# Governing Uranium: Supply Chains — Why Private Engagement is Needed

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**The expansion of uranium mining into states of weak governance calls for new forms of regulation from private and public actors. Companies along the nuclear supply chain can strengthen the global nuclear regulatory regime through engagement, material stewardship, and traceability approaches.**

*France Bourgouin, fbourgouin@bsr.org*
*Julia Panzer, julia.panzer@web.de*

## RECOMMENDATIONS

Non-proliferation is an issue that needs to be considered by the entire set of corporate and public actors along the nuclear supply chain. Private actors should take on their share of responsibility and be able to know and certify:

- Where its uranium is sourced.
- How it is mined.
- The social and environmental impact of mining and transportation operations.
- The working conditions facing miners.
- The impact on local communities surrounding the mines.
- Assurance that uranium from the mine has not been lost or accidentally diverted along the supply chain.

Government and public actors in home countries of global companies engaged in the nuclear fuel cycle need to develop regulation that aligns with private sector initiatives to foster sustainable uranium supply chains by:

1. Considering a recognized and transparent traceability scheme of uranium ore.
2. Encourage standard setting in uranium supply chains that incorporate non-proliferation as a key material issue.
3. Encourage companies and international organizations to work collaboratively on industry non-proliferation standards.
4. Encourage the IAEA and WNA to develop country profiles for new uranium supplying countries.
5. Civil society together with responsible investors should monitor and complement the work on transparency of uranium supply chains.

Over the past two decades, the output of uranium mining has been ever rising and is now meeting 90% of global demand for nuclear power generation. At the same time, the centers of production have been shifting where output in traditional suppliers has stagnated (2% change in Australia since 2002) or declined (-22% in Canada) and increasing in others such as China (by 105%), Namibia (101%) and Kazakhstan (661%). Uranium supply chains are also reaching into countries that may not have an adequate nuclear regulatory structure in place. As production increases and new suppliers and consumers enter the market, incorporating non-proliferation into wider corporate sustainability debates becomes all the more relevant to the maintenance of the international non-proliferation regime and also industry's quest to uphold ethically, socially and environmentally responsible practices in the nuclear supply chain.

Two significant changes in the global economy of nuclear material have also taken place:

1) The globalization of supply chains and growing need for nuclear energy from emerging economies (notably: China, Brazil, India, South Africa)
2) An opening of uranium supply chains from regulated markets to states with weak governance and little regulation. The changing geographies of uranium extraction bring into question the extent to which compliance with current international regulations – which give little attention to the front-end of the fuel cycle – are sufficient to mitigate risks in the nuclear supply chain.

The established global regulatory regime is seen as the combination of existing national, regional and inter-

**Table 1. Change of Production 2002-2012**

| Country | Production (tU) | | % change |
| --- | --- | --- | --- |
| | 2002 | 2012 | 2002-2012 |
| Australia | 6854 | 6991 | 2 % |
| Brazil | 270 | 231 | -14 % |
| Canada | 11604 | 8999 | -22 % |
| China | 730 | 1500 | 105 % |
| Czech Rep | 465 | 228 | -51 % |
| France | 20 | 3 | -85 % |
| India | 230 | 385 | 67 % |
| Kazakhstan | 2800 | 21317 | 661 % |
| Malawi | 0 | 1101 | 110000 % |
| Namibia | 2233 | 4495 | 101 % |
| Niger | 3075 | 4667 | 52 % |
| Pakistan | 38 | 45 | 18 % |
| Romania | 90 | 90 | 0 % |
| Russia | 2900 | 2872 | -1 % |
| South Africa | 824 | 465 | -44 % |
| Ukraine | 800 | 960 | 20 % |
| USA | 883 | 1596 | 81 % |
| Uzbekistan | 1860 | 3000 | 61 % |

*Source:* http://www.world-nuclear.org/info/Facts-and-Figures/Uranium-production-figures/

national structures. Guidance and obligations applied to the trade of uranium ore concentrates (UOC) are limited, with reporting of imports and exports containing uranium and thorium the only requirement for states that have negotiated a Comprehensive Safeguards Agreement with the International Atomic Energy Agency (IAEA). For states with an Additional Protocol, the obligations extend to reporting on the number of uranium mines, their location, production, uranium purity while providing IAEA inspectors complementary access to sites. At the national and regional levels, regulatory measures and practices vary widely, particularly in key security areas such as inventory controls, reporting requirements, conducting risk assessments, or the physical protection of uranium ore or uranium ore concentrate.

## URANIUM MINING IN WEAK GOVERNANCE STATES

Today, the world's leading uranium companies have a significant share of their mining operations in countries with weaker governance structures such as Namibia or Niger. Moreover, smaller mining companies as well as developing exploratory mining projects are increasingly found in such countries as Algeria, Cameroon, Somalia, and Zambia. Information on safeguard measures in place in countries of operation is important for corporate and public risk assessments. While the World Nuclear Association (WNA) provides information on regulation in uranium rich countries it does so far not provide country profiles for the upcoming countries that are supposedly weak in uranium governance from the state level, such as Central African Republic, Malawi, Morocco, or Tanzania.

## NON-PROLIFERATION: A GAP IN CSR

A review of corporate profiles for companies along any part of the civilian nuclear supply chain reveals the conspicuous absence of any mention of the military use of nuclear material that is so well known to all. Non-proliferation is not identified as a key issue in any materiality analysis, stakeholder engagement process, nor is the company's performance in their commitment to non-proliferation measured through key indicators, monitored, or reported on. Sustainability reporting frameworks, including the Global Reporting Initiative (GRI), the UN Global Compact, or socially responsible investment initiatives even with elaborate industry-specific guidelines, have omitted non-proliferation as key issues for companies operating with dual-use material. The lack of reference to today's nuclear proliferation concerns seems as unnecessary as it does a contradiction to sustainable best practice. Certainly, transparency and acknowledgement of the issues pertaining to dual-use

material ought to be incorporated into understandings of corporate best practice throughout the supply chain and seen as a practice aimed at ensuring the continued peaceful use of natural uranium that come with performing "beyond compliance".

The logic behind the non-materiality of non-proliferation is then two-fold. On the one hand, there simply has not been the demand. Companies further down the nuclear supply chain are not considering non-proliferation as an important ethical and socially responsible corporate practice on which to demand transparency from actors within its supply chain. Investors and brokers, often conscious about the environmental and societal performance of companies, have been an impetus to companies to improve performance in these areas, but no pressures have been imposed in relation to global security.

On the supply-side, corporate actors along the entirety of the nuclear supply chain such as companies involved in uranium recovery, transporters (sea, rail, road carriers, port operators, freight forwarders, etc.) or users of nuclear fuel for peaceful purposes (utility companies, medical companies, or other), do not see the need to report voluntarily on non-proliferation performance. Companies are not seeking to complement compliance with government regulation and international standards with self-regulatory measures.

## CSR COMPLEMENTS AND STRENGTHENS REGULATIONS

Corporate self-regulation could help mitigate against variations and discrepancies among different national and regional governance systems. To be a fully effective tenet of corporate sustainability, non-proliferation will need its own set of committed companies, standards-based performance indicators, and knowledgeable investors and consumers. Without this infrastructure, dual-use manufacturers, shippers, brokers, and financiers may lack the market mechanisms that reward superior non-proliferation performance.

## THE ROLE OF THE PRIVATE SECTOR

The crucial challenge lies in motivating private actors to improve their capacity to conduct due diligence and implement non-proliferation programs as part of their overall sustainability strategy along the entire nuclear supply chain. This would have the benefit of both increasing transparency and accountability on all pertinent environmental, social and corporate governance (ESG) issues, as it would provide a global governance structure that would complement existing regulation and ensure the integrity and accountability of the industry. There is

a real opportunity for exploiting supply chain linkages and business relationships to spread beyond-compliance practices and make supply chains resistant to illicit procurement.

In keeping with contemporary sustainability trends, the continuity and reliability of supply on all ESG issues is a primary concern. In other words, end-users should be as wary of a suppliers' employee code of conduct and safety, as they should be of their suppliers' environmental impacts, or indeed, their non-proliferation performance. Non-proliferation needs to be treated just as any other key ESG sustainability issue by all companies involved in the manufacturing, transport, or end-use of dual-use material.

The combination of the recognition of the importance of reputation and the role that large conglomerates along the nuclear supply chain play as important customers of at-risk firms puts them in a perfect position to implement a self-regulated non-proliferation programme and uphold the beyond-compliance principles.

A good starting point would be for companies that export natural uranium to require as a condition of business a non-proliferation statement in their corporate governance structures as well as a proliferation-resistant compliance system in place on which they report, including perspective of external critical constructive stakeholders in the review process. Corporate performance on non-proliferation should then be reported and monitored for the entirely of the nuclear supply chain. Certainly if utility companies or buyers of enriched uranium can collectively adhere to robust ethical, social,

and environmental performance standards to integrate into their individual uranium-based product purchasing decision, it would strengthen the sustainability standards for the entire industry and not just non-proliferation.

Similarly, in-line with good ethical, social and environmental principles, standards and business practices, companies operating downstream in the nuclear supply chain should pay increased attention to ESG compliance of upstream operators. That is, downstream companies should be increasingly aware of the environmental and social impacts of their suppliers, including those of uranium mines, in order to assess the integrity of their supply chain.

**FURTHER READINGS**

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