



Resource Efficiency in Agri-food Production and Processing

Implementation of Sustainable Consumption and Production (SCP) measures in MSMEs

at COP 26, 2021 in Glasgow, Scotland, UK

10th Nov 2021

17:00 – 18:00

Project funded by

switchasia
GRANTS PROGRAMME

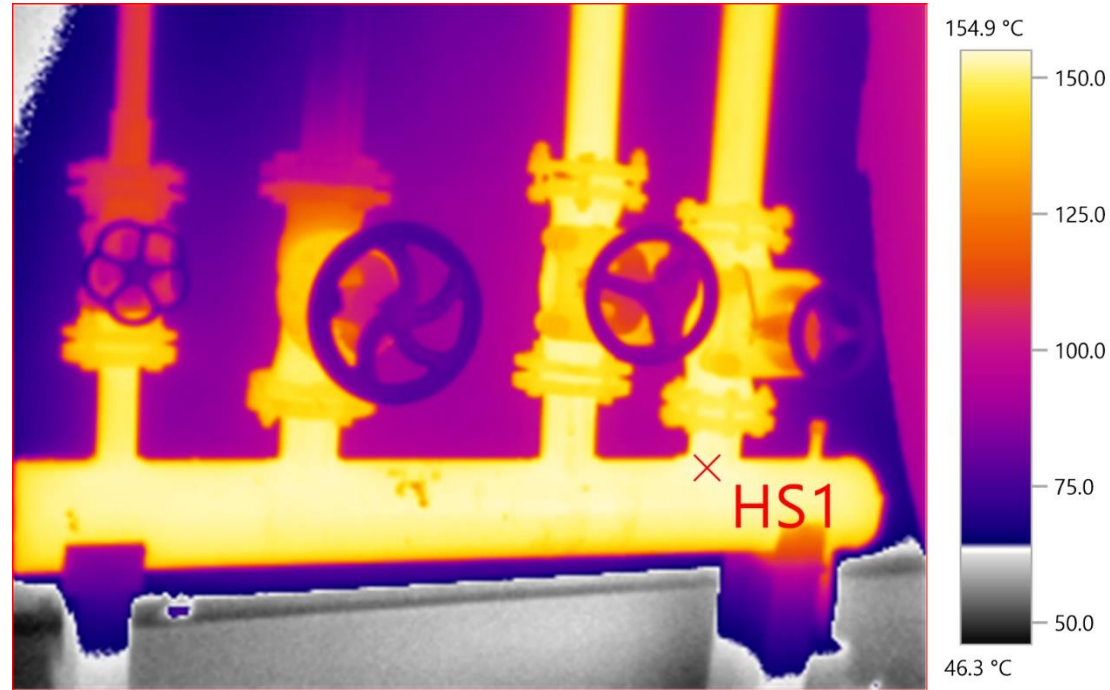




Understanding SCP at MSMEs

The REAP approach

What do you see?



Un-insulated Steam pipelines

What does REAP team see?

- **An opportunity to save resources!**
- A chance to measure the surface temperature of un-insulated steam line
- A chance to measure the length of uninsulated pipeline



What knowledge does REAP team utilise?

We use some simple physics and measured values

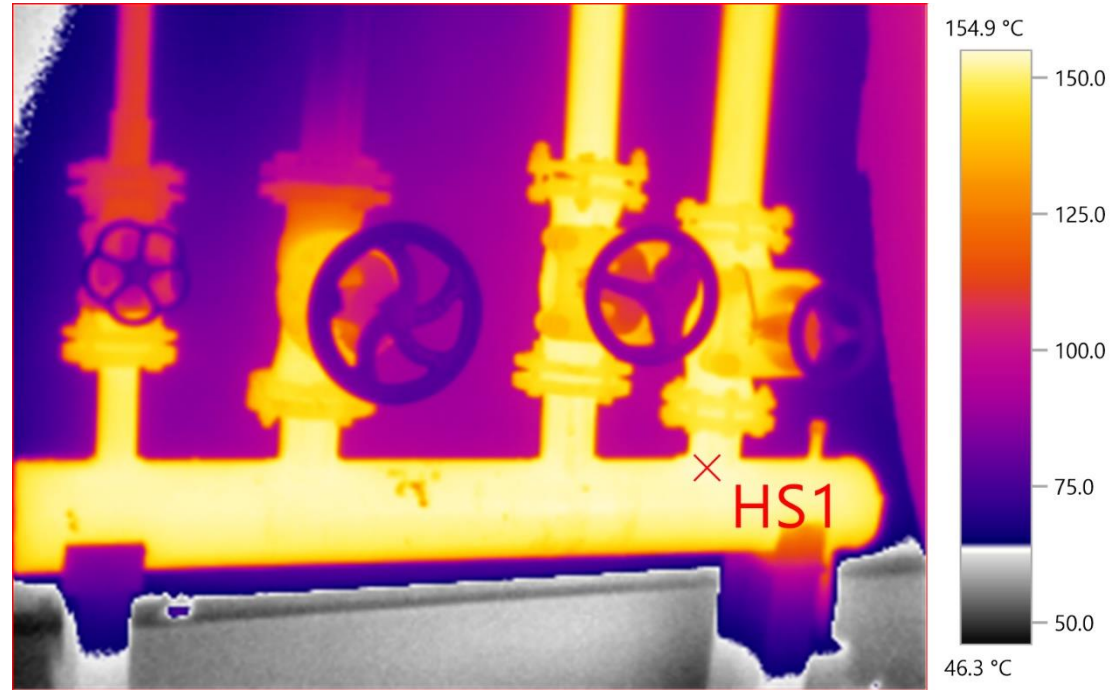
- The average surface temperature of uninsulated steam line is 125°C
- Surface area of uninsulated steam line 100 m^2
- Natural Gas has energy content of $9,000\text{ kcal/m}^3$
- Natural Gas costs UZS 660 per m^3
- The water is running 3,600 hours per year
- Temperature difference is 90°C

What does REAP team calculate?

Some basic mathematics

- $S = (10 + (T_s - T_a) / 20) \times (T_s - T_a)$
- $S = (10 + (125 [^{\circ}\text{C}] - 35 [^{\circ}\text{C}]) / 20) \times (125 [^{\circ}\text{C}] - 35 [^{\circ}\text{C}])$
- $S = 1305 \text{ [kcal/hr/m}^2\text{]}$
- $Q \text{ (Total Heat loss)} = S \times A$
- $Q = 1305 \text{ [kcal/hr/m}^2\text{]} \times [100 \text{ m}^2] = 130500 \text{ kcal/hr}$
- $\text{Fuel loss} = (Q \times \text{Hours of operation}) / (\text{GCV} \times \text{Boiler efficiency})$
- $\text{Fuel loss} = (130500 \text{ [kcal/hr]} \times 3600) / (9000 \text{ [kcal/m}^3\text{]} \times 0.9) = 58000 \text{ m}^3$
- $\text{Annual heat loss in Monetary term} = 58000 \text{ [m}^3\text{]} \times 660 \text{ [UZS/ m}^3\text{]}$
- **Result: Annual Monetary Loss ~ 38.3 Million UZS (3,618 USD)**

What do you see now?



38.3 Million UZS worth of heat energy being wasted

Emissions and **wastes** are remains from raw and auxiliary materials

- which have (mostly) been purchased **by paying money**
- have not been transformed into **saleable products**.

Resource Efficiency **is high** when **nearly all** raw and auxiliary materials are transformed **to saleable products** and **waste is minimised**

Waste is generated!

What can be done with it?

End of Pipe Thinking:
Waste Treatment Approach

Additional Cost!

Waste is generated!

Where does it come from?

What can be done with it?

How can it be reduced / avoided?

How can it be utilized/recovered?

SCP Approach

Saves Money!



Resource Efficiency and Cleaner Production for companies and industries

- RECP consulting and coaching to agri-food production and processing companies
- Support implementation of RECP measures
- Result/Savings calculation
- Support linking for financing of RECP investments

How REAP supports Industries



MSME apply for REAP	Preparation for initial visit by local REAP team (TCs)	Initial <u>onsite</u> visit by TCs with support from IE	Report (IAR) preparation by REAP team	IAR presentation & follow up visit for options selection	Action List detailing by REAP team	Action List presentation <u>onsite</u>	Regular visits for implementation & follow up	Results evaluation
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Several times until 2024



SCP approach
at REAP

Green Entrepreneurship and New Green Business Models

- Regional/local SCP cells
 - Cells established as a consulting business unit beyond project
 - Providing consulting services on RECP, SCP and sustainable development
 - Support SCP 'cluster activities' and SCP for supply chains

Creating the demand for sustainable products and services

- Improving the understanding about sustainable products and services and demand by agri-food companies
- Supplier roundtables

How does change happen?



Imposed by outside forces

Not self-chosen

- Covid19 / SARS / MERS, Warfare, Trade agreements, climate change
Need for resources for adaptation / prevention

General development of society

Not self-chosen

- Technical, economical, societal development with impact on own society
Need for resources for adaptation / prevention

How does change happen?



Imposed by law

- Legal regulations to support wanted behaviour or prevent unwanted behaviour – taxes

Need for many resources for control and law enforcement

Creating an environment to support the change

- Strengthening the self-initiative of companies

Need for resources for support and steering

Self-chosen

Self-chosen

Change is easiest if it is driven by values

If Sustainability is REALLY valuable to us and we want to be all our actions sustainable, then the right way will be found

The way might not be easy but we will not give up but find a solution.

Imagine

- 400 companies from agri-food industry have reduced waste, saved money, created new business, operate sustainably by the end of REAP.

What does it need that more companies get sustainable too?

- Supply of services like consulting on RECP, SCP, Sustainable Development
- People / Organizations who can provide those services
- Education / Training in those services
- Knowledge about those services (PR, Information)
- Demand for products sustainably produced – Education of customers, Information
- Finances

The Support System has to start operating NOW in order to be successful during and after the project has ended!

What can we do today?



Green Entrepreneurship and New Green Business Models

- Create Network to establish Regional/local SCP cells
 - If you are interested, contact us!
 - Talk to us during COP 26
 - Let us stay connected through social media or our website <https://www.reap-centralasia.org>

Map out what it takes to be successful

- Talk about it on roundtables and events with target groups

Thank You

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REAP - more produce with less resources

Project Implemented by

