VALUING IMPACT

"Total Impact Valuation", a 2018 report from The Conference Board , describes increased awareness among investors and other stakeholders that non-financial information is key to understanding a company's performance. "Total impact valuation" is the practice of quantifying and monetizing a company's economic, social, and environmental impacts to better understand the full extent of their impacts on society, which can in turn guide management decisions by identifying where to focus efforts on improving social value creation.

At Praxair, we felt that the concept of total impact valuation could help extend several of our initiatives in sustainable development. Praxair has an SD 2020 target that at least 50% revenue should be earned from its Sustainability Portfolio. The Sustainability Portfolio grew out of our Eco Portfolio that measured environmental benefits enabled by Praxair applications. Claims made for our Eco Portfolio were supported by environmental Life Cycle Assessments (LCAs). The next question was, how does one measure social impacts?

Many Praxair applications that bring environmental benefits also bring social benefits. For example, Praxair's hydrogen for Ultra Low Sulfur Diesel (ULSD) was developed to meet regulations requiring sulfur (SO_2) reductions from diesel fuels. Hydrogen is the key ingredient in crude oil refining that eliminates sulfur from diesel and gasoline emissions from vehicle tailpipes. This public policy outcome has been achieved: The air is cleaner and there are fewer incidences of health issues from pollution in regions with these regulations.

Praxair White Papers trace the environmental life cycle of Hydrogen production for refining, in relation to SO_2 and GHG emissions. These show environmental impacts for GHG and SO_2: how this application enables the avoidance of 6 times more than all Praxair Scope 1 GHG emissions; and 14,000 times more than all Praxair SO_2 emissions (2016 data). However, Praxair had not measured the social impacts that from hydrogen production.

Our new work in this area was informed by increasing interest from outside parties in the measurement and valuation of social and human capital. Once we moved to a combined environmental and social LCA, we wanted to work with a common quantitative denominator and chose to work with monetary values. Both the WBCSD Social Capital Protocol (2017) and our own experience demonstrate that this is an imperfect science. Nevertheless, we pursued this research in order to amplify our understanding of the Praxair business model to include social benefits.

Also, in the development of its 5-year SD 2020 targets, Praxair's sustainability program included relevant global challenges and outcomes like the UN SDGs. As we discuss in the next section, we drew on work done by the GRI and WBCSD in the SDG Compass; and at the WBCSD to measure impacts as a result of inputs, activities, outcomes, and impacts. We felt that exploring total value impact valuation represents the latest evolution in this thinking and work. Our work was informed by The Social & Human Capital Charter.

We reached out to Villanova University's RISE program. They seek to integrate Social, Technology, Environmental, Economic and Political (their STEEP Model) to fully assess the life cycle impacts of a given project, process or product and to prepare a new generation of engineers to be development practitioners, equipped to confront the multi-dimensional complexities of development challenges as outlined in the SDGs. Praxair's proposal was accepted as an innovative project that would allow faculty and students to start to explore both these issues.

The RISE project measured a limited range of material inputs, activities, outcomes, outputs and impacts of producing hydrogen for ULSD. In all cases, they used publicly available external industry and government sources to establish dollar values for non-financial or pre-financial data: US OSHA for health and safety costs and avoided costs, for example; or US EPA for the social cost of carbon and for the social benefits of reduced hospital visits from reduced SO2-related pollution from cars and trucks.

Findings of this initial and preliminary work are presented in the graphic below. The calculated potential ~$0.6 billion economic investment & potential social and environmental costs were outweighed by potential economic, social and environmental benefits of ~$2.8 billion.