

Resource Use Classification: Project Description

To successfully complete the project, process the steps below for your analysis. Apply concepts known from the lecture and tutorial. If applicable, the use of method extensions are allowed.

1. Explorative data analysis and data cleaning.
2. Data preprocessing.
3. Fit a model.
4. Model diagnostics.
5. Plotting.

Summarize your results within 8-10 pages. Your report should describe your analysis as well as the used methods. Cite papers if reasonable. A literature review or deeper evaluation of the topic is not necessary. Hand in your report by June 30th. Additionally, prepare a presentation of your results. The presentation should not exceed 20 minutes.

The “Resource Use Classification” reflects a binary classification of company’s performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. The score is based on the columns below. Companies with a rather high effort receive the label “good” while companies with a rather low effort the label “bad”.

- **Instrument:** Stock abbreviation.
- **Common Name:** Company name.
- **TRBC Business Sector:** Business sector.
- **Policy Water Efficiency:** Does the company have a policy to improve emission reduction?
- in scope are the various forms of emissions to land, air or water from the company’s core activities - processes, mechanisms or programs in place as to what the company is doing to reduce emissions in its operations - system or a set of formal, documented processes for controlling emissions and driving continuous improvement.
- **Policy Energy Efficiency:** Does the company have a policy to improve its energy efficiency?
- in scope are the various forms of processes/mechanisms/procedures to improve energy use in operation efficiently - system or a set of formal documented processes for efficient use of energy and driving continuous improvement.
- **Policy Env Supply Chain:** Does the company have a policy to include its supply chain in the company’s efforts to lessen its overall environmental impact? - legal compliance data on the supply chain to reduce environmental impact is in scope - data on collaboration with suppliers towards reducing their environmental impacts - data on the reduction of environmental impacts at the suppliers operations.
- **Analytic Resource Red Targets:** Does the company set specific objectives to be achieved on resource efficiency?

- **Targets Water Efficiency:** Has the company set targets or objectives to be achieved on water efficiency? - in scope, are the short-term or long-term reduction target to be achieved on efficiently using the water at business operations.
- **Targets Energy Efficiency:** Has the company set targets or objectives to be achieved on energy efficiency? - in scope, are the short-term or long-term reduction target to be achieved on efficiently using the energy from business operations.
- **Env Mgt. Training:** Does the company have an environmental management team? - in scope are any team that performs the functions dedicated to environmental issues - an individual or team at any level composed of employees, even if the name of the team is different performing implementation of the environmental strategy - it is important to understand that the members of the team include employees of the company, who are operational on a day-to-day basis and are not the board committees (directors).
- **Env Materials Sourcing:** Does the company claim to use environmental criteria (e.g., life cycle assessment) to source or eliminate materials?
- **Analytic Energy Use:** Total direct and indirect energy consumption in gigajoules divided by net sales or revenue in US dollars in million.
- **Renew Energy Use:** Does the company make use of renewable energy? - renewable energy produced/purchased for its own use only - waste that is converted to energy and is used by the company for their own use.
- **Green Building:** Does the company report about environmentally friendly or green sites or offices? - office/green site where the company engages in some operations - LEED/BREEAM certifications for its own building - major refurbishments to improve the environmental aspects of sites/buildings/offices - the building has to be operational at least at the end of the fiscal year - if building is under construction then grade as 'false'.
- **Env Supply Chain Mgt.:** Does the company use environmental criteria (ISO 14000, energy consumption, etc.) in the selection process of its suppliers or sourcing partners? - data can also be on existing suppliers who were selected using some environmental criteria.