

IMPACT SHEET • SWITCH-ASIA PROJECT
SUPPORTING A GREENER AND MORE ENERGY EFFICIENT
CONSTRUCTION INDUSTRY IN MONGOLIA
INVESTING IN RESEARCH AND
DEVELOPMENT OF GREENER
CONSTRUCTION PRODUCTS AND
PRACTICES



TO PROMOTE SUSTAINABLE PRODUCTION AND
CONSUMPTION PATTERNS AND BEHAVIOUR IN THE
CONSTRUCTION SECTOR



THE CHALLENGE

The construction industry in Mongolia has expanded rapidly in recent years, but with little attention being paid to the environmental impacts and there is a general lack of awareness in the construction sector, both among developers, architects, and the builders. There is a need to improve standards throughout the entire construction chain, from the design of buildings to the material used and the insulation techniques applied, of how to reduce those impacts, or of the economic benefits of green construction materials and technologies. At the same time, Mongolia's coal-fired plants produce much fly ash, which is being disposed in land-fill only. Recycling of fly ash, as a substitute for natural aggregates in construction materials, could however reduce the use of natural resources, while the proliferation of sustainable construction design and practices could improve energy efficiency and reduce the use of fossil fuels.

OBJECTIVE



The project aims to promote sustainable production and consumption behaviour in the construction industry in Mongolia, by mobilizing the private sector to develop construction products using fly ash, and through the promotion of green practices and the use of green products in construction.

The project aims to:

- Identify, develop, and gain official approval for green construction products made using fly ash;
- Support the production and sale of fly ash products by small and medium-sized enterprises (SMEs) in the construction industry;
- Promote the use of green construction products and practices by the SMEs in the construction industry; and
- Improve the policy environment to facilitate the use of green products and practices in the construction industry.

ACTIVITIES / STRATEGY

RESEARCH AND DEVELOPMENT

- Organize research and development (R&D) activities to develop construction products using fly ash.
- Present the manufacture techniques of these products to all interested SMEs in the field.

AWARENESS AND UNDERSTANDING OF GREEN PRODUCTS AND PRACTICES

- Analyse existing practices and materials, to identify the changes necessary for improving sustainability in the industry.
- Awareness-raising among SMEs regarding sustainable practices and products.

CREATION OF TRAINING MATERIAL AND PROVISION OF TRAINING

- Provide training about sustainable construction products and practices to three groups: decision makers (public officials), professionals (architects, etc.) and workers (builders, etc.).

FORMATION OF A GREEN PRODUCERS' GROUP

- Form a green products producers' group and assist it in developing a fly ash collection mechanism, making green construction products, and organising a marketing campaign.

TARGET GROUPS

The target groups of the project are:

- **SMEs** producing construction products and constructing buildings and infrastructure;
- **Vocational training schools and universities** teaching construction-related subjects, including their students (future engineers, architects and skilled workers); and
- **Government bodies** responsible for construction and environmental policy and standards such as the Ministry of Construction and Urban Development and the Ministry of Environment and Green Development.

SCALING-UP STRATEGY

FORMATION OF A GREEN CONSTRUCTION MARKETING GROUP

- Form a green construction marketing group among building companies that use green practices and assist them to market themselves so as to encourage public demand for greener buildings and sustainable construction practices.

IMPROVEMENT OF EXISTING REGULATIONS, THROUGH NEW STANDARDS

- Elaborate the required standards for fly ash products.
- Engage policy makers to approve fly ash construction products.
- Conduct an advocacy campaign to improve norms and regulations and encourage policies that provide incentives to support proliferation of green construction products and practices.

PROMOTE GREEN CONSTRUCTION PRACTICES:

- The diagram here shows the process for promoting proliferation of green practices among SMEs.



TRAINING THROUGH UNIVERSITIES AND VOCATIONAL SCHOOLS

Selected universities and vocational schools with programmes to train professionals in the construction industry (engineers, architects, and skilled workers) will be enabled to teach green construction practices.



LEGISLATION AND POLICY DEVELOPMENT

Close collaboration with relevant ministries and the city government will encourage the passing of regulations to promote and support the use of green construction practices and of products made of fly ash.



AN ECO-LABEL FOR CONSTRUCTION PRODUCTS

A “green construction label” will be created within the existing green product label created under a previous SWITCH-Asia project (Green Products Development and Labelling). SMEs producing green construction products will be invited to submit their products to be assessed according to the label’s criteria and to be certified accordingly. This label will enable consumers to identify green construction products and therefore choose a sustainable option.



GREEN PRODUCERS GROUP

SMEs engaged in the manufacture of the green (fly ash) products will form a producers’ group in which all members adhere to green standards of production. Membership in this producers’ group will encourage the SMEs in the group to maintain standards of production to ensure the fly ash products are produced in line with the standards and the eco-label requirements.



GREEN CONSTRUCTION MARKETING GROUP

SMEs that are involved in construction (i.e. construction companies) and which utilize green construction products and practices will form a green construction marketing group that will allow the construction companies to collectively market themselves and their services, thereby increasing public awareness of and demand for greener buildings and sustainable construction practices.

RESULTS



GREEN CONSTRUCTION PRODUCTS USING FLY ASH HAVE BEEN IDENTIFIED, DEVELOPED, AND APPROVED.

In Mongolia, fly ash has been used to produce construction products but there is no regulatory framework or quality standards. As a result of the project, greener construction products (made of fly ash) will have been developed and approved for sale. This will be achieved through identifying suitable construction products that can be made with local fly-ash, developing these products, and establishing a regulatory framework and standards. Consequently, ash-based construction products produced in Mongolia will be safe, cost effective, high quality, and greener. In the first year of the project, the R&D activities were launched and fly ash products are now being identified.



SMEs IN THE CONSTRUCTION INDUSTRY ARE MAKING AND SELLING FLY ASH CONSTRUCTION PRODUCTS.

As a result of the project, SMEs will be making and selling greener construction products. This will be achieved through awareness raising, providing technical training to SMEs in how to manufacture approved products using fly ash, and supporting these SMEs to establish a producers' group that will enable them to collectively market their fly-ash products. In the first year of the project, five conferences were held to raise awareness among SMEs regarding the benefits of green construction products.



SMEs IN THE CONSTRUCTION INDUSTRY ARE USING ECO-FRIENDLY CONSTRUCTION PRODUCTS AND PRACTICES.

As a result of the project, key workers in construction companies and teachers and students in the vocational schools and universities will be aware of the environmental impact of construction work and will be able to reduce that impact. This will be achieved through

providing training to trainers and to teachers regarding green construction practices. In the first year of the project, training materials were prepared and a pilot training session was held.







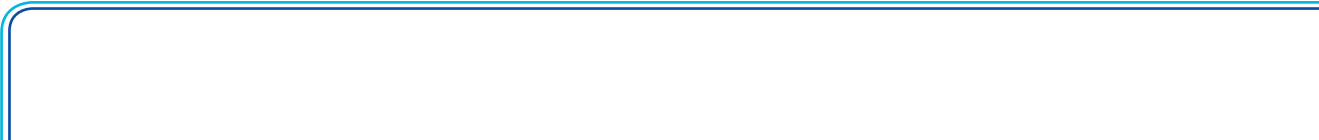
THE POLICY ENVIRONMENT IS FACILITATING ECO-FRIENDLY CONSTRUCTION PRODUCTS AND PRACTICES.

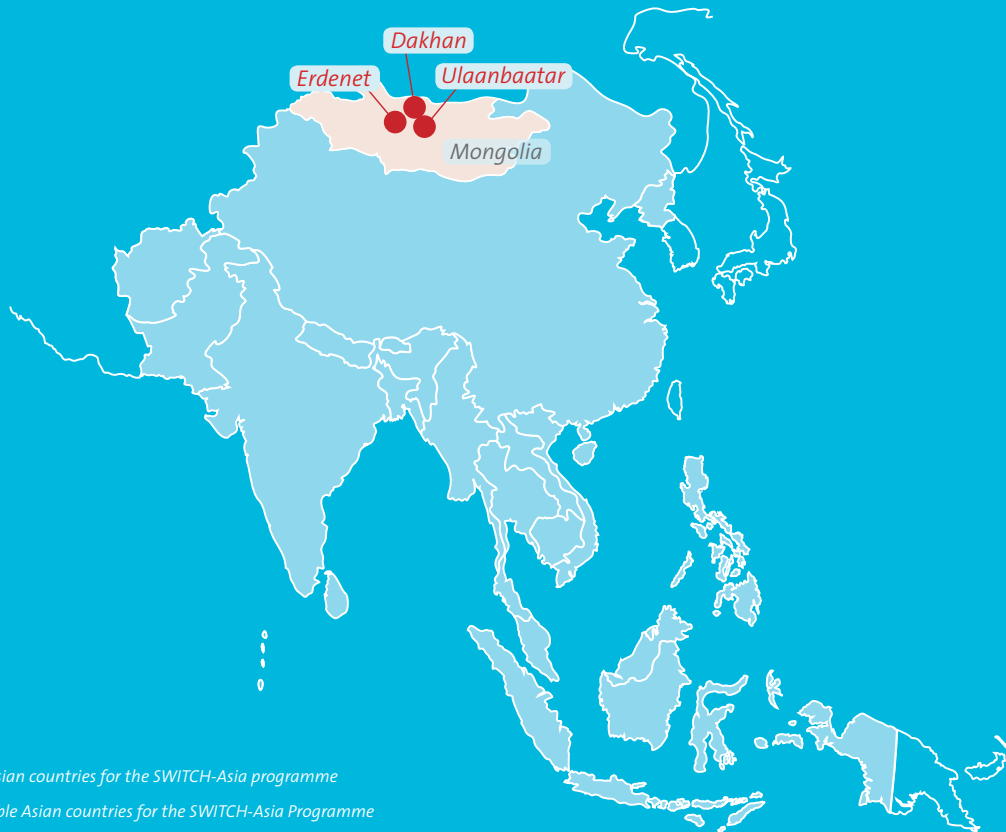
As a result of the project, the policy environment will be more conducive to green construction products and practices, thereby facilitating greater uptake of such products and practices by SMEs in the construction industry. This will be achieved through collaborating with the relevant authorities to encourage the development of policies and legislation that provide incentives for sustainable production in the construction sector. In addition, the project will encourage regulations for access to and the use of fly ash. In the first year of the project, discussions were held with the relevant ministries and authorities to lay the groundwork for advocacy activities.



IMPACT IN NUMBERS

<p>ECONOMIC IMPACT</p> 	<ul style="list-style-type: none"> The introduction of fly ash as a raw material will reduce production costs (as fly ash is a low cost input), increase the competitiveness of Mongolian SMEs, and allow them to expand their businesses.
<p>TECHNICAL IMPACT</p>	<ul style="list-style-type: none"> The project will increase the technical capacity of all stakeholders (SMEs, teachers, authorities, etc).
<p>SOCIAL IMPACT</p> 	<ul style="list-style-type: none"> The project, by reducing pollution caused by the construction industry, decreasing resource use, and improving indoor air quality, will improve people’s quality of life. By contributing to reducing carbon emissions, the project will also mitigate climate change.
<p>POLICY IMPACT</p>	<ul style="list-style-type: none"> The project will lead to policies that provide incentives for sustainable consumption and production in the construction sector and disincentives for unsustainable products and practices.
<p>ENGAGEMENT OF TARGET GROUP</p> 	<ul style="list-style-type: none"> Two SMEs have been selected to participate into the research process of green products and green technologies. More than 100 of SMEs have so far participated in conferences about sustainable practices. <p>The Construction College and the Mongolian University of Science and Technology will include the contents provided by the project in their curricula and will train the next generation of stakeholders in the construction industry.</p>
<p>POLICY LINKAGES</p> 	<ul style="list-style-type: none"> The project will lead to policies that provide incentives for sustainable consumption and production in the construction sector and disincentives for unsustainable products and practices.





Legend

- Eligible Asian countries for the SWITCH-Asia programme
- Non-eligible Asian countries for the SWITCH-Asia Programme

Project implementation area

- City
- Region
- Country

The boundaries shown on this map do not imply on the part of the European Union any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

OBJECTIVES

The project aims to introduce resource efficiency (RE) and technology innovation for acid recovery (AR) in the Indian metal finishing SMEs that would lead to improved operations and combat pollution.

DURATION



PROJECT TOTAL BUDGET

€ 1,690,718 (EU contribution: 80%)

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PROJECT CONSORTIUM



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