Better working place conditions
Reisebüro Schmidt (Travel agency)			
Reduction of fuel consumption through training of bus drivers	<ul style="list-style-type: none"> ▪ Investment 2.500 € once ▪ Cost reduction 3.600 €/a ▪ Pay bback periode 8.3 month 	<ul style="list-style-type: none"> ▪ Reduce fuel consumption about 5% (6000 l/a) 	<ul style="list-style-type: none"> ▪ Forming awareness ▪ Implement a controlling system for fuel consumption