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Original research article

# Global governance at the energy-security nexus: Lessons from UNSCR 1540

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### ABSTRACT

Advances in nuclear, biological, and chemical technologies have transformational potential related to the global energy supply chain. At the same time, those advances pose significant security risks because those the same technologies can be diverted for violent purposes. Recognizing this threat, the United Nations Security Council in 2004 took the unprecedented step of invoking its Chapter VII authority to pass Resolution 1540, which obligated all UN members to develop, implement, and report on a comprehensive regulatory system for tracking the production and distribution of technology related to weapons of mass destruction (WMD). The resolution reflected a new international commitment to preventing the proliferation of WMD and a potentially revolutionary approach to transnational regulation. In contrast to traditional approaches that rely on rigorous third-party monitoring, verification, and enforcement, UNSCR 1540 relies on a more dynamic and iterative process of norm elaboration and dissemination that strengthens the social fabric necessary to react to emerging threats. While UNSCR 1540 faces ongoing challenges, it also holds promise as a model of cooperative governance in particularly complex and sensitive issues, such as those that characterize politics at the energy-security nexus.

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## 1. Introduction

Today's increasingly integrated and global system of energy production and consumption has the potential to generate strong efficiency gains, productive competition, and cooperative interdependence.<sup>1</sup> There are also potential downsides: the environmental impact of increased consumption, the security risks of critical resource dependency, and the unintended consequences of technological innovation. We are familiar with these trade-offs as they apply to nuclear energy and weapons technology,<sup>2</sup> but the same tension characterizes biological and chemical advances.

For example, the push to standardize synthetic biology promises advances in using biological processes for energy generation as standardization makes experimentation more accessible. Those same tools also facilitate the production of biological weapons agents.<sup>3</sup> The advances in chemistry that have led to better battery technology also make it easier to identify and generate weapons-relevant chemical agents.<sup>4</sup> Managing those tensions ultimately is a question of governance. In other words, how global energy interdependence affects national and human security will be shaped strongly by who sets the rules, how they set them, and how the international community ensures those rules are followed. The challenge is to create governance arrangements that encourage continued innovation and increased access, while preventing these technologies from contributing to WMD proliferation.

The United Nations Security Council in 2004 passed Resolution 1540 (UNSCR 1540) specifically to address the WMD prolifera-

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<sup>2</sup> For example, see, *The Nuclear Renaissance and International Security*, eds. Adam Stulberg and Matthew Fuhrmann (Stanford: Stanford University Press, 2013).

<sup>3</sup> See, for example, the European Commission's report on synthetic biology: [https://ec.europa.eu/research/fp6/nest/pdf/nest\\_synth\\_bio.pdf](https://ec.europa.eu/research/fp6/nest/pdf/nest_synth_bio.pdf).

<sup>4</sup> For a more in-depth discussion of the dual-use side of recent chemical and biological advances, see the contributions to: Tucker, Jonathan B. 2012. *Innovation, Dual Use, and Security: Managing the risks of emerging Biological and Chemical Technologies*. Cambridge, MA: The MIT Press.

tion threats posed by non-state actors. The resolution obliges all UN members to develop and implement a comprehensive regulatory system for tracking and securing the production, distribution, and financing of WMD-related technology and services. The resolution's basis in Chapter VII of the UN Charter makes it binding on all members. In the aftermath of the US invasion of Iraq, a substantial number of non-Security Council countries met 1540 with apathy, skepticism, or outright opposition. In the intervening years, however, UNSCR 1540 has gained legitimacy and influence as a regime. It is still too early to identify a systematic shift in domestic governance tied directly and only to 1540, but there are key signs of this influence. Efforts related to 1540 have filled important gaps in the otherwise dense network of well-established nonproliferation treaties, regimes, and bilateral assistance programs. It arguably has made related pre-existing efforts more focused and more effective. Along the way, once-skeptical states have been persuaded that UNSCR 1540 is a worthy effort. This expanding impact both reflects, and is reflected by, the growing independence and significance of the 1540 Committee and its Group of Experts, the alignment of major bilateral efforts with 1540's priorities, especially those of the United States, and 1540's success in promoting closer coordination across the various regimes of the nonproliferation regime complex. Taken together, these changes suggest an important role for 1540. This shift—from skepticism to support—raises the question of how the regime has made such significant strides across difficult terrain.

Beginning with a discussion of the context in which it was created, the analysis below documents how efforts under UNSCR 1540 have evolved. This research confirms the expectation of those scholars who argued that 1540 was unlikely to revolve around the traditional arms control model of governance via strong monitoring, verification, and enforcement.<sup>5</sup> As the regime has matured, members have eschewed enforcement, opting instead for a more dynamic process of norm elaboration and dissemination that strengthens the social fabric necessary to react to complex, evolving threats. Through engagement, capacity-building programs, and dialogue, UNSCR 1540 empowers states to regulate these areas more effectively. To be a bit bolder, we argue that because of this approach, UNCR 1540 has been more successful than threats and sanctions likely would have been.

That analysis holds important implications for how the decision-makers can bolster 1540's impact. Reforms should avoid material threats and focus instead on strengthening the tools in 1540 that encourage the dynamics that have driven its success to date: persuading recalcitrant states of its legitimacy and significance, subjecting all states to rigorous and transparent reviews of system effectiveness, providing states that need it with intellectual and physical capital to meet the standards, and working with the broader network of nonproliferation efforts to create a more holistic and effective governance system.

## 2. The logic and design of UNSCR 1540

The UN Security Council unanimously passed Resolution 1540 under Chapter VII in April 2004. Its fundamental aim is to 'enhance coordination of efforts on national, sub-national, regional and international levels in order to strengthen a global response' to the threats posed by the proliferation of weapons of mass destruction to non-state actors. Specifically, the resolution requires all members

<sup>5</sup> See in particular: Heupel, Monika. 2008. "Combining Hierarchical and Soft Modes of Governance: The UN Security Council's Approach to Terrorism and WMD Proliferation after 9/11." *Cooperation and Conflict* 43(1): 7–29; Nance, Mark T. and M. Patrick Cottrell. 2014. "A turn toward experimentalism? Rethinking security and governance in the twenty-first century." *Review of International Studies* 40(02): 277–301.

to: 1) 'Adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes;' and 2) 'Take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials.' In short, it mandates that states develop and enforce a regulatory system that would prevent non-state actors domestically or abroad from acquiring WMD technologies, including their delivery systems. Its extraordinary basis in Chapter VII means that UNSCR 1540 is the only international nonproliferation initiative for which compliance is mandatory for all UN members: all other treaties and regimes are voluntary. It also makes 1540 enforceable. Article 41 of the UN Charter allows for the application of economic and diplomatic sanctions for non-compliance with provisions passed under Chapter VII. Article 42 allows members to "take such action by air, sea, or land forces as may be necessary."

The resolution also created the 1540 Committee. Comprised of representatives from each member state of the Security Council, the Committee's primary original responsibility was to gather and review reports on a state's system to gauge compliance with the scope and purpose of the resolution. Since 2004, the Committee's mandate has been extended three times. As part of the second extension, the Committee conducted a full review in 2009, a process that was repeated throughout 2016 and is to be repeated in 2021.<sup>6</sup> The most recent extension in 2011 was for a ten-year period, until 2021.

Despite its unanimous vote in the Security Council, 1540 was controversial on several fronts. Its basis in Chapter VII represented a broad extension of those important powers. Never before had the Council regulated non-state actors as a general category. Nor was there a model for the Security Council obliging states to adopt significant changes to domestic laws. Raising the potential of a counterproductive conflict of laws, UNSCR 1540 adds an additional layer of governance over previous multilateral initiatives that were designed to facilitate and/or restrict the proliferation of those sensitive technologies. These aspects of 1540 gained considerable academic attention.<sup>7</sup> They also were controversial in the United Nations itself. In the highly politicized post-9/11 context, some states saw 1540 as imposing the cost of security for mostly wealthy, Western states on smaller, poorer states that had different security priorities, including basic human security issues.<sup>8</sup> In the shadow of the 2003 US invasion of Iraq, some members of the United Nations saw 1540 and its Chapter VII basis as a pre-approved legal justification for further invasions.<sup>9</sup>

## 3. Gauging UNSCR 1540's impact in practice

Despite those assertive beginnings, the Security Council over time has emphasized the "soft" side of the resolution. Enforcement as a collective policy of the Council seems off the agenda entirely.

<sup>6</sup> Two of the authors participated in a civil society review of UNSCR 1540 as part of that 2016 review.

<sup>7</sup> See, for example, Stefan Talmon, "The Security Council as World Legislature," *The American Journal of International Law*, Jan. 2005, pp. 175–193; Douglas Stinnett, Bryan R. Early, Cale Horne, and Johannes Karreth, "Complying by Denying: Explaining Why States Develop Nonproliferation Export Controls." *International Studies Perspectives*, Aug. 2011, pp. 308–326.

<sup>8</sup> Brian Finlay and Elizabeth Turpen, "The Next 100 Project: Leveraging National Security Assistance to Meet Developing World Needs," A Report by The Stimson Center and The Stanely Foundation, 2009.

<sup>9</sup> See, for example, the debates over the original resolution. UN document S/PV.4950. Also see the discussion below at fn. 17.

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