

RESOLVE

**Remarks of Stephen D'Esposito
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to the National Research Council
of the National Academies
Board on Earth Sciences and Resources**

**“Paradigm Shift—A Survey of Key Natural Resource Challenges
and the Need for Collaborative Leadership”**

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Thanks to the Board and staff members for the invitation to speak with you today. I am the President of RESOLVE, a nonprofit organization that works with government, civil society, business and academic leaders to find solutions to environmental and public health issues. Sometimes we are asked to help resolve an active conflict; increasingly we work across sectors to identify solutions before conflicts occur.

Today we are exploring how society meets its natural resource needs—the challenges and risks, opportunities and rewards.

Three Assertions

I would like to start my remarks today with RESOLVE’s definition of sustainability:

The collaborative exploration and design of enduring solutions that balance and benefit people, the environment and economies.

I start with this definition because we need a way to understand and respond to the “risks and rewards” inherent in sourcing, using and re-using natural resources. An approach based upon a “balance and benefit” equation is an essential ingredient of sustainability.

My first assertion is this: the primary challenge we face today is that most of our natural resource planning and decision-making does not fully utilize this essential “balance and benefit” equation.

My second assertion is more hopeful. We are beginning to test a new decision-making paradigm. How and where is this happening? We see it in some regional or ecosystem-wide, multi-party natural resource agreements; voluntary certification systems; site-based benefit agreements, and innovative public-private partnerships. This is good news and we should study and learn from these efforts—both what is working and what is not.

My third assertion is that success will require the growth of what I call **sustainability 3.0**. Sustainability 3.0 builds upon its predecessors but it's fundamentally different. To simplify, Sustainability 1.0 entails sounding the alarm—alerting the public and decision makers to environmental and development problems and the need for solutions. This is still critically important, but it's not enough.

Sustainability 2.0 uses current systems and tools (such as laws, regulations, treaties or agreements, agency bureaucracies) in an effort to protect natural resources. Sustainability 2.0 also sometimes creates new laws and related tools. This fabric is critically important and has led to many environmental gains, but it falls short and we see evidence of that all around us today.

Sustainability 3.0 is the idea that the three critical factors that we face today with regard to natural resource decisions—urgency, complexity, and the need for rapid innovation and risk taking—require collaborative leadership, innovation and the possibility of working outside of current systems and tools. Why do these three factors require something different?

- **Urgency**: On some issues we may be at a point where the problem tips and then becomes difficult to turn around. To respond we will need to shorten the typical issue advocacy and planning cycle. We will need to test ideas and get to the negotiating table much earlier. In essence conflict resolution and solutions design needs to move to the front of the line.
- **Complexity**: Solutions are less likely to come from any one sector, agency, organization, company or expert. Solutions will emerge from and be designed and tested through collaboration, across sectors. Collaborative leaders become essential guides—the wisdom that comes from collaborative leadership and experience is essential as a response to complexity.
- **Innovation and risk taking**: We need to create safe space, where parties can take risks together and test solutions together even if they have profound differences on other issues.

Seven Natural Resource Challenges & Trends

I was asked to identify key trends and challenges related to the area of focus of this board—earth sciences. Let's turn to a quick survey of seven issues or trends that are at the heart of our natural resource challenge today. Each of these provides evidence of the need for collaborative leadership in designing and implementing solutions.

1. Treasure v. Treasure

Any survey of the natural resource landscape shows a trend toward a values fight between the treasure under the ground (e.g. minerals) and the treasure on or near the surface, whether the above-ground treasure is biodiversity, an economic resource like a salmon fishery, cultural heritage, a protected area or an untouched landscape.

We are now mining in some of the world's most remote, pristine locations. There are simply fewer places left to find valuable natural resources so these types of conflicts are likely to intensify. Yet there is little evidence that we have bolstered or strengthened decision making systems to account for the tension between these values, to fully assess the issues and risks, and to ensure that exploration and development dollars are effectively targeted. In fact, in the U.S., a strong case can be made that our system is inefficient for companies and communities and promotes conflict.

2. “Conflict Minerals”

Anyone who tracked the “blood diamonds” issue, who is following developments in DRC, or who knows the work of Michael Klare is familiar with the upward pointing trend line for this issue—minerals fueling or at the heart of simmering or active conflicts. Add water to the equation, both its use during mineral processing and conflicts over water and the challenge grows. Government action, first on blood diamonds and now on conflict metals, has resulted in some success. Increasingly we are seeing the emergence of cross-sector partnerships as an incubator for innovative solutions whether it's the Diamond Development Initiative (<http://www.ddiglobal.org/>), collaborative research projects (<http://www.resolv.org/eiscm/index.html>), efforts to reconfigure supply chains to ensure conflict free supplies of metals (<http://www.eicc.info/PDF/EICC%20and%20GeSI%20Host%20Third%20Tantalum%20Supply%20Chain%20Workshop.pdf>), or pilots to track supplies of minerals from or near conflict regions.

Over the longer term, have we contemplated a future with growing resource conflicts? Is it possible that the seriousness and complexity of this issue requires new forms of cooperation between NGOs, companies and governments to build transparency and voluntary governance systems and bolster capacity? Over the long term a case can be made that these sectors actually need each other to succeed at their respective missions.

3. Conflict, Communities & Social License

The role of communities (e.g. who speaks for a community, when have they spoken, how does community participation link to government decision making, and on what basis can agreements be reached with communities that are valid?) is now central to mineral development, whether through specific consultative requirements or as part of establishing a social license. The concept of social license extends to the U.S. as we see in communities ranging from Elko, Nevada to Helena, Montana to Bristol Bay, Alaska. Sometimes site-based issues unfold as an effort to “round up the votes” on various sides. An alternative and growing trend is to engage stakeholders using credible, collaborative methods.

Sometime social license ruptures and conflict results. At the same time we see serious efforts underway, with leadership from both companies and stakeholders, to develop and test new approaches. Newmont’s Community Relations Review (<http://www.beyondthemine.com/2009/?pid=470>) is one example of such a program.

4. Towards Essential Minerals

Mining and materials will play a key role in our new energy and technology future. Consider the minerals used in new energy technology (lithium, gold, copper, the rare earths) or in cell phones or computers (including tantalum and tin). Is the story of mining and materials today one of “essential” minerals? Is there a new green deal needed that links good practice at the site level with access to ore bodies that build the new green economy? Will such an approach help open up sustainable supplies of essential minerals to build such an economy? Is there the potential for collaboration that benefits civil society and industry? Is it smart policy to incentivize the search for sources of these minerals on the condition that these minerals are mined responsibly? Do we need to look more broadly at the issue of renewable or “green” energy and consider the policy context that needs to be created throughout the whole supply chain to enable “green” technology? For example, what will it take with regard to materials and minerals research and policy to transition to a global fleet of electric vehicles and what role do both the mining industry and policy and advocacy NGOs play developing these policies?

5. Supply Chain Transparency

Supply chain transparency has taken hold in many sectors, and is now gaining traction for minerals. Why? It is a mechanism for differentiation often welcomed by those seeking to demonstrate a commitment to good practice, wherever they sit in the supply chain.

At its core it is a mechanism to prove legality but once in place the system can also promote social and environmental good practice across supply chains.

Supply chain tracking for minerals is a challenge due to the nature of processing and the complexity of supply chains but the trend is clear—whether it's Rio Tinto and Newmont, Tiffany and Wal-Mart, or tantalum miners and refiners and Intel, Motorola and HP. While the tracking or tracing is not always literal, what each of these initiatives has in common is that in one way or another they seek to differentiate companies, material and products. Transparency systems are typically built through collaboration and the very act of participating in such a system is itself a fundamental first step toward differentiation.

6. The Climate Reshuffle

Climate issues could reshuffle the deck with regard to the natural resource sector including mining. A carbon constrained world is more complex and requires systemic solutions requiring those in the sector and with interests related to the sector to engage on broader policy issues.

The challenges for the mining sector include water and energy consumption—and the potential cost of transporting products. In the U.S. as more land is utilized for renewable energy facilities and transmission capacity, putting pressure on critical habitat and biodiversity, pressure could build on the mining sector to limit its land and resource footprint. On the other hand, demand for minerals used in high tech products and systems designed to respond to the climate/energy challenge is likely to grow. Mining companies, given their contribution to and draw on infrastructure and community institutions could be an important actor on the issue of climate adaptation. It could be useful for companies as well as industry associations and research organizations to put adaptation on their respective agendas.

Climate issues also have the potential to alter coalitions and reshuffle interests. Does the NGO/mining industry issue paradigm of the past 20+ years (single issues and site-based fights) shift? Is it possible that a new relationship emerges where NGOs and companies begin to need each other as cooperative natural resource partners to achieve their climate, energy and sustainable development agendas?

7. Best Practices for Fuel Minerals

In most future energy scenarios, for decades into the future, traditional carbon fuel minerals (e.g. coal, oil and natural gas) will continue to play some role in our energy mix, with significant questions about the exact percentage for each. This presents important questions—1) what is good practice at the mine sit or rig and what are the new innovations that will limit impacts, 2) what are the social impacts of less mining in some regions and how are these best addressed in historic mining regions and 3) what are the best greenhouse gas mitigation strategies and technologies. These questions lend themselves to the use of collaborative process whether it for testing new site-based practices, designing

site reclamation strategies that promote environmental health or utilize bio-fuels, or investigation into mitigation strategies.

Collaborative Leadership and Sustainable Solutions

- In 2003, the Center for Social Innovation at Stanford called for “dissolving boundaries and brokering a dialogue between the public, private and nonprofit sectors” in order to foster social innovation.
- In 2008, an NAS report, from a panel upon which RESOLVE served found that effective public participation and collaborative process improves the quality of federal decision making.
- This month RESOLVE launched a new program, the Solutions Network (www.solutions-network.org), to create a safe space for risk taking, shorten the planning timeline for solutions, and encourage stakeholders to work in a step-wise manner. Companies and NGOs in and focused on the mining sector are at the leading edge of this initiative.

To achieve “balance and benefit...to people, the environment and economies” will require technological and scientific solutions and breakthroughs coupled with strong collaborative leadership. We need a rapid escalation in our understanding and use of collaborative tools such as mediation, conflict resolution, joint scientific fact finding, effective negotiation, and others. We also need to create the conditions that support collaborative leaders—those who reach across sectors and interests.

Thank you.