In March 2011, during a field visit in the North of Thailand, I was invited to visit the company SCG Lamphang Co., Ltd. This case study presents some highlights of the activities that SCG undertakes and which demonstrate that greening the production processes of large facilities can be profitable, socially inclusive and in line with the concept of Green Growth. The SCG management believes that operating its business based on the principles of sustainable development is important for the peaceful and mutually-beneficial co-existence of industries and communities, while assuring shareholders and investors of the stability and profitability of its business.

### Business-local community partnership for sustainable development

In consideration of the Triple Bottom Line, SCG practices the concept of sustainable development by protecting the surrounding forest area as required by the Thai Government.

Prohibiting people from entering the forest around the SCG factory has allowed the local forest and its
fauna to flourish. The protected forest is on the fringes of the limestone extraction area and creates a sanctuary and safe haven for wild birds.

After participating in SCG's check dam construction study, Ajarn Nanchan Autthiya, leader of the Ban Sasobhok community SCG Conserving Water for Tomorrow Project, and coordinator of the San Phaya Institute, has discovered ways to tackle the challenge of both water shortage during the dry season and flooding during the rainy season, both of which are contributing factors to poverty in the area.

A check dam works like a small bag that stores water, and was developed with the theory that the more dams there are the more water will be retained. Therefore, the communities in collaboration with networks of over 35,000 people have built more than 20,000 check dams to help restore deteriorated forests. Five years after the completion of the construction of these dams, there have been a number of noticeable changes, including a decrease in the number of wild fires per year from 200-300 to four to six. There is now also sufficient water stored for use during the dry season. Also, the check dams helped mitigate the impact of flooding in their vicinity, as evidenced in the flooding events of last year.

In general, the forest surrounding the plant has provided many opportunities for the generation of additional income for the local community. On the fringes, many kinds of local vegetables are grown, and villagers have been able to harvest and sell products such as mushrooms and honey from the forest. Last year, villagers collected honey from 100 beehives, and generated 300,000 Thai Baht in revenue. Some villagers have also been able to convert their houses to 'home stays' to provide eco-tourism services that benefit the local community and empower them to improve their own livelihoods. New job opportunities have been created for the younger generation who are returning to their homes after graduation.

Since 2003, SCG has built 34,004 check dams, of which 28,000 are in Lampang. The remaining are in other provinces where the group operates, including Saraburi, Kanchanaburi, Nakhon Si Thammarat, Chiang Mai, Phrae and Nan. SCG is aiming to construct 50,000 check dams by 2013 when the Group celebrates its 100th anniversary. Some 27 communities have taken part in SCG's check dam programme, with more than 37,000 participants.

**Waste Heat Power Generator (WHG) and other Heat Recovery Technologies at SCG**

In 2006, SCG Lampang was the first to install a WHG at its plant. SCG Cement has since then installed waste heat power generators at every cement plant in Thailand and overseas. Waste heat from the cement production process is recovered and used to generate electricity for the plants, and is an excellent example of co-generation principles. All installations were completed in 2009 with a total investment of 5,850 Million Thai Baht, resulting in a reduction of greenhouse gas emissions of 300,000 tons annually and also a saving of 25 per cent on electricity expenses.

SCG Building Materials has also initiated a number of non-electricity generating wasteheat utilization projects. Siam Sanitary Ware Industry Co., Ltd. is currently using heat recovered from its kilns to remove moisture and warm product materials before entering the kiln, thereby reducing the kiln's electricity consumption. Siam Fiberglass Co., Ltd. uses recuperated heat systems in its fiberglass sheet manufacturing process to achieve annual electricity reductions of 4.4 million kilowatt hours which equals 900 tons of greenhouse gas.

SCG also makes heavy use of alternative fuel sources, accounting for 16 percent of total energy demand for the company's cement kilns and paper mill boilers, and drawing upon agricultural residues, biomass, and industrial wastes as fuels. Aside from lowering the demand for natural resources, the utilization of these alternative fuels help eliminate the country's industrial waste. SCG Cement's cement plants now performs a waste disposal roles for the industrial sector, utilizing wastes as substitutes for fossil fuels. SCI Eco Services Co., Ltd. has been founded to manage the waste management operations and is currently serving over 700 industrial plants.