The Metal & Recycling Company [MRC] is a Kuwaiti pioneer organization managing and recycling the solid waste materials, scrap, surplus and secondary material generated.

Our main target and strategy is to sustain and save our environment by decreasing the amount of the landfill material, starting from our belief that even if we are not going to be affected by the landfilled wastes, the next generations will.

**HOW DID YOU FIND OUT ABOUT KFAS, AND THE CO-FUNDING PROGRAM?**

Since we started looking for enhancing our technologies we have looked for Kuwaiti organizations supporters, KFAS is a well-known organization in Kuwait, supporting the progress and advancement of science and technology.

**WHAT WAS THE PROBLEM YOU WERE TRYING TO SOLVE?**

The target was to decrease the amount of landfilled wastes by enhancing our processing techniques and developing markets for these products to make use of all types of auto shredder residues and to get the maximum yield either of energy or material from it.

**RESEARCH INSTITUTION**

There were two research institutions handling this research:

- Fraunhofer Institute for Process Engineering and Packaging IVV
- SET Technology GmbH

**PROJECT DESCRIPTION**

Comparison of recycling / recovery possibilities for Auto Shredder Residues. Identify and evaluate potential solutions for enhancing the sorting techniques. Two distinct options were sought:

1. Mechanical separation and recovery of sellable recyclable material
2. Energy recovery and/or electrical generation through a process of pyrolysis / incineration

The objective of the project was to compare the two options and validate a business case for each.

**HOW DID KFAS HELP WITH YOUR PROJECT?**

KFAS introduced and connected us to the research institutes and that was the catalyst of the whole project steps. KFAS could play an active role in promoting waste-to-energy solutions on small scale applications such as the one proposed for ASR. There is a global trend that seeks to process waste on-site thru energy recovery – but such solutions require a mindset change in the PAI, KEPA and Kuwait Municipality.
TO WHAT EXTENT DID KFAS ADD ADDITIONAL VALUE TO YOUR PROJECT?
KFAS played a very important role in providing us with different research institutes and in building a good business relation them.

WHAT WAS THE STI RELATED SOLUTION NEEDED FOR YOUR PROJECT?
FOR EXAMPLE, IT ADDRESSED ONE OR MORE OF THE FOLLOWING ITEMS:
☐ Testing of new, advanced technology material
☐ Environmental solutions
☒ Less consumption of raw material, and / or more efficient production
☒ Increase in profitability
☐ IT solution
☐ New service for customers (e.g. financial service)
☐ Other – please mention below
  Click or tap here to enter text.

WORKING WITH THE RESEARCH INSTITUTE
After contacting and meeting with the research institutes, we have provided samples of raw materials and products we have for them to make their studies on the best solutions for enhancing the sorting techniques. Two distinct options were sought:
  3. Mechanical separation and recovery of sellable recyclable material
  4. Energy recovery and/or electrical generation through a process of pyrolysis / incineration
It was concluded; that given the current parameters (cost of landfilling, value of recovered material, cost of electricity and investment required) the mechanical separation option is not economically feasible. The only economically feasible solution will require that the material is processed thru pyrolysis / incineration process

PROJECT IMPACT
By decreasing the amount of landfilled materials that will affect our company in two ways one is direct as increment of profitability and productivity, and one is indirect as saving the environment from the landfilling the plastic wastes. However, the only economically feasible solution will require that the material is processed thru pyrolysis / incineration process. To implement such a program it would be necessary to get the permissions from the various government bodies involved (PAI, KEPA, Municipality... etc). If we are able to get such approvals, then the benefits would be realized

WOULD YOU REAPPLY TO A KFAS PROGRAM?
Yes
AS A RESULT OF THIS PROJECT, ARE YOU LIKELY TO INVEST FURTHER IN RESEARCH & DEVELOPMENT?

Sure, this project and the support of KFAS inspired us to invest more in R&D in different production areas such as metal recycling unit.

WOULD YOU RECOMMEND KFAS PROGRAMS TO OTHER COMPANIES?

We will recommend KFAS research grant program for any Kuwait Shareholder company in which KFAS is providing different grant sizes to the research projects and also promotes national and international collaborative research which lead to the establishment of outreach activities.