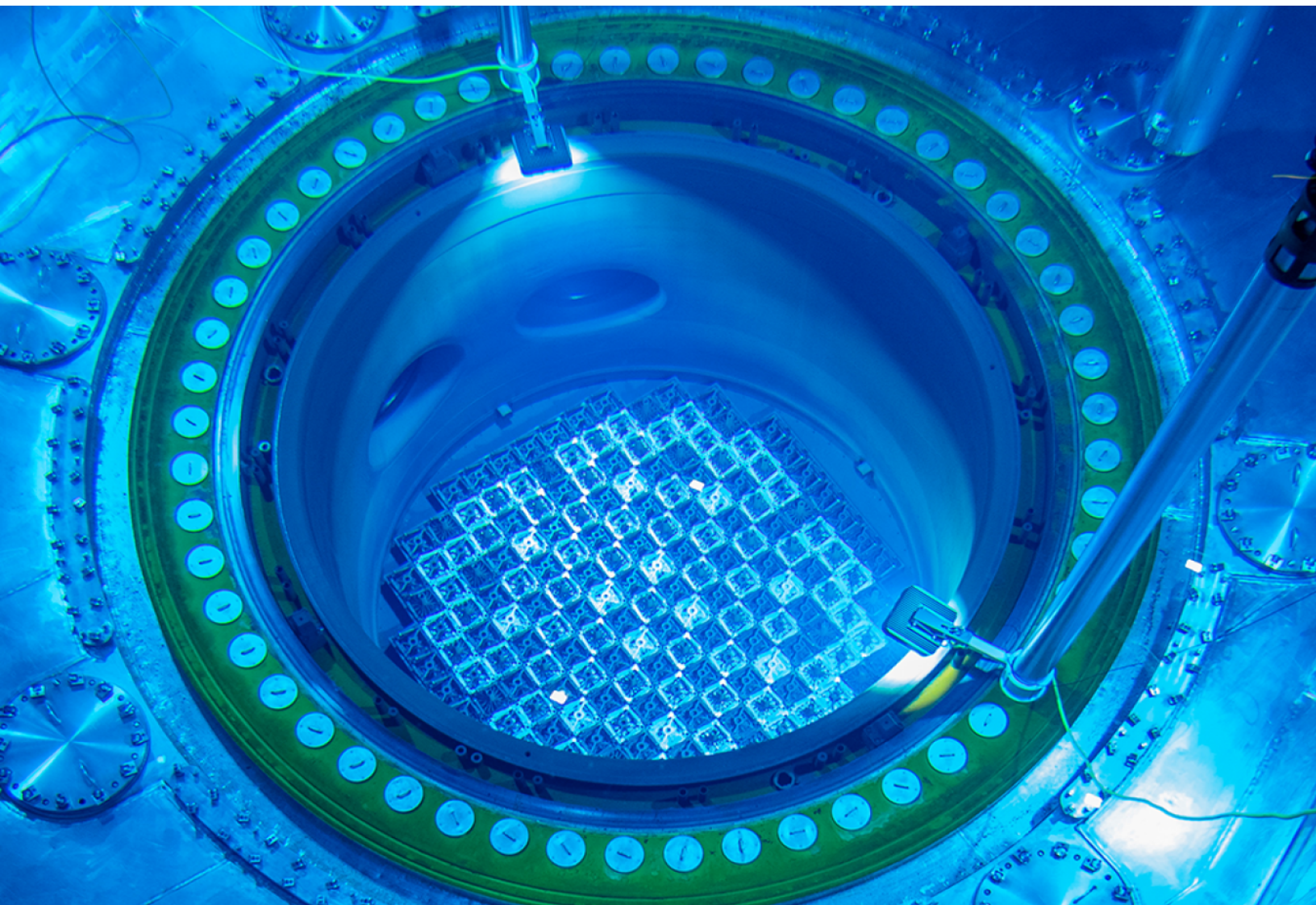


Hold the line on enrichment

*A new nonproliferation standard for Iran, Saudi Arabia, and the
Middle East nuclear fuel cycle*



EXECUTIVE SUMMARY

The United States faces two nuclear questions in the Middle East that have quietly fused into one.

The first is whether Iran, after years of escalation, concealment, and enrichment far beyond any civilian need, will be permitted to retain a domestic enrichment capability under a negotiated ceiling.

The second is whether Saudi Arabia will receive American civil-nuclear cooperation on terms that permit — or leave the door open to — sovereign enrichment and reprocessing. These are not separate files. Iran sets the precedent; Saudi Arabia is the test case; the rest of the region is watching.

The proper American position is not simply *no bomb*. It is **no sovereign fuel-cycle pathway** — no domestic enrichment and no domestic reprocessing — anywhere in the region, for adversary and partner alike. Enrichment and reprocessing are the two technologies that compress breakout timelines, erode American leverage, degrade the regional security environment, and invite a regional hedging race. A framework that grants Iran “civilian enrichment” to close a deal hands Riyadh the precedent to demand the same, and the demand will not stop at Riyadh.

The recommended posture is a **U.S.-anchored regional fuel-cycle framework**: guaranteed American or allied fuel supply; no sovereign enrichment or reprocessing, which provide the material for nuclear weapons; U.S.-controlled back-end disposition or recycling; full-scope IAEA safeguards and the Additional Protocol as the floor, not an optional extra; and the United Arab Emirates “gold standard” applied consistently to every U.S.-supported civilian program in the region. This keeps Saudi Arabia inside the American strategic camp, protects Israel, strengthens the Abraham Accords, preserves U.S. nuclear-export leadership against Russian and Chinese competition, and denies Iran the nuclear legitimacy it seeks.

Civilian nuclear power, yes.

Sovereign enrichment and reprocessing in the Middle East, no. And no exception, for friend or adversary, that makes the rule unenforceable for everyone else and more costly for the United States.

I. The strategic context

In June 2025, Israeli and American strikes degraded Iran’s nuclear infrastructure without eliminating it. By mid-2026, the United States pursued a memorandum of understanding with Tehran to end the fighting and open in-depth nuclear negotiations — talks serious enough that Washington

has pre-positioned a team of roughly one hundred technical specialists at Oak Ridge and the Y-12 National Security Complex to plan for verification, enrichment limitation, and disposal of Iran's enriched-uranium stockpile.¹ The thorniest unresolved issue in that negotiation is the same one at the center of this paper: what becomes of Iran's enrichment capacity.

At the very same moment, the administration moved to extend civil-nuclear cooperation to Saudi Arabia on terms that nonproliferation specialists and former officials across both parties warn would drop the safeguards Washington spent nearly two decades building. Reporting indicates the proposed arrangement would not require Riyadh to accept the UAE "gold standard" commitment to forgo enrichment and reprocessing, nor to adopt the IAEA Additional Protocol.² The contradiction is stark and was captured by the administration's own former Iran envoy, who called it "ironic" that Washington would confront Iran over enrichment while considering helping a neighbor enrich.³

These two questions cannot be answered in isolation. The logic that lets Iran keep enrichment is the same logic Riyadh will invoke to demand it, and the logic that lets Riyadh enrich is the logic that dissolves every prior commitment in the region and creates similar demands of others. The issue is not a choice between a policy for Iran and a policy for Saudi Arabia. It is a choice about whether there will be a regional standard at all.

II. The precedent trap: How one concession becomes a cascade

For years Iran has insisted that enrichment is its sovereign right under the Non-Proliferation Treaty. The claim is politically convenient and strategically corrosive. Civilian nuclear power does not require sovereign enrichment; responsible energy states operate reactors on imported fuel under contract. The United Arab Emirates proved the model in the region — civilian power, American partnership, international confidence, and a binding renunciation of enrichment and reprocessing. That should be the standard, not the exception.

¹On the unannounced Witkoff–Kushner consultation at Oak Ridge National Laboratory and the Y-12 National Security Complex, and the assembly of roughly 100 technical experts to support Iran nuclear negotiations: Barak Ravid, "Scoop: Trump's Iran envoys quietly convene nuclear experts in Tennessee," *Axios*, June 5, 2026; corroborated in *The Times of Israel* and *The Jerusalem Post*, June 2026.

²On the proposed U.S.–Saudi civil-nuclear arrangement omitting the "gold standard" renunciation of enrichment and reprocessing and the IAEA Additional Protocol: Matthew Shea, "Lawmakers raise concerns as Trump prepares civilian nuclear deal with Saudi Arabia," *Jewish Insider*, June 5, 2026; "U.S. nuclear power pact with Saudi Arabia lacks strict guardrails, letter says," *Reuters*, May 19, 2026.

³Elliott Abrams, former U.S. special representative for Iran, quoted characterizing as "ironic" U.S. confrontation with Iran over enrichment alongside consideration of Saudi enrichment and warning a Saudi exception would force renegotiation of the UAE agreement: *Jewish Insider*, June 5, 2026.

If Washington allows Iran to keep enrichment under caps, it validates the Iranian argument in principle. Riyadh's response is then entirely predictable: it will refuse to accept a lower standard than its principal rival, and it will frame domestic enrichment as a matter of parity, prestige, and deterrence. That logic is understandable from a Saudi vantage point and disastrous from an American one. The chain is mechanical:

- If Iran is allowed to keep enrichment, **Saudi Arabia will demand enrichment.**
- If Saudi Arabia obtains enrichment, **the UAE gold standard collapses.**
- If the gold standard collapses, **future regional deals become case-by-case bargaining rather than principled nonproliferation.**
- If that happens, **the United States will have manufactured the very proliferation cascade it spent decades preventing.**

Even if the U.S. destroys Iran's enrichment capabilities permanently, it risks destabilizing the region by transferring the Iranian regime's argument to others. This is not hypothetical. Saudi officials have stated the intent on the record. The Energy Minister declared in January 2023 that the Kingdom wants "the entire nuclear fuel cycle," including enrichment and yellowcake production for domestic use and export.⁴ He reiterated in January 2025 that "we will enrich it and we will sell it."⁵ Selling it is an intent to proliferate. The Crown Prince said plainly in 2018 that if Iran built a bomb, Saudi Arabia would "follow suit as soon as possible."⁶ The precedent, once set, would not sit idle.

The cascade is not a metaphor. It has named participants.

A proliferation cascade is sometimes dismissed as alarmism. It is not. The mechanism is reputational and legal, not merely psychological: each concession resets the baseline for the next applicant to cite. Nonproliferation specialists consulted across the recent Saudi debate named the same probable followers — Egypt and Turkey first, with the UAE positioned to demand renegotiation of its own gold-standard commitment if it concludes it accepted a stricter deal than its neighbor.

⁴Prince Abdulaziz bin Salman, Saudi Minister of Energy, Future Minerals Forum, Riyadh, January 11, 2023: the Kingdom intends "the entire nuclear fuel cycle which involves the production of yellowcake, low enriched uranium and the manufacturing of nuclear fuel both for our national use and of course for export." See "Saudi Arabia plans to use domestic uranium for entire nuclear fuel cycle," *The National* / Reuters, January 11, 2023; Arms Control Association, "Saudi Arabia Aiming for Complete Nuclear Fuel Cycle," *Arms Control Today*, March 2023.

⁵Prince Abdulaziz bin Salman, conference in Dhahran, January 2025: "We will enrich it and we will sell it and we will do a 'yellowcake.'" See "Saudi Arabia announces plans to enrich and sell uranium," Al Jazeera, January 14, 2025; Energy Intelligence, January 17, 2025.

⁶Crown Prince Mohammed bin Salman, CBS/Fox News interview, March 2018: if Iran develops a nuclear weapon, "we will follow suit as soon as possible." Reaffirmed by subsequent Saudi officials. See Arms Control Association, *Arms Control Today*, April 2018.

- **Egypt** operates a Russian-built reactor program at El Dabaa and has long resented being held to standards its neighbors escape; a Saudi enrichment pathway gives Cairo both the grievance and the template.
- **Turkey** — a NATO member with its own Russian-built program at Akkuyu and a leadership that has publicly questioned why it should be denied weapons-relevant capability — is the most strategically consequential follower.
- **The UAE** is the keystone. Abu Dhabi accepted the gold standard voluntarily; its 2009 “123 Agreement” permanently renounced enrichment and reprocessing in exchange for guaranteed fuel. If a neighbor obtains American cooperation without those terms, the UAE’s own undertaking comes under pressure, and the regional floor becomes a ceiling that only Abu Dhabi ever accepted.

The legal vector for the collapse is the “most-favored-nation” dynamic: once one state secures looser terms, every subsequent negotiation — and every renewal — cites them as the new baseline. This is why a single permissive deal is not a contained exception but a solvent. The framework recommended below therefore includes an explicit anti-MFN provision: no terms offered to one regional state may operate to weaken another state’s prior nonproliferation commitments.⁷

The United States should not solve the Iran nuclear problem by creating a Saudi nuclear problem. Permitting Iranian ‘civilian enrichment’ to reach a deal takes the worst feature of the Iran file and regionalizes it.

III. Why enrichment is the wrong concession

Uranium enrichment is not merely another industrial capability. It is the core technical chokepoint between peaceful nuclear energy and a nuclear-weapons option.

Low-enriched uranium for power reactors typically runs around three to five percent U-235; weapons-grade material is far higher. The decisive point is not the percentage on paper but the existence of a sovereign enrichment base — the machines, engineers, feedstock, maintenance networks, and political doctrine. Once that base exists, the question collapses to monitoring, verification, and response time. In a crisis, intentions change faster than institutions can react.

⁷On the proliferation-cascade and most-favored-nation dynamics, and the named follower states (Egypt, Turkey, and pressure on the UAE’s gold-standard commitment): expert assessments compiled in *Jewish Insider*, June 5, 2026 (Andrea Stricker, FDD; Jonathan Ruhe, JINSA; Simon Henderson, Washington Institute); Arms Control Association, “Saudi Push for Enrichment Raises Concerns,” November 2023.

A proper national-security posture should be skeptical of paper promises in a region where regimes shift, alliances fluctuate, and deterrence calculations can change overnight. Policy should not be built on the assumption that today's political assurances will bind tomorrow's leaders. The relevant measure is capability and breakout time, not declared intent.

IV. Why reprocessing is even more dangerous

Spent fuel from a light-water reactor contains plutonium bred during operation. A single discharged core on the order of 75 metric tons can contain roughly 750 kilograms of reactor-grade plutonium. Measured against the IAEA's benchmark of eight kilograms as a "significant quantity" — the approximate amount for which the possibility of manufacturing a nuclear explosive device cannot be excluded — that single discharged core represents on the order of 90 significant quantities of material.⁸

This does not make spent fuel a bomb. As long as plutonium remains embedded in intensely radioactive spent fuel, it is hard to access, is monitorable, and is subject to a longer safeguards timeliness goal. The IAEA applies a three-month detection goal to plutonium in spent fuel, versus one month for separated plutonium.⁹ The danger changes in kind — not degree — when a state acquires sovereign reprocessing, which separates plutonium and converts a long-horizon safeguards concern into a direct-use-material problem with a one-month detection window. The line must therefore be bright and identical on both files: no sovereign reprocessing in Iran, none in Saudi Arabia, and no regional exception dressed up as civilian cooperation.

⁸IAEA significant-quantity benchmark for plutonium: 8 kg. *IAEA Safeguards Glossary* (2022 ed.), §3.19 and Table; James Martin Center for Nonproliferation Studies, "The IAEA's 'Significant Quantity': What It Is and What It Isn't." The ~90-SQ figure follows from an illustrative ~750 kg of reactor-grade plutonium in a large discharged core; figures are approximate and reactor-dependent.

⁹IAEA timeliness detection goals: one month for separated plutonium, three months for plutonium in spent fuel. Carlson, Kuchinov, and Shea, "The IAEA's Safeguards System," NTI, 2020, Table 1; *IAEA Safeguards Glossary* (2022 ed.).

Capability	Proliferation character	Proper line
Imported fuel under contract	No sovereign weapons pathway; supplier retains leverage.	Supported
Sovereign enrichment	Latent weapons option; breakout becomes a question of time, not capability.	Refused
Sovereign reprocessing	Separates direct-use plutonium; converts a safeguards concern into weapons-usable stock.	Refused

V. The Saudi issue: Partnership without the crown jewels

Saudi Arabia is not Iran. It is a U.S. partner, a major regional actor, and a central player in any future expansion of the Abraham Accords. Washington has a strong interest in keeping Riyadh inside the American strategic orbit rather than ceding the Kingdom’s nuclear development to China or Russia. None of that requires accepting Saudi enrichment or reprocessing.

A proper U.S. policy distinguishes partnership from dependency and commercial opportunity from strategic irresponsibility. America can build the relationship, sell the reactors, supply the fuel, and control the back-end while denying the sovereign pathway to weapons-usable material. The argument that looser Russian or Chinese terms force Washington to weaken its own standards is the logic of decline.

The competitive answer is a better package, not a lower standard — and the competitors are weaker than the argument assumes. China’s only sustained reactor export relationship is Pakistan; its Gulf marketing of small modular reactors remains at the memorandum stage with no firm builds.¹⁰ Russia wins

¹⁰Assessment of China’s nuclear export record: its only sustained reactor export relationship is Pakistan; the Argentine Atucha III deal stalled on financing; Gulf SMR (Linglong One/ACP100) marketing to Saudi Arabia and others remains at the memorandum stage with no firm builds (open-source assessment current to mid-2026).

abroad through precisely the financing-and-lock-in model a U.S.-anchored fuel architecture is designed to out-compete on cleaner terms.¹¹

VI. An American nonproliferation standard

The posture rests on five principles.

1. **American sovereignty and leverage matter.** Washington should not outsource the regional fuel cycle to competitors or accept arrangements that reduce American control over proliferation-sensitive capabilities.
2. **Allies matter — and so do standards.** A friend should receive cooperation, fuel assurances, and partnership. A friend should not receive a sovereign weapons-option infrastructure because this complicates our own defense and makes it far more expensive.
3. **Israel's security is not an afterthought.** A framework legitimizing enrichment or reprocessing for Saudi Arabia while Iran remains a threshold threat would worsen Israel's environment and push it toward a more dangerous posture.
4. **The Abraham Accords should raise standards, not dilute them.** The Accords should anchor a regional civil-nuclear compact built on fuel assurance, transparency, and no sovereign enrichment or reprocessing.
5. **American industry should win — but not by selling the crown jewels.** Export leadership is rebuilt through reactors, fuel services, recycling, safeguards technology, and back-end disposition, not by normalizing enrichment in the Middle East.

VII. The recommended framework

The United States should propose a regional nuclear fuel-cycle framework on the following terms:

1. No sovereign uranium enrichment by Iran, Saudi Arabia, or any future U.S.-supported civilian program in the region.
2. No sovereign spent-fuel reprocessing and no separation of plutonium under national control.
3. Guaranteed American or allied fuel supply — long-term contracts, reserve fuel banks, and emergency supply assurances.

¹¹Assessment of Rosatom's export model — state export financing (reportedly ~85% of capital cost in Egypt's El Dabaa), vertical integration (reactor, fuel, takeback, training), and ~60-year fuel-and-service lock-in — as the dependency structure a cleaner U.S.-anchored fuel architecture is designed to out-compete (open-source assessment current to mid-2026).

4. U.S.-controlled back-end disposition or recycling, so spent fuel never becomes a sovereign plutonium stockpile.
5. Full IAEA safeguards and the Additional Protocol as the baseline — not optional extras or bilateral substitutes.
6. UAE-style gold-standard commitments for all regional civil-nuclear cooperation agreements.
7. A regional fuel-services architecture tied to the Abraham Accords, delivering energy benefits without independent fuel-cycle capabilities.
8. Region-wide counter-proliferation enforcement — harmonized export controls, anti-smuggling cooperation, and participation in interdiction of proliferation-sensitive shipments — as a binding condition of cooperation.
9. Congressional review and enforcement, including automatic suspension of cooperation on any pursuit of enrichment, reprocessing, undeclared facilities, or diversion.
10. No most-favored-nation loophole permitting one regional state to weaken another's prior nonproliferation commitments.
11. Strategic U.S. fuel-cycle leadership, so American companies, safeguards technology, and back-end services become the alternative to Chinese and Russian influence.

VIII. Enforcement: Closing the gap between declared and undeclared

A standard is only as strong as its verification and its consequences. The decisive lesson of the modern nonproliferation regime is that accounting for declared material at declared sites is not enough. Iraq pursued a covert weapons program in the early 1990s while remaining technically compliant with its basic safeguards agreement, and the international response — the Additional Protocol — exists precisely to close the gap between what a state declares and what it actually does. A regional framework that omits the Additional Protocol, or substitutes a narrow bilateral arrangement covering only cooperation sites, recreates the exact blind spot the regime was built to eliminate.

Verification must therefore be paired with active counter-proliferation enforcement — the component that was part of the framework architecture from the outset and that turns a paper standard into an operating regime:

- **Harmonized export controls.** Participating states adopt common control lists and licensing standards aligned with the Nuclear Suppliers Group, so that sensitive components cannot be sourced through the weakest regional link.
- **Anti-smuggling and procurement monitoring.** Shared watch-listing of dual-use procurement, financial-tracking cooperation, and intelligence exchange on illicit networks

— the channels through which enrichment and reprocessing capability is actually acquired.

- **Interdiction.** Participation in the interdiction of proliferation-sensitive shipments, on the model of the Proliferation Security Initiative, with agreed boarding, inspection, and seizure cooperation among partners.
- **Physical protection.** Adherence to the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, closing the theft-and-diversion vector that safeguards accounting alone does not address.
- **Automatic suspension on breach.** Cooperation, fuel supply, and benefits are suspended — and supplied material, equipment, and technology are subject to return — upon any determination of enrichment, reprocessing, undeclared facilities, or diversion. Enforcement that is automatic and pre-agreed is credible; enforcement that must be renegotiated in a crisis is not.

Enforcement and benefit are two sides of one bargain. The generous package — reactors, assured fuel, back-end services, financing, and partnership — is what makes the standard attractive to accept; the enforcement architecture is what makes it safe to extend. Neither works without the other.

IX. The political argument

This is not an anti-Saudi position. It is a pro-American one.

Saudi Arabia has legitimate energy, industrial, and strategic goals, and the United States should help meet them.

But a true partner should accept a framework that delivers nuclear energy without opening a weapons-option pathway which would complicate American national defense. If the objective is electricity, desalination, industrial development, and prestige, the American framework supplies all of it. If the demand is specifically sovereign enrichment and reprocessing, then the demand is no longer about civilian energy — and that distinction should be made visible before any concession is granted.

Nor is this a concession to Iran. It is the opposite. Washington should not reward Iranian escalation by legitimizing the very capability that produced the crisis. A deal that permits Iranian enrichment while creating space for Saudi enrichment would take the worst feature of the Iran problem and regionalize it. A prudent administration should not manage the spread of enrichment. It should stop it.

X. The congressional backstop

A U.S. civil-nuclear agreement does not require Congress to approve it; it requires Congress to fail to stop it.

Under the Atomic Energy Act, such an agreement enters into force automatically unless both chambers pass a resolution of disapproval within a fixed review window and survive a presidential veto — a bar so high that no agreement has ever been blocked.¹²

The default favors the deal. That makes a clear, published standard essential: it gives Congress the benchmark against which to judge a permissive agreement, the basis to attach binding conditions on the 2008 India-deal model, and the grounds to treat a partner's refusal of the standard as itself disqualifying. The standard is written to serve that function — the measure applied in a review, not merely an aspiration.

Conclusion

The United States has a narrow window to set the regional standard. The window is defined by clocks Washington does not fully control: a negotiating timeline with Iran, a congressional review period for any Saudi agreement, and the speed at which a permissive precedent hardens into the regional default.

The wrong answer is to let Iran enrich and then let Saudi Arabia enrich for balance, or have Saudi enrichment based on Iran's precedent. That is how a threshold-nuclear Middle East becomes normalized.

The right answer is a U.S.-anchored regional fuel-cycle framework: American fuel supply, no sovereign enrichment, no sovereign reprocessing, U.S.-controlled back-end disposition or recycling, full IAEA safeguards, the Additional Protocol, and a UAE-style gold standard applied consistently across the region. This protects Israel and others in the region, keeps Saudi Arabia in the American camp, strengthens the Abraham Accords, preserves U.S. export leadership, denies Iran the legitimacy it seeks, and lowers the cost of American defense of its national interests in the region.

Selected sources

Full attributions for specific claims appear in the footnotes. The principal open sources underlying this paper are listed below; all are current to mid-June 2026. Figures involving plutonium content and significant-quantity counts are illustrative and reactor-dependent, and quoted statements should be confirmed against the cited primary reports before republication.

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Cover photo: LEU-Plus Fuel Load at Vogtle Westinghouse nuclear power plant, Georgia, courtesy of the U.S. Department of Energy.



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