1	**ID: 82**	**Title of measure**	**Sector: Plastic Industry**
2	**Survey Year: 2007**	**Replacement of existing pump with adequate size pump**	**Technology : Pumps**
3	Name of the Company	:	**Garware Polyester Limited, Aurangabad, Pune, INDIA**
4	Agency that executed the project	:	In-house
5	Year of Implementation	:	2006-07

6 **Unit Profile:**

Garware Polyeater is one of the largest producers of polyester films in India. It's product range includes films that cater to the solar control industry, packaging industry, reprographic industry etc. The turnover of the company for the year 2006-07 is reported to be US$ 0.10 billion.

7 **Description of Energy Conservation Measure:-**

The in–house team of the unit took the initiative to conduct a survey to identify the energy inefficient equipments in the unit and replace them. It was found that the 15 kW pump which was in operation in Film Plant, was oversized. The water flow in the film plant was optimized by replacing this by a 3.7kW pump.

8

Garware Polyester Limited	**Picture After Modification**
	

9	Total investment :		750 US$
10	First year energy cost savings :		4,150 US$
11	First year additional savings beyond energy (i.e. water, raw materials etc.):		Nil
12	Annual electricity consumption before,	MWh	241
13	Annual electricity consumption after,	MWh	195
14	First year electricity savings,	MWh	46
15	First year tons of CO_2 mitigated		46
16	Assumed sustainability, years		10
17	**Expected tons of CO_2 mitigated throughout life cycle**		**460**

1	**ID: 83**	**Title of measure**	**Sector: Plastic Industry**
2	**Survey Year: 2007**	**Replacement of boiler feed pump**	**Technology : Pumps**
3	Name of the Company	:	**Garware Polyester Limited, Aurangabad, Pune, INDIA**
4	Agency that executed the project	:	In-house
5	Year of Implementation	:	2006

6 **Unit Profile:**

Garware Polyeater is one of the largest producers of polyester films in India. It's product range includes films that cater to the solar control industry, packaging industry, reprographic industry etc. The turnover of the company for the year 2006-07 is reported to be US$ 0.10 billion.

7 **Description of Energy Conservation Measure:-**

The in-house team conducted a survey and found that the installed capacity of boiler feed pump was higher then requirement (flow Q- 22.6 m^3/Hr. & Head H- 234Meters) against normal steam load of 12 MT/Hr. at 15.0 Kg/cm^2.The capacity of boiler feed pump water pump was reviewed & re-engineered to Q- 18 m^3/Hr & H- 182.7 Meters.

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Garware Polyester Limited

Picture After Modification

9	Total investment :		5,125 US$
10	First year energy cost savings :		11,700 US$
11	First year additional savings beyond energy (i.e. water, raw materials etc.):		Nil
12	Annual electricity consumption before,	MWh	257
13	Annual electricity consumption after,	MWh	128
14	First year electricity savings,	MWh	129
15	First year tons of CO_2 mitigated		129
16	Assumed sustainability, years		10
17	**Expected tons of CO_2 mitigated throughout life cycle**		**1,290**

1	ID: 84	Title of measure	Sector: Plastic Industry
2	Survey Year: 2007	Heater furnace oil consumption reduction by optimization of operating parameters	Technology : FO Fired Heaters

3	Name of the Company	:	Garware Polyester Limited, Waluj, Aurangabad, Maharashtra, INDIA
4	Agency that executed the project	:	In-house
5	Year of Implementation	:	2006-07

6 **Unit Profile:**

Garware Polyester is one of the largest companies to produce polyester films in India. It's plants are located at Waluj and Chikalthana. The product range include films that cater to the solar control industry, packaging industry, reprographic industry etc. The annual turnover of the company is excess of US$ 0.10 billion.

7 **Description of Energy Conservation Measure:-**

The in-house team conducted the study in the unit and implemented the following steps for energy conservation.

1. Heater furnace oil consumption was reduced by improvement in efficiency of the heater through the excess oxygen control.
2. Optimisation of other operating parameters.
3. Reduction of heat losses by proper repairs.

8

Garware Polyester Limited

After Modification

Thermic Fluid Heater

9	Total investment :		875 US$
10	First year energy cost savings :		38,350 US$
11	First year additional savings beyond energy (i.e. water, raw materials etc.):		Nil
12	Annual oil consumption before,	kl	2,292
13	Annual oil consumption after,	kl	2,196
14	First year oil savings,	kl	96
15	First year tons of CO_2 mitigated		290
16	Assumed sustainability, years		10
17	**Expected tons of CO_2 mitigated throughout life cycle**		**2,900**