The two topics sustainability and agglomeration are frequently covered independently in powder and bulk handling publications. But in today’s era of environmental concerns, a bulk solids manufacturer may be providing agglomeration in a sustainable way.

We know that agglomeration has many meanings, depending on the bulk solids application. For instance, agglomeration can be a good thing in aspirin manufacturing, but it can be undesirable when you’re producing cereal flakes. Likewise, sustainability can have various meanings for a bulk solids company, denoting a broad vision of preserving life-sustaining resources for future generations. Often a company works toward this goal by incorporating three key values into its corporate culture: favorable economics, societal equity, and environmental friendliness.

Favorable economics exist when the company’s net revenue is positive. Valuing societal equity means that the company provides benefits to the local community through employment and paying taxes to support public infrastructure and high-quality schools. Being environmentally friendly means that emissions from the company’s manufacturing processes minimize adverse effects to air, water, terrain, humans, and other life. These three attributes, illustrated in Figure 1, must coexist to support a sustainable agglomeration business.

I informally reviewed agglomeration equipment businesses listed in Powder and Bulk Engineering’s Reference & Buyer’s Resource 2014-2015 (August 2014). I found only one business out of dozens that featured sustainability prominently in their business materials. A few other firms featured sustainability information much less prominently, and most companies never mentioned sustainability at all.

In the 2012 annual report of the company that prominently featured sustainability, 14 pages were specifically devoted to this topic. This company is acutely aware of its responsibility with respect to the economy, society, and the environment. One of its prime goals is to supply industrial solutions that combine a high level of efficiency and social benefit while helping customers protect the environment. Sustainability for this company means securing its future viability on the basis of stable economic and social foundations and an intact environment.

In the company’s annual report, specific details of this company’s sustainability activities are classified under the headings “Economically sustainable,” “Socially sustainable,” and “Ecologically sustainable,” exactly the three elements shown in Figure 1.

Another company was recognized by the Green Masters program, established by the Wisconsin Sustainable Business Council, as a “Green Professional,” meaning that the company has performed actions in each of the nine sustainability areas established by the council. Among these areas are energy and natural resource use, water and waste management, and education outreach. This council recognizes Wisconsin companies with an outstanding...
dedication to integrating sustainability principles into operations while pursuing business excellence.

Using agglomeration for sustainability

Both companies described here practice sustainability in producing agglomeration equipment, such as granulating, pelletizing, and briquetting machines and components. This equipment can help a wide range of bulk solids manufacturers be more sustainable. For example, a company processing metal can agglomerate the waste metal fines into briquets. These are compact and dust-free and are easily stored, handled, and recycled for the company’s own production or for sale. Great opportunities for increasing sustainability exist for plastics producers, as well. Various agglomeration processes can help companies recycle plastic scrap — a significant and problematic component of industrial and municipal waste — into usable plastic pellets.

Making your own company more sustainable

If you’re interested in learning more about how your company can improve its sustainability practices, contact the Institute for Sustainability (IfS) of the American Institute of Chemical Engineers (AIChE). The IfS has recently launched a newsletter, Sustainability Exchange, to serve the needs and influence the efforts of professionals, universities, industries, and governmental bodies that contribute to advancing sustainability and sustainable development. Each issue covers news on the latest developments in sustainability innovation, technology, business, and policies; IfS learning programs and materials; and upcoming conferences and events for the US, Europe, Asia, and other locations.

References

2. Visit the Institute for Sustainability website at www.aiche.org/ifs (email: customerservice@aiche.org).

We’ll cover your questions about agglomeration in a future column. Direct questions to the Editor at toneill@cscpub.com.