

Resource and Energy Conservation initiatives-

Hero Honda Motors Ltd.



World No. 1 Two Wheeler Company

HHML.

3rd Aug' 2010

Ajay Sinha

Resource and Energy efficient manufacturing – The Hero Honda Way

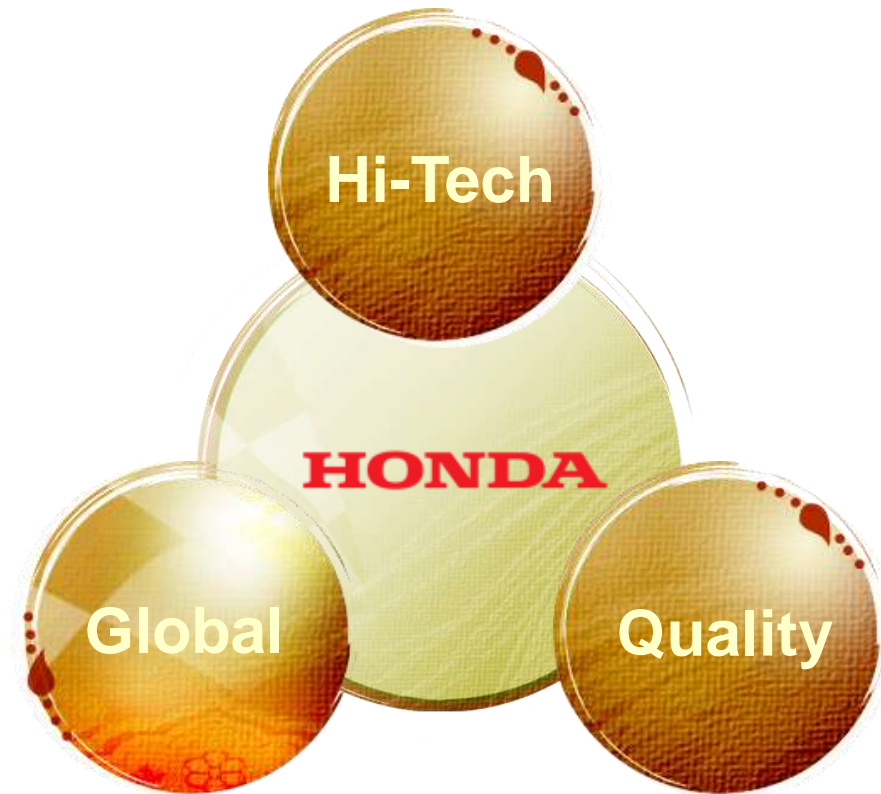


The Voyage



Hero Honda Motors Limited was incorporated on 19th Jan'84, as a joint venture Between Honda Motor Co. of Japan (26%) & Hero Group of Industries of India (26%)

The Hero and Honda Brand



The Hero Honda Brand



The Mandate

- **Be a world class manufacturer.**
- **Be a market leader.**
- **Provide highest level of customer satisfaction.**
- **Achieve excellence through teamwork.**
- **Create enduring relations with stakeholders**

Manufacturing Plants



Dharuhera Plant - Haryana
Production Started 1985

←

Gurgaon Plant - Haryana
Production Started 1997

→



Haridwar Plant - Uttarakhand
(Shrine Of Technology)
Production Started in April 2008

←



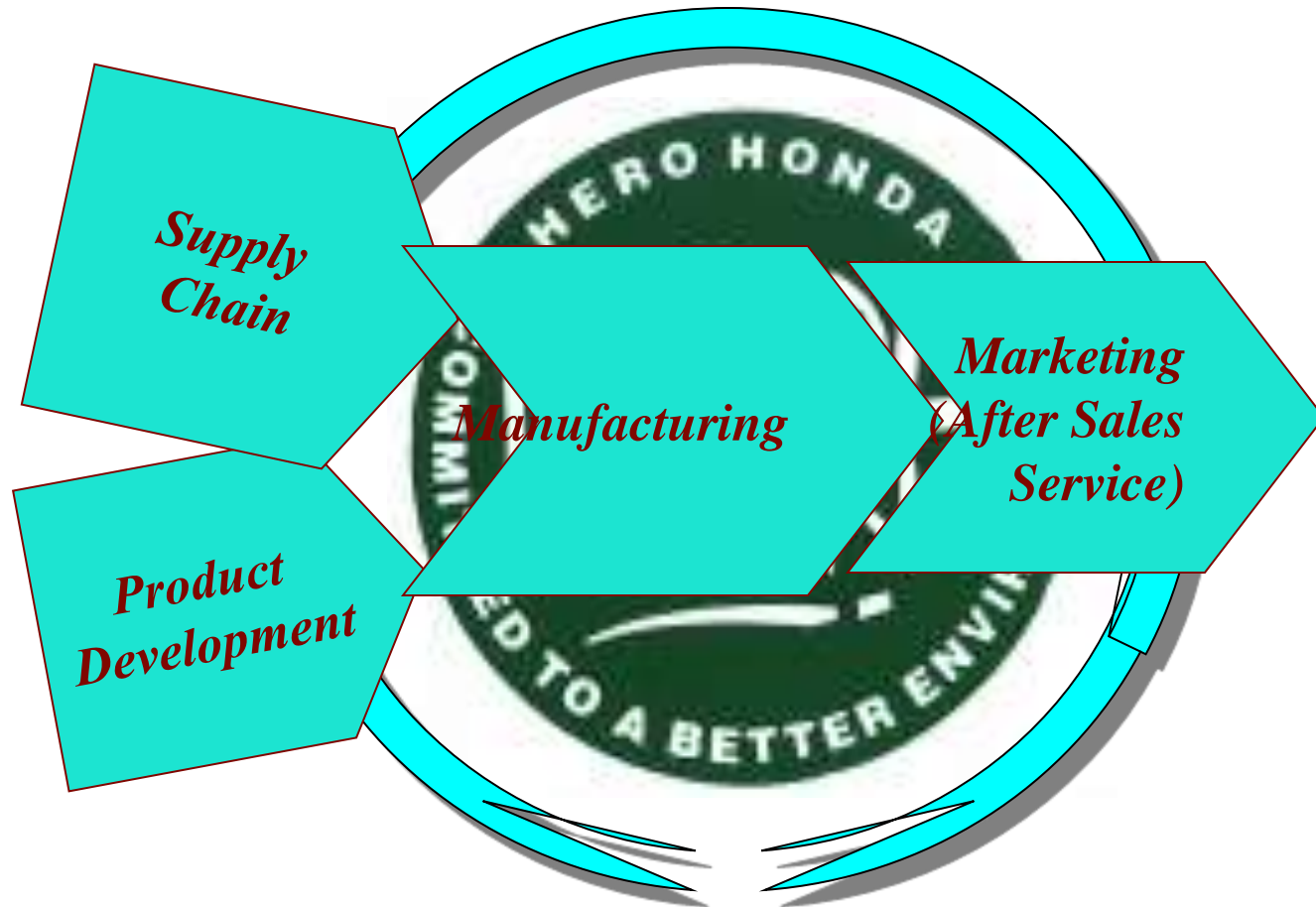
Our Connects



Rishta Dil Ka



Our Major Business Process





Energy conservation initiatives

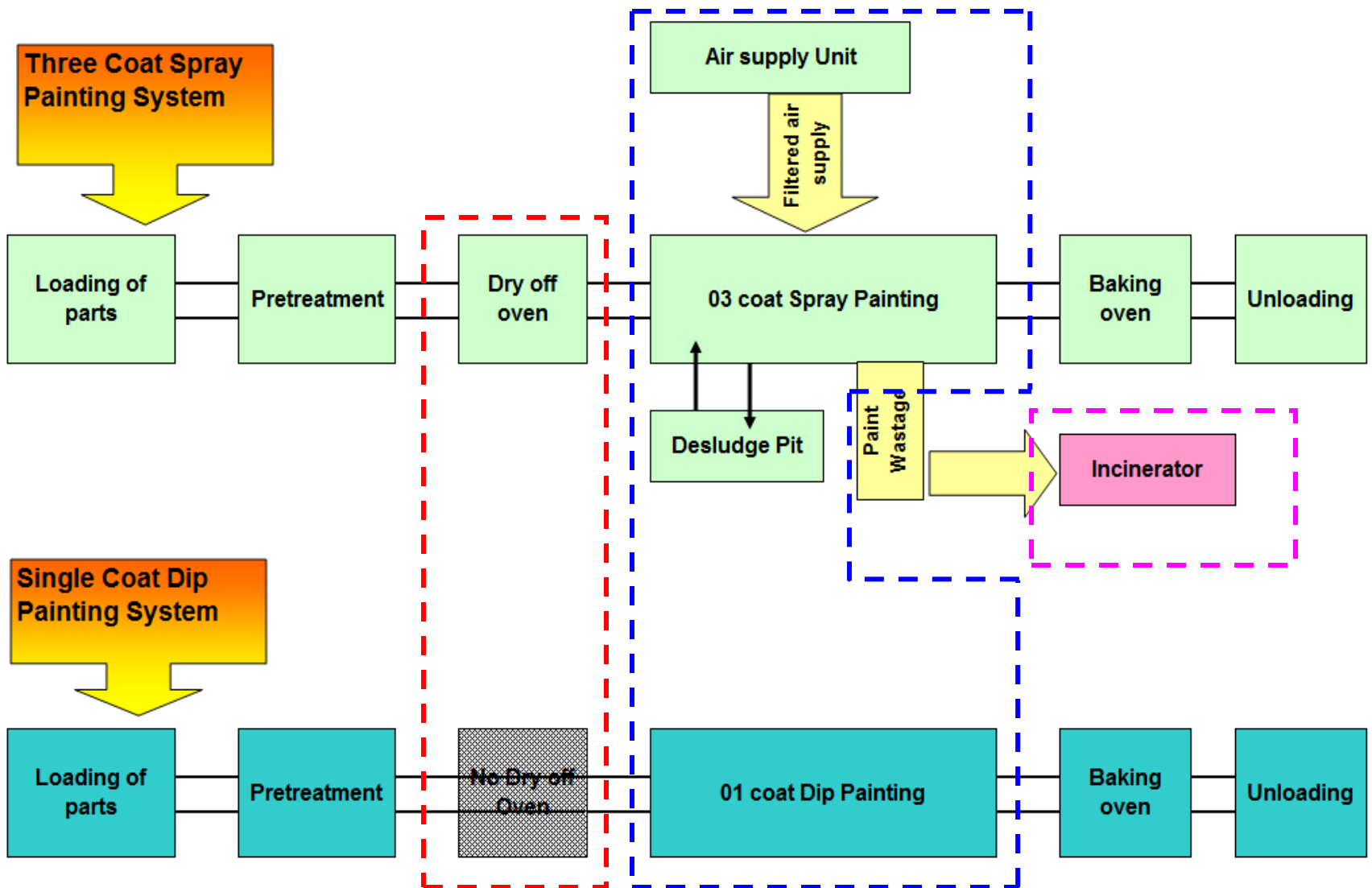
Technological change leading to Energy conservation

Introduction of Single coat **water based** Dip painting against
Three coat spray painting for Frame body

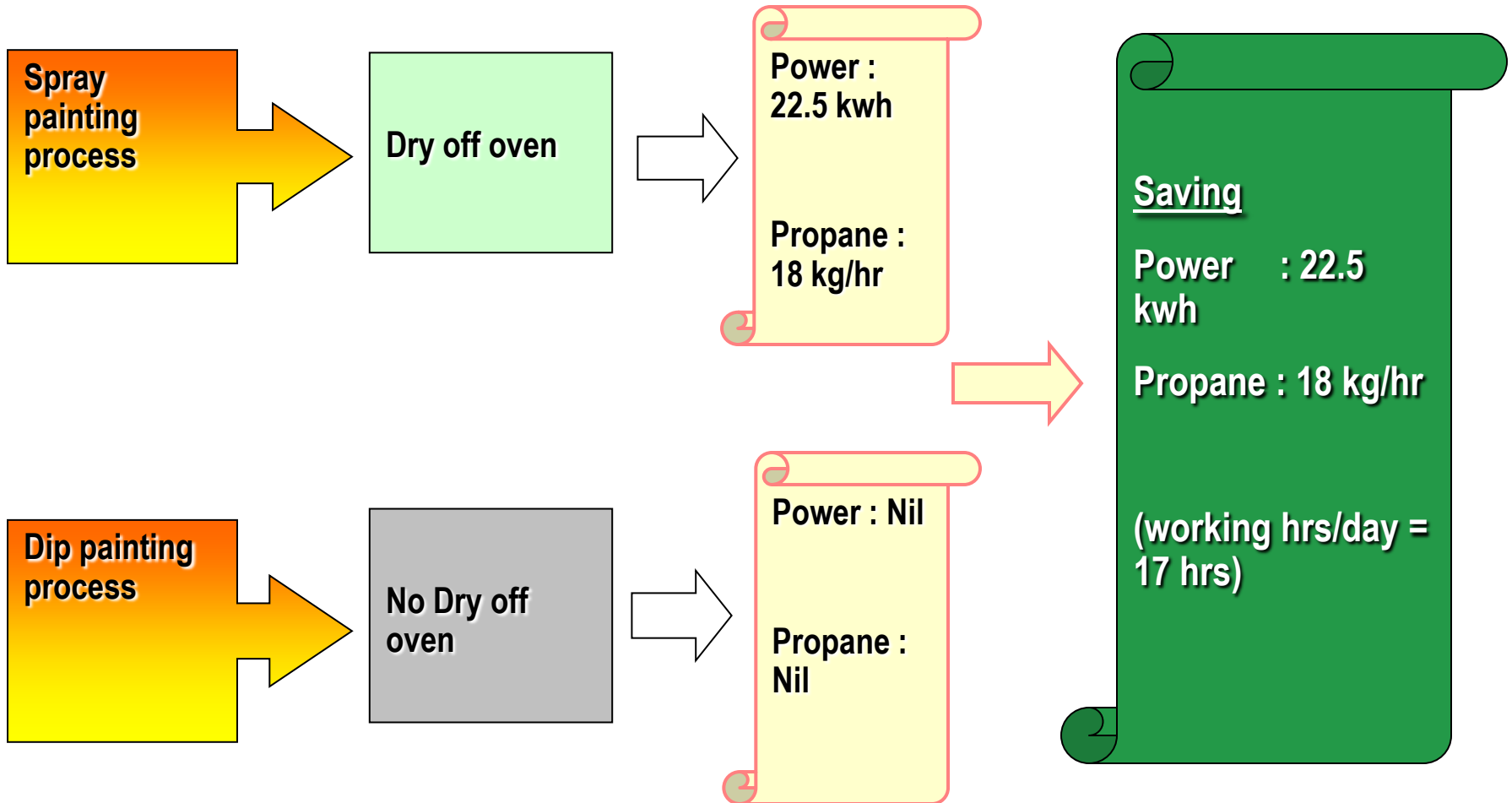
Introduction of Dip painting system –A Case Study

Description	Three coat Spray Painting	Single coat Dip Painting
Technology		
Energy consumption	High	Low
Paint wastage	High	Low
VOC emission	High	Low
Fire risk	High	Low

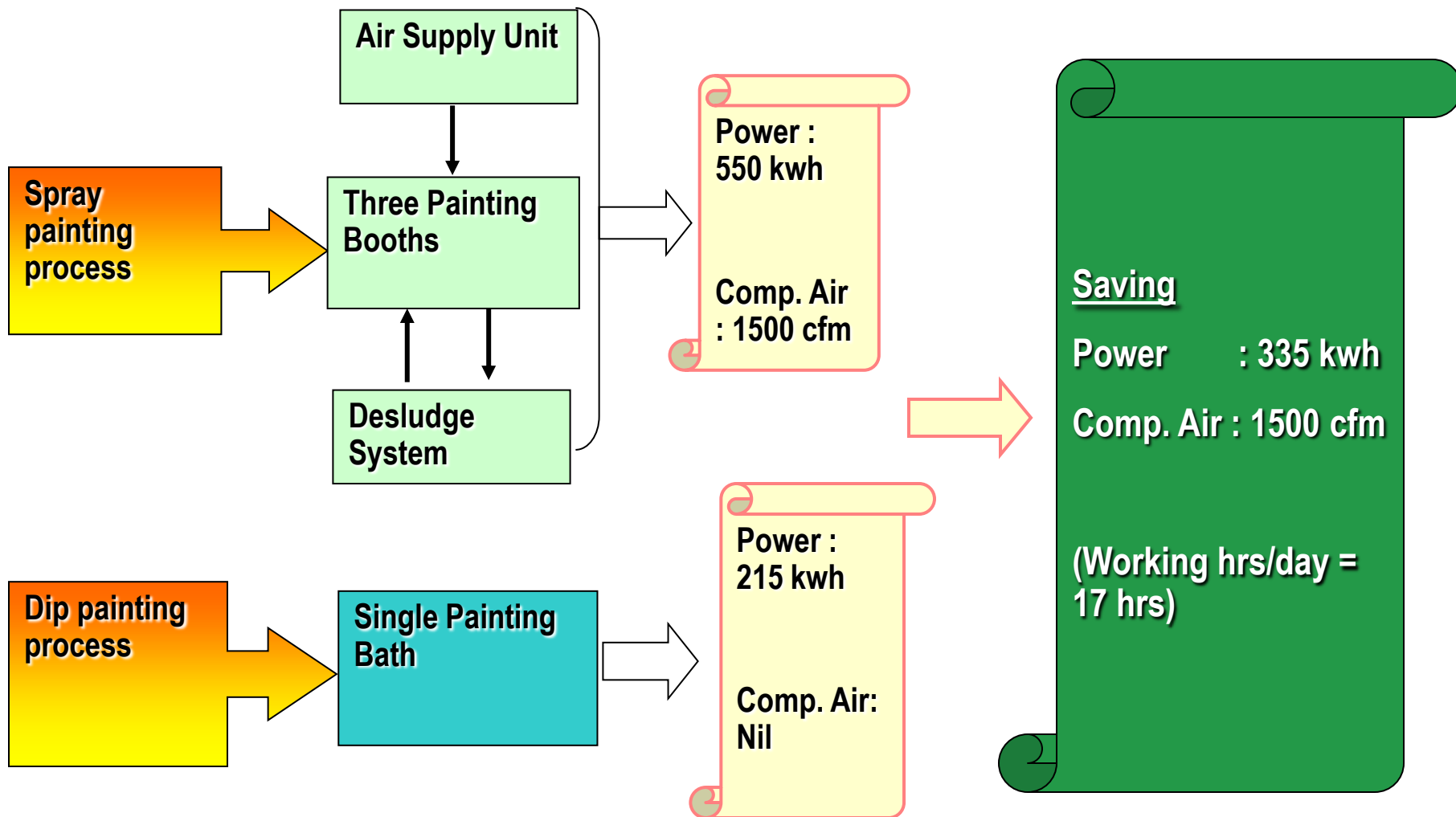
A Comparison of Energy Consumption



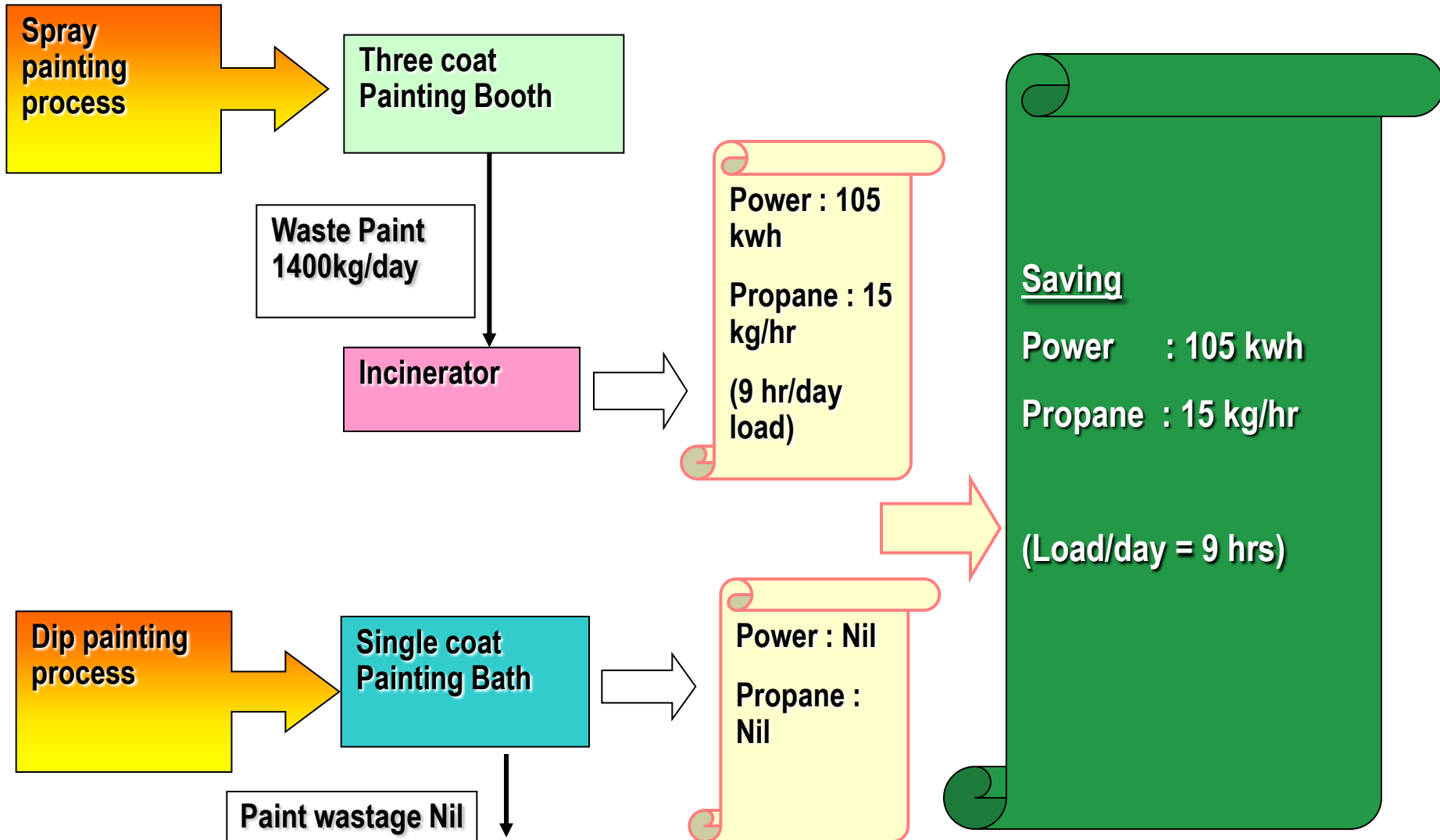
Energy saving by elimination of Dry off oven



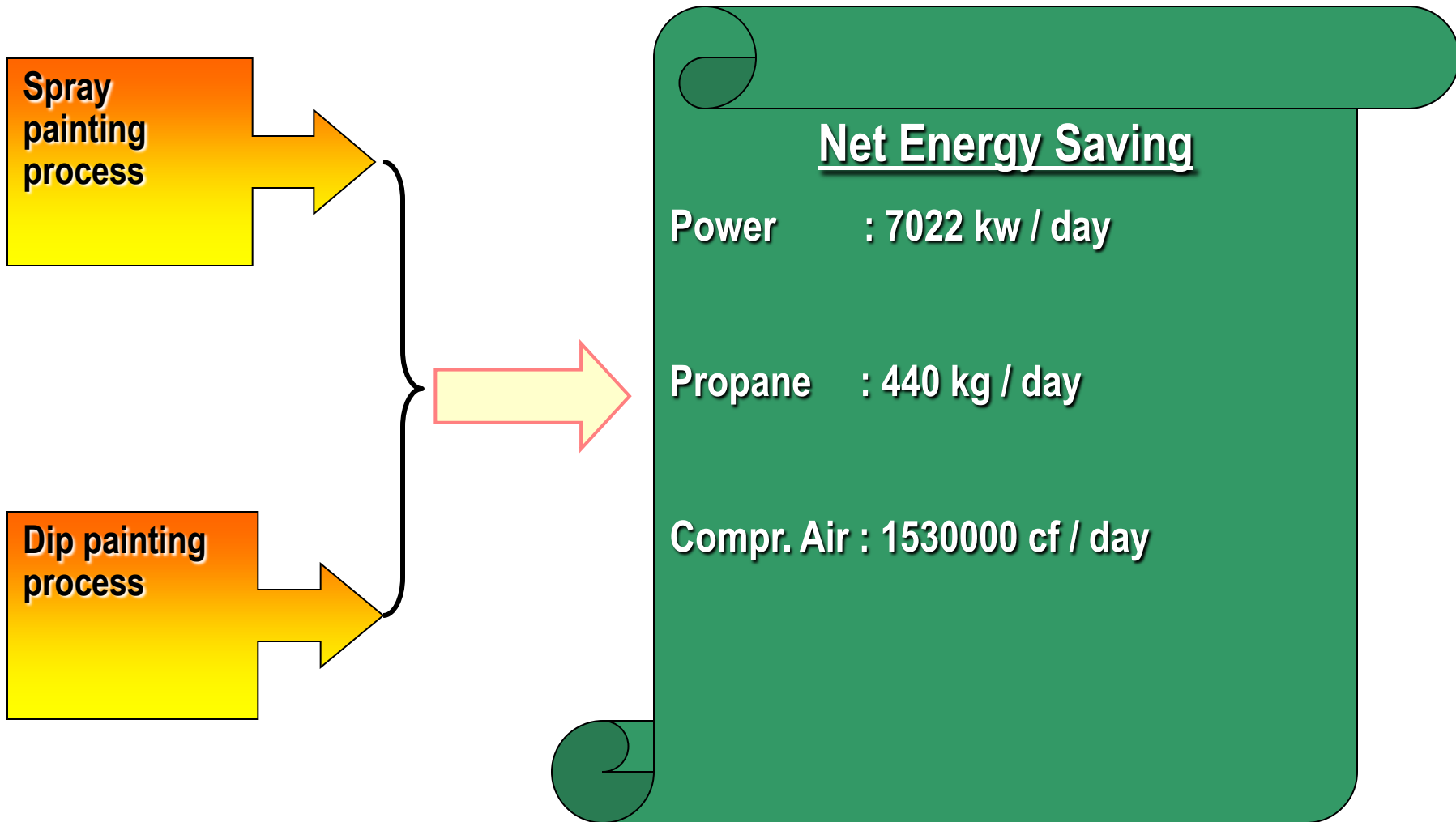
Energy saving due to single coat simplex painting



Saving of Incineration energy by Zero paint wastage



Net energy saving by change in Painting technology



Energy conservation initiatives

Energy conservation through Fossil Oil saving

Usage of Natural gas

Usage of Natural gas for power generation

- ***Natural Gas based power Generation (Gradual replacement of existing system)***
- ***Along with Heat recovery system for Hot water generation & Air conditioning .***



Replacing approx. 150 LKg
FO per annum with
Natural Gas
(Gurgaon + Dharuhera)

Usage of Natural gas in Paint shop & other areas

- Usage of Natural Gas in place of Propane /HSD in -

- 
- Paint Shop
 - Heat Treatment
 - Canteen
 - Fluidized Bed
 - Incinirators

Usage of Natural gas in Paint shop & other areas - continued

- **Usage of Natural Gas in place of Propane /HSD in Paint Shop, Heat Treatment , Canteen Area, Fluidized bed , Incinerator**

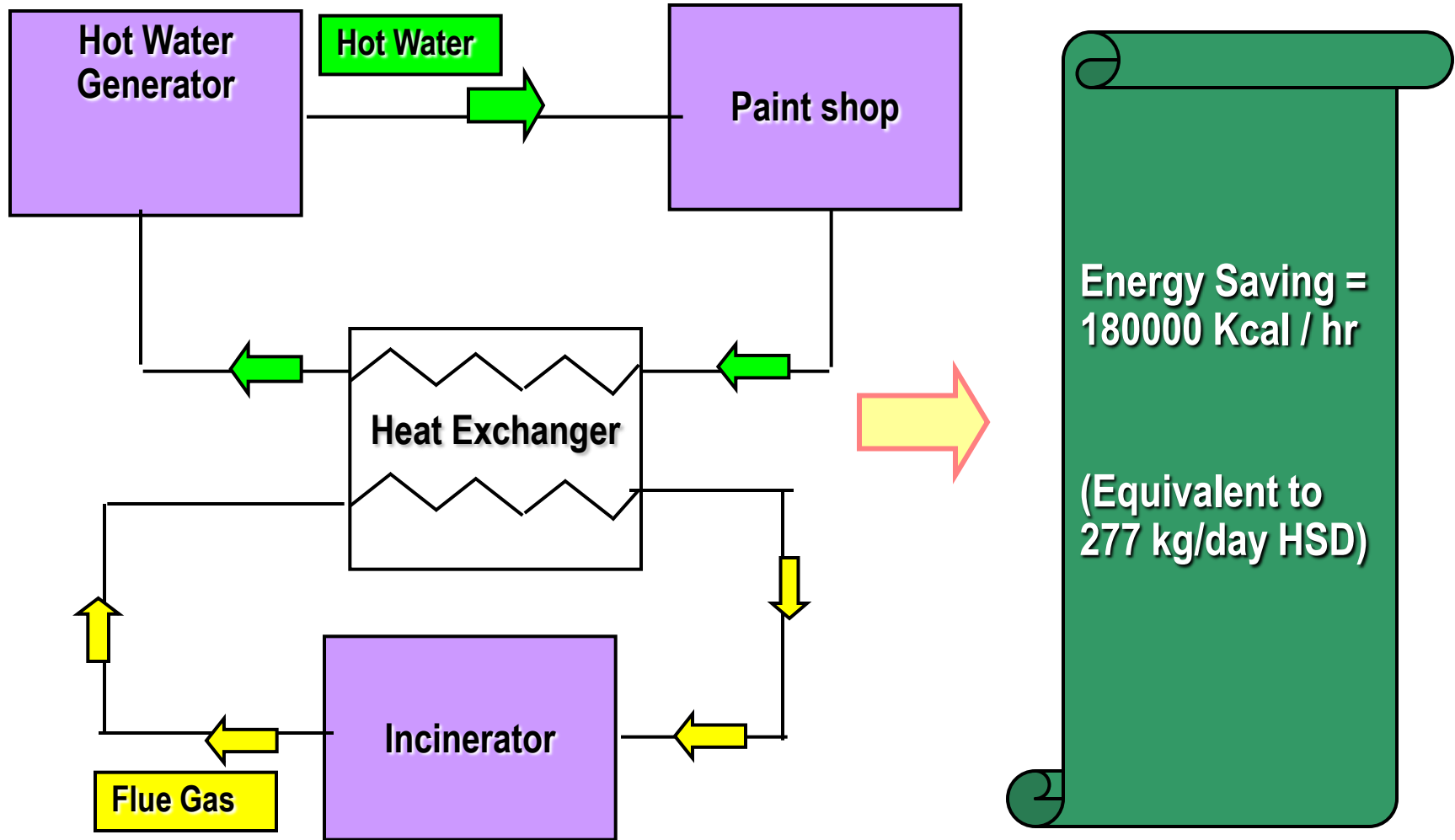


Replacing approx. 80 LKg
Propane per annum with
Natural Gas
(Gurgaon + Dharuhera)

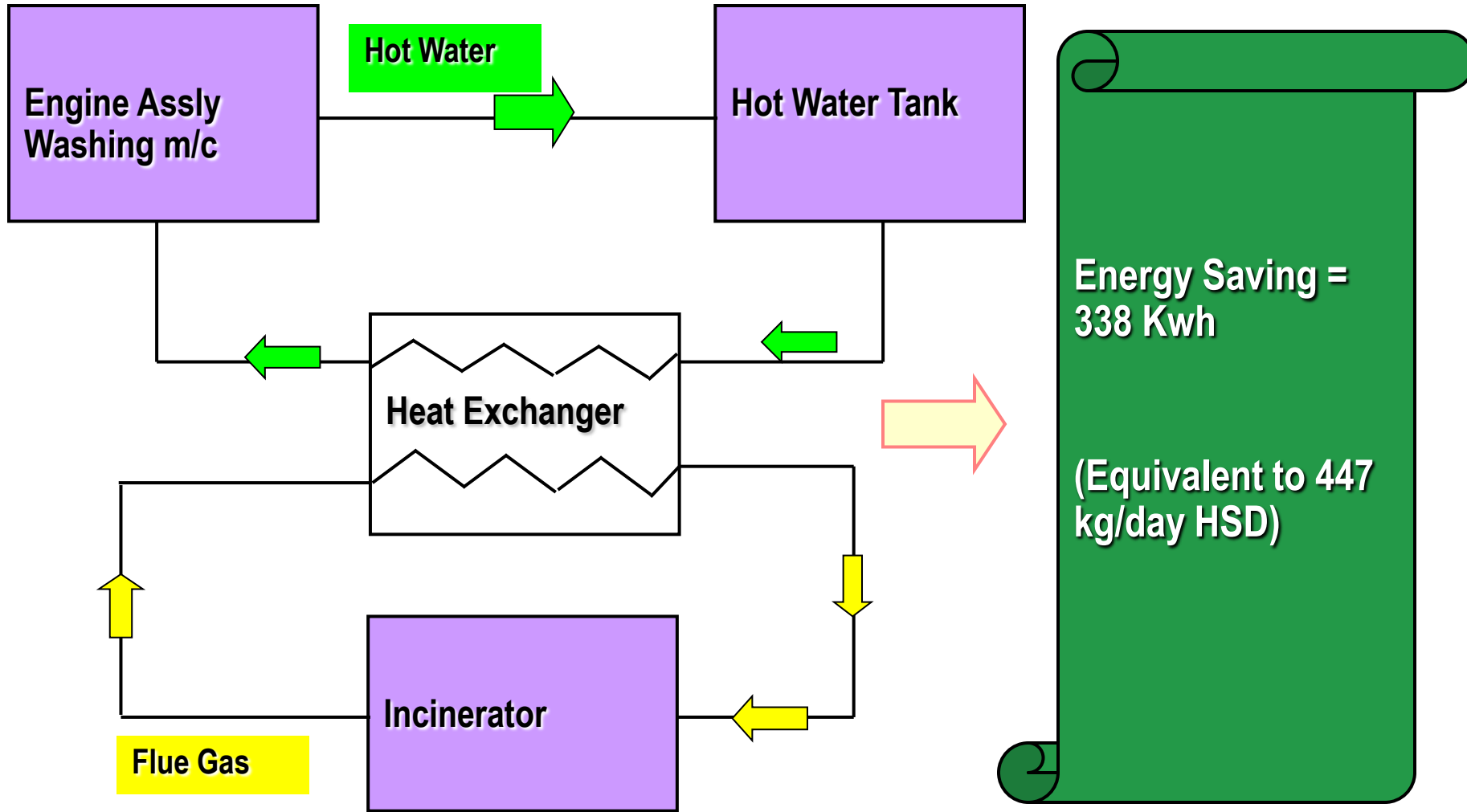
Other Initiatives taken to save Fossil Oil

- ☛ Waste heat recovery from Incinerator flue gas to preheat HWG water
- ☛ Waste heat recovery from Incinerator flue gas to heat washing m/c water
- ☛ Waste heat recovery from DG stacks
- ☛ Incinerator energy saving by converting paint sludge into useful Primer
- ☛ Replacing electrical exhaust fans with roof ventilators
- ☛ Green roof to reduce temperature inside Production hall
- ☛ Miscellaneous energy conservation initiatives
- ☛ Usage of energy efficient motors in Lacquer paint shop

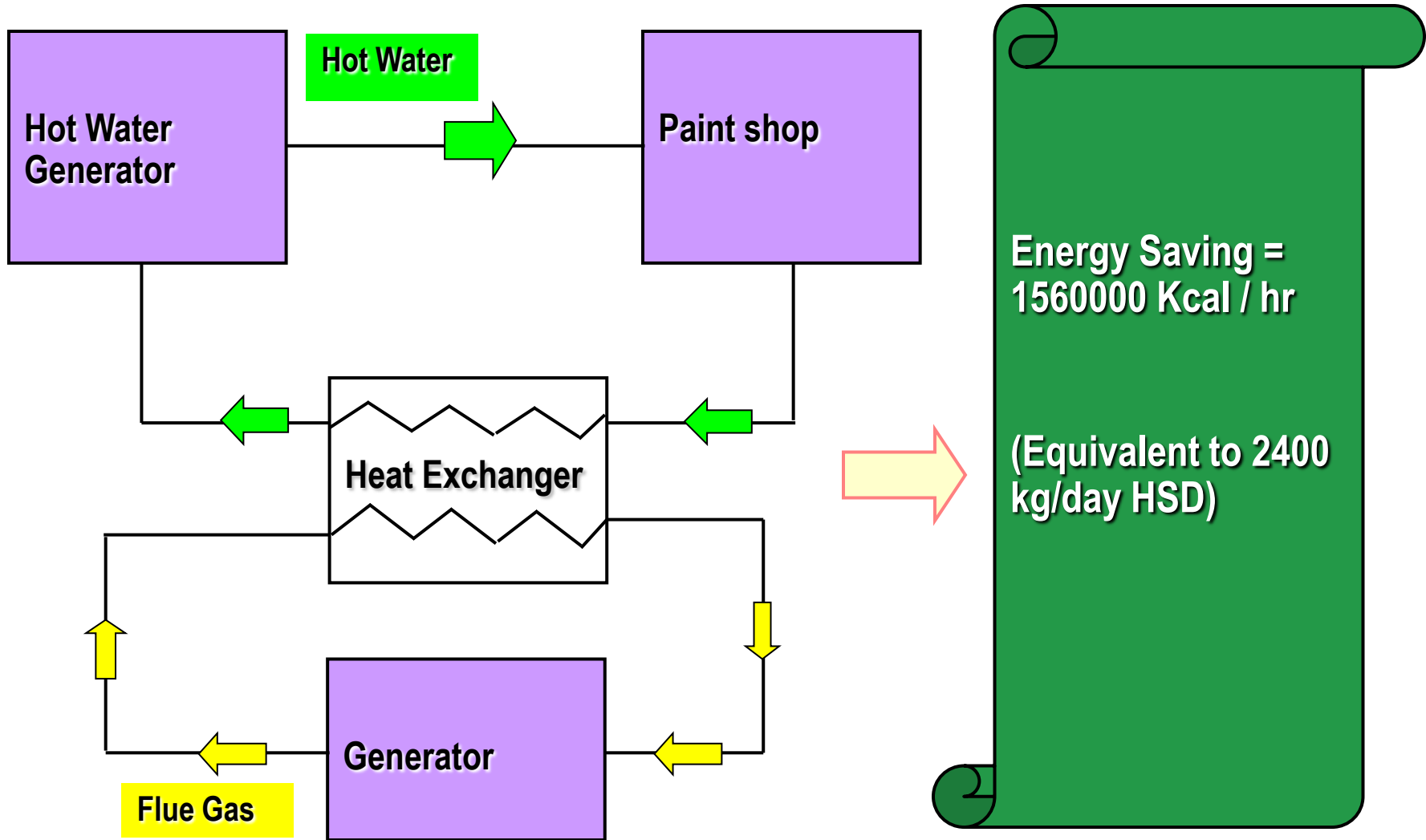
Waste heat recovery from Incinerator flue gases



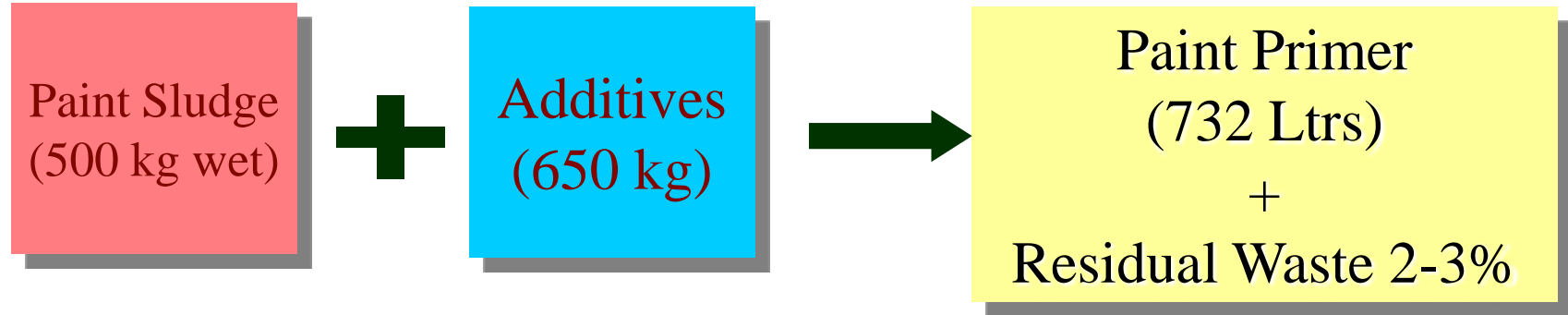
Waste heat recovery from Incinerator flue gases - Continued



Waste Heat Recovery from DG stack



Incinerator energy saving by converting paint sludge into Primer Paint



Total Paint Sludge recycled = 400 kg/day
Saving of 41.5 kg HSD/day for incineration

Replacing electrical exhaust fans with wind ventilators



Replaced with



**Electrical
Exhaust = 500 nos**

**Roof Wind
Ventilators = 1667**

**Saving of 8800 kw/day
Electrical energy**

Green Roof to reduce Temp. Inside Production Hall

- **Conserve Energy by moderating temperature on roof and surrounding areas (approx. 20000 mtr2 area with green roof & 3°C temp. reduction)**

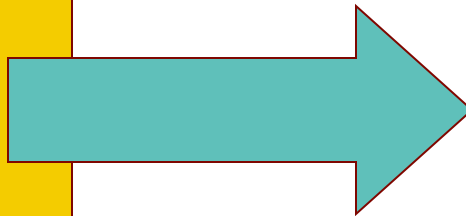


**Saving of
240 kw/day
Electrical energy**

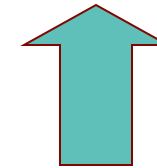
Other energy conservation initiatives

Initiatives

- * Electronic Ballast
- * Power saving Circuits
- * Real Time Clocks
- * Variable Freq. Drives
- * Natural Light
- * FRP Blades in cooling towers



*Equivalent to 13,02,000 miles
Of running a CAR*



434 tones of CO2

The Initiatives

Replacement of copper Ballast with Electronic ballast in all task lighting

Advantage :-

- Power Saving ~ 4666 *KWH/Day*



Power Saving Circuit in all machine panel of engine plant

Advantage :-

- Power Saving ~ 1666 *KW H/ Day*



Other Energy Conservation Initiative -Continued

Real Time Clock on Panels of Engine Assly., HT, Canteen boiler, for operation optimization .

Advantage :-

- **Power Saving ~ 600 KW H/ Day**



V.F.D in Air compressor.

Advantage :-

- **Power saving ~ 267 KW H/ Day**



Other Energy Conservation Initiative – Continued

Installation of Transparent sheet on roof top.

Advantage :-

- Higher usage of Natural light & Optimum usage of task lighting



Replacement of Aluminum alloy fans by FRP fans of cooling tower

Advantage :-

- Power saving ~ 125 kwh/Day



Other Energy Conservation Initiative -Continued

Connected Load of Lacquer paint shop = 393 KWH

**3% Power saving
by using energy
efficient motors**

Power saving : 200 kw / day

**“ There is a sufficiency in the world for
a man's need but not for his greed”**

Mahatma Gandhi



and the journey continues...

Thank You