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SOLUTION FOR SOLAR HEAT IN INDUSTRIAL PROCESSES AND COOLING / AIR CONDITIONING

Thermagine is proposing to offer a solution for process waste heat recovery. This survey is designed to assess the potential demand for using solar heat for industrial process and/or air conditioning use at your plant. In order to do this, we are looking for information on the quantity and form of process heat currently being used in your setup, as well as data that will help us analyze your site for deploying a solar thermal solution.

All information provided will be kept confidential and will not be forwarded to anyone outside of Thermagine.

The survey consists of multiple-choice 'tick box' questions, and space is provided at the end if you need to expand on your answers. It should take about 10 minutes to complete.

IMPORTANT: Please don't forget to save this PDF file when you are finished with it.

Company Name	
Address of Registered Office	City / Postcode
	Country
Contact Name	Position
Contact Person's Email	Telephone
Company Website and Email	



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1. For which application do you want to use solar heat for?

- Cooling / Air Conditioning Heating

If you ticked only “Heating”, please answer Questions 2 – 8 and 14 – 20.

If you ticked only “Cooling / Air Conditioning”, answer Questions 9 – 20.

If you ticked both “Cooling / Air Conditioning” + “Heating”, please answer all questions.

Heating

2. What is the current installed capacity of your process heat generators?

- < 0.4MW (400kW) > 10MW – 20MW

- >0.4MW – 3MW > 20MW

- > 3MW – 10MW Please specify exact capacity if you know it: _____ MW

3. What do you currently use to provide/transport the heat in?

- Hot Water Direct Heat
 Steam Thermal Fluid (not water)
 Hot air Other, please specify: _____

4. What is the required temperature of your process heat demand?

- < 20 °C 20 – 120 °C

- 120 - 250 °C 250 – 400 °C

- > 400 °C Please specify exact temperature if you know it: _____ °C

5. What fuels are currently used to provide this process heat and approximately what percentages?

- Gas _____% Refuse Derived Fuel (purchased) _____%
 Oil _____% Biomass (purchased) _____%
 Coal _____% Combustible production waste _____%
 Electricity _____% Other (state) _____%



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12. What are the approximate operational hours of your cooling / air conditioning needs and for how many days/week does this operate? (Tick both columns please.)

- | | |
|---|--|
| <input type="checkbox"/> < 7 hrs/day | <input type="checkbox"/> < 3 days/week |
| <input type="checkbox"/> 7 – 15 hrs/day | <input type="checkbox"/> 5 days/week |
| <input type="checkbox"/> > 15 hrs/day | <input type="checkbox"/> 7 days/week |

Please specify the hours of operation required: From _____ AM to _____ PM.

Please indicate how many days a year you need the cooling / air conditioning: _____ days.

13. Approximately what quantity of electricity or fuel do you consume each year for cooling / air conditioning in kWh, and what is your approximate annual bill for cooling / air conditioning? Please include annual maintenance costs if possible:

14. What is the size of the available space you have for us to deploy the solar collectors?

Roof _____ square meters; Land _____ square meters.

If you ticked "Roof", please specify the type of roof construction and load it can take per square meter:

15. What is the maximum simple payback time be for the investment in any solar thermal heat or cooling / air conditioning, should you choose to invest in it?

- | | |
|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> 2 – 3 Years | <input type="checkbox"/> 3 – 4 Years |
| <input type="checkbox"/> 4 – 5 Years | <input type="checkbox"/> 5 – 10 Years |

16. Would you be interested in installing a pilot system for solar thermal in one of your plants? Yes No.

17. Would you be interested in Thermagine analyzing your plant's setup in order to propose a complete solution and cost savings you would incur? Yes No.

If "Yes", **please include a detailed heat/steam flow sketch/schematic of your plant. A hand-drawn one is fine.**

Please Note: Thermagine requires this information to analyze & estimate the potential energy savings at your plant. The analysis will be carried out by our team of experts at the German Aerospace Centre's Institute of Technical Thermodynamics located in Stuttgart, Germany.



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In the schematic, please include:

- (a.) Temperatures, pressures and mass-flows at each step of the production process, and
- (b.) An hourly heat/steam demand chart from your heat generator/boiler over a 24 hour period, showing what is consumed by the plant in a normal production day.

Note: If you would like Thermagine to recuperate waste heat from the incinerator/boiler exhaust, we would require the temperature and mass flow of the exiting flue gas.

Please understand that without this data, we cannot propose a solution for you.

- 18. Do you control energy purchase and decisions? Yes No.

If you checked "No", are these decisions made:

- In-house
- Through an energy/utilities contractor

- 19. Do you require further information or assistance on more efficient systems for your solar process heat or solar cooling needs?

Yes No. If Yes, please describe your needs in more detail:

- 20. Please feel free to give us any other comments:

Please email the form and plant schematic(s) to: info@thermagine.com

We thank you for your time and will contact you in short order.