The Progressive Mining Agenda
Position Piece #5

Metal Mining Innovation and the New Social Contract.

Mining on an industrial scale is one of the two essential activities that are required to sustain a global population of over eight billion people; the other is agriculture. For over 40 years the mining industry has offered communities located adjacent to valuable mineral resources a higher standard of living than was available by traditional means. At the same time, this economic activity often introduced new social disparities into these communities and negatively impacted adjacent ecologies. The growth of the modern mining industry reflects the dilemma of progress; economic activity that brings benefits to billions can also negatively impact communities and the environment.

On the journey to humanity's success we have caused a great deal of damage by warfare and environmental degradation. War, no matter how devastating, has a temporary effect that can be recovered; the ecological damage inflicted on vast areas of the planet is more serious because it is irrecoverable. The early disasters, now marked by ancient cities absorbed by jungles or deserts, were caused by agricultural activities that were survivable only because they were local enough to allow humanity to escape, to repeat the same mistakes elsewhere. As recent industrial errors are added to our catalogue of agricultural failures, we have arrived at todays challenge - the global climate crisis. This time with no escape.

The metal mining sector is essential to resolving the climate crisis but not without structural changes. The new social contract will bring to an end to the traditional exchange; access to minerals deposits for local employment in mining operations, accompanied by long-established but destructive mine waste management practices. Mines in the future will have many fewer people in operations than today, most replaced by autonomous production systems and self-sustaining mine tailings management systems. In place of employment, mining will have to offer local communities a social contract that better reflects local priorities and aspirations.

The opportunity is to use technology to integrate the mining industry with the local agricultural economy it so often supplants. The human skillsets needed to support autonomous mining equipment are equally applicable to autonomous agricultural equipment. In much of the world agriculture is still characterized by arduous manual labour and poor economic returns because soil quality is often poor where climatic growing conditions are excellent. Mine tailings devoid of contaminants are not only benign but beneficial; most of the material mines produce are the minerals that created the rich, self-sustaining clay soils that supported centuries of sustainable agriculture in temperate regions. So, in the tropical and arid regions of the world where so many mineable industrial minerals are likely to be found, mining operations could improve soil quality and create a more self-sustaining, economically stronger agricultural economy, in addition to recovering non-renewable metal resources.

Mining and agriculture are essential to the future of humanity; rather than have them operate in ignorant and simplistic isolation, the future needs investment in systems that will achieve their integration and reconciliation and create the possibility of a Globally Sustainable Society.

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