

IRAN NUCLEAR MONITOR: MONTH BY MONTH

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In February 2026, Israel and America began pummelling Iran with new airstrikes that killed the country's long-time leaders and triggered a broader regional war. One of President Donald Trump's few consistently stated goals for this war was to ensure Iran "never" obtains a nuclear weapon.

For decades, Western governments saw Iran's advancing nuclear programme, combined with its anti-Western stance and threats to Israel, as a danger to global stability. Israel and America assert they tried to stop that progress in June 2025 with the "12-day war", but they clearly failed to settle the issue despite Trump's claim that they had "obliterated" Iran's nuclear programme. Pentagon officials later assessed that the strikes had set Iran back by only a year or two. The head of the UN's International Atomic Energy Agency (IAEA), Rafael Mariano Grossi, judged that Iran's technical capabilities remained largely intact and Tehran was still primed to weaponise its nuclear capabilities should it have decided to do so. Compounding this, the strikes backfired on oversight: Iran retaliated by further blocking monitoring of its nuclear programme through the IAEA.

The second US and Israeli air bombing campaign since February 2026 has—thus far—not significantly altered the nuclear balance. What it has changed is Iranian leadership dynamics. The assassinations of senior figures who helped establish the Islamic Republic of Iran in 1979 have brought to power a hardened, more militarised elite—one that is less bound by the late supreme leader's religious ban on nuclear weapons. After being attacked twice while negotiating with Washington, Iran's rulers may now see nuclear arms as survival insurance.

Yet the Islamic Republic's future is far from certain. In January 2026, nationwide turmoil shook the country as political repression and economic misery eroded public tolerance towards the

ruling elite. The regime survived by using unprecedented brutal force. The recent wars, including the US blockade of Iranian energy exports, have further damaged Iran's economy. Against this backdrop, America and Israel have encouraged Iranians to revolt, hoping this can trigger regime collapse.

Faced with these crises, Iran's nuclear programme could follow several paths. This ECFR interactive project explores the range of realistic scenarios ahead, tracing the actions that could indicate which scenario is unfolding and the warning signs policymakers should look out for. For the latest updates to Iran's nuclear indicators, visit the interactive monitor at the ECFR website.

Iran nuclear programme scenarios

1. Iran commits to cap its civil nuclear programme under a new deal

Threat level: LOW. A deal caps and monitors the nuclear programme, providing the West with intelligence and time to react if there are signs of weaponisation

Iran—either under the current leadership structure or a new one—reaches an agreement with America on the future of its nuclear programme before it starts rebuilding it in earnest. In the lead-up to an accord, Iranian officials may advance some nuclear activities to signal their intention to preserve the programme. At the heart of such a deal, Iran accepts restrictions on its nuclear activities and enhanced monitoring by International Atomic Energy Agency (IAEA), in return for economic relief and assurances that it will not be attacked.

The agreement could be a narrow US-Iran deal focused on nuclear issues, or a broader grand bargain. It may also connect Iran's nuclear programme to a new regional consortium that provides greater confidence to the Middle East and the US over Iranian activities and intentions.

Why might Iran take this path?

Following the wars with the US and Israel since 2025, domestic political unrest and seismic economic problems, Iranian leaders might calculate that the best path for regime survival is a deal with the US that provides economic breathing room to ease domestic pressure, and remove the shadow of war and the threat of externally imposed regime change.

Restricting factors

- Hawkish voices inside the US administration could derail diplomacy by pushing for maximalist demands, or Congress may spoil the final terms agreed by restricting sanctions relief to Iran.
- There could be opposition to Washington implementing the agreement if there is a major human rights crackdown inside Iran, or if Iran conducts attacks against US allies.
- Israel could oppose deal-making with Iran and influence the US president against a final accord.
- Spoilers in Iran could harden Tehran's position or push against prioritising talks over the nuclear programme. Instead, they may focus on reconstruction efforts and/or bolstering missile and drone capabilities to deter or prepare for future conflict.
- Following widespread US and Israeli assassinations of Iranian leaders, there may not be a strong enough central state in Iran to negotiate and implement a deal with Washington.

Indicators

The following indicators, if active, would suggest Iran is most likely to focus on rebuilding its civilian nuclear programme—that is, undertaking atomic activities explicitly for peaceful purposes, such as generating electricity, producing medical isotopes or research—under the umbrella of a new deal with the US:

Iran-US/IAEA diplomacy

Renewed US-Iran diplomacy aimed at reaching a deal that allows Iran to pursue civil nuclear needs, under agreed-upon restrictions.

IAEA access

As part of negotiations towards a new deal, Iran enhances transparency into the nuclear programme to fulfil its obligations under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). This likely starts with the full implementation of the Comprehensive Safeguards Agreement and leads to Iran implementing the expanded inspection regime provided by the IAEA's additional protocol.

Excavation

As part of ongoing diplomacy or a deal with the US, authorities dig out materials or equipment trapped inside bombed Iranian nuclear sites under IAEA supervision.

Stockpile

Authorities take steps to demonstrate that the 60% highly enriched uranium stockpile no longer poses a threat: eg, Tehran ships it to another country or dilutes it under IAEA supervision. This would be a core signal that Iran is serious about removing a key proliferation risk as part of a deal.

Construction

Iran openly constructs new civil nuclear facilities and potentially repairs damaged ones, fully in compliance with IAEA safeguards.

Unbombed sites

Pending a final deal, pre-existing activities continue at nuclear sites declared to the IAEA and undamaged by the 12-day war, including the Pickaxe Mountain centrifuge plant, the Russian-operated Bushehr reactor and the Tehran Research Reactor. Development of the planned reactors at Bushehr, Darkhovin (sometimes referred to as the Karun Nuclear Power Plant), and elsewhere proceeds in parallel. As part of a US-Iran deal, the IAEA monitors all these sites; activities at some facilities, such as Pickaxe Mountain, may be restricted.

Enrichment

Tehran agrees to strict limits on uranium enrichment, which may involve a long-term pause.

R&D

Iranian authorities agree R&D is subject to limits.

Explosives testing

Senior leadership agrees to forgo certain weapons-related activities, such as explosive testing. A formal commitment not to conduct such tests is a key non-proliferation safeguard.

Dual-use imports

The government imports dual-use goods through an agreed-upon mechanism. Transparent imports through this channel signal compliance.

Missile delivery

Iran accepts restrictions on ballistic missiles capable of delivering a nuclear warhead. This limits Iran's ability to deliver a weapon even if one were produced.

NPT standing

Authorities are fully compliant with NPT obligations.

Nuclear weapons doctrine

Senior leadership in Tehran upholds the official nuclear-weapons ban.

Nuclear testing

N/A—Nuclear testing is incompatible with a scenario where Iran has a civil nuclear programme.

2. Iran neither significantly rebuilds its nuclear programme nor meaningfully negotiates

Threat level: MEDIUM. Without negotiated enhanced monitoring, Iran could produce a bomb using its existing highly enriched uranium stockpile, or restart its nuclear activities at secret facilities without needing to rebuild a significant nuclear programme

Since the June 2025 attacks, Iran has held off on a major rebuilding of its civil nuclear programme and weaponisation. It has also not entered into genuine negotiations with America on a nuclear deal, despite several mediation attempts. This scenario of not taking any action to rebuild or meaningfully negotiate over its nuclear programme could continue for a prolonged period but is ultimately unsustainable as domestic pressure will likely compel Iran's leaders either to scale up or cap their nuclear activity.

Why might Iran take this path?

Leaders in Tehran may be unwilling to provide major concessions in nuclear negotiations after the war but may judge that a major rebuilding of its programme will hand Washington another pretext to renew military strikes with a larger coalition of countries.

The ruling elite may prefer to wait to keep its options open for the future of its nuclear programme. The political system may need time to forge a consensus on Iran's long-term nuclear goals amid internal unrest, a new leadership, economic constraints and Israeli and US military threats.

Iran may continue prioritising strengthening its missile capabilities and conventional arsenal.

Restricting factors

- Domestic hardliners, emboldened after the February 2026 war against the US and Israel, could pressure the new leadership to resume nuclear activities to recoup the costs incurred for sustaining the programme and to gain leverage in future talks.

Indicators

The following indicators would suggest Iran is most likely not making a major effort to rebuild its nuclear programme damaged by US and Israeli strikes:

Iran-US/IAEA diplomacy

Senior leaders in Tehran consider diplomatic options with the US and the IAEA, but without either side making the major concessions needed for a breakthrough in talks.

IAEA access

The IAEA has minimal or no access to bombed sites. Iran provides few genuine declarations to the IAEA on material accounting.

Unbombed sites

Pre-existing activities continue at nuclear sites declared to the IAEA and undamaged by the 12-day war, including the Pickaxe Mountain centrifuge plant, the Russian-operated Bushehr reactor and the Tehran Research Reactor. Development of the planned reactors at Bushehr, Darkhovin (sometimes referred to as the Karun Nuclear Power Plant), and elsewhere proceeds in parallel. Without a breakthrough in US-Iran talks, the IAEA's access to these sites will be degraded.

Excavation

Iran makes no major effort to excavate or dig out materials or equipment trapped inside bombed nuclear sites.

Stockpile

Iran is not attempting to access its 60% highly enriched uranium stockpile in bombed nuclear sites.

Construction

No new construction of replacement facilities for bombed sites.

Enrichment

No enrichment of uranium; effectively paused after the 12-day war.

R&D

No R&D announcements on nuclear fuel cycle.

Explosives testing

No Iranian nuclear explosive testing detected.

Dual-use imports

No uptick in importing dual-use technology as Iran is not attempting to rebuild its nuclear programme.

Missile delivery

Iran continues to develop and produce ballistic missiles capable of delivering a nuclear warhead.

NPT standing

Iran continues to participate in NPT forums without implementing its obligations.

Nuclear weapons doctrine

No changes to the official nuclear-weapons ban.

Nuclear testing

N/A—Nuclear testing is incompatible with this scenario because it presupposes the weaponisation effort this scenario explicitly avoids.

3. Iran rebuilds civil nuclear programme without a US deal but with some transparency

Threat level: MEDIUM. The IAEA would need comprehensive access to Iran's nuclear programme and actions, otherwise Tehran could use its civil nuclear programme to produce a nuclear bomb largely undetected, giving the West limited reaction time

Having been bombed twice amid negotiations with the US, Iran might begin rebuilding its civil nuclear programme regardless of its relationship with current or future US administrations. The leadership is only likely to have the political, practical and financial bandwidth to take this path after a sustainable ceasefire is put in place to end hot conflicts with America. In the absence of a broader nuclear deal with Washington, Tehran could signal the purely civilian nature of its nuclear programme by allowing more IAEA inspections and monitoring of its rebuilding.

Why might Iran take this path?

Following the 12-day war, Iranian officials vowed to rebuild the country's nuclear programme "with greater strength" to meet civilian energy and health needs (ie, using nuclear reactors to produce medical isotopes). They also tied nuclear prowess to national pride and resistance to American hegemony. In February 2026, Iranian leaders showed they were prepared to again face war with the US and Israel, rather than accept Trump's demands to end nuclear enrichment forever. Rebuilding the nuclear programme would increase leverage for future international diplomacy and keep the weaponisation option alive.

Restricting factors

- The threat of detection and renewed American or Israeli military strikes will hang over any attempt to reconstitute the programme.
- Iranian leaders' awareness that having an advanced nuclear programme without a US deal and minimal international inspections invited military action in the past but failed to deliver sanctions relief.
- Scarce financial resources and nuclear capabilities amid an economic downturn worsened by war and public discontent.
- Restored UN sanctions, coupled with America's tightening enforcement, constrict Iran's ability to import the goods needed for rebuilding.

Indicators

The following indicators would suggest Iran is most likely rebuilding its civil nuclear programme without a deal with the US, but with a degree of IAEA supervision:

Iran-US/IAEA diplomacy

America and Iran are unable to strike a deal, but Iran steps up cooperation with the IAEA to enhance oversight and confidence over its civil nuclear programme.

Excavation

Authorities may start excavating materials or equipment trapped inside bombed sites, doing so under IAEA supervision to prevent further strikes and increase confidence in Iranian nuclear activities.

Stockpile

Iran may attempt to access its 60% highly enriched uranium stockpile under IAEA supervision; potentially diluting or shipping out this material to create confidence in its civilian nuclear programme.

Construction

Iran starts constructing replacement facilities for bombed sites focusing on fuel fabrication and uranium conversion— activities consistent with a civil programme. Construction of a new research reactor for medical isotopes would reinforce that civilian signal.

IAEA access

As part of confidence-building, Iran gradually increases transparency in its nuclear programme to fulfil its NPT obligations. This likely starts with the full implementation of the Comprehensive Safeguards Agreement.

Unbombed sites

Pre-existing activities continue at nuclear sites declared to the IAEA and undamaged by the 12-day war, including the Pickaxe Mountain centrifuge plant, the Russian-operated Bushehr reactor and the Tehran Research Reactor. Development of the planned reactors at Bushehr, Darkhovin (sometimes referred to as the Karun Nuclear Power Plant), and elsewhere proceeds in parallel. The IAEA would eventually monitor all these sites as part of an agreement with Iran to bolster confidence in the civilian nature of its restored nuclear programme.

Enrichment

Rather than enriching domestically at scale, Iran meets its enriched uranium needs through imports (most likely from Russia) or a limited domestic programme under IAEA monitoring. Keeping enrichment modest reduces its exposure to military attacks by Israel and the US.

R&D

R&D announcements into enrichment-related activity and advanced centrifuges are consistent with civil nuclear plans declared to the IAEA.

Explosives testing

N/A—Explosives testing is incompatible with having a civil nuclear programme. If testing is detected, it suggests Iran is keeping its options open for weaponisation.

Dual-use imports

Without a deal that provides a procurement channel, Iran lacks an internationally monitored pathway to raw materials needed to rebuild its civil nuclear programme and turns instead to the black market, trading with state and non-state entities that the West cannot reliably track.

Missile delivery

Iran likely continues to develop and produce ballistic missiles capable of delivering a nuclear warhead, but it may place voluntary restrictions on range to reduce the threat of US strikes.

NPT standing

Tehran begins to implement more of its obligations.

Nuclear weapons doctrine

No changes to the official nuclear-weapons ban.

Nuclear testing

N/A—Nuclear testing is incompatible with a civil nuclear programme.

4. Iran rebuilds an underground nuclear programme without a US deal

Threat level: HIGH. If Iran works towards a bomb in hardened underground sites, it becomes far more difficult for the West to detect and militarily disrupt its activities

Having faced American and Israeli military bombardment and cyberattacks against its nuclear sites, and absent an agreement, Iran's leadership decides to rebuild its nuclear programme in deeply buried and shielded facilities. The authorities may eventually provide the IAEA with some access to these underground sites to create confidence that they do not intend to weaponise the programme. Nevertheless, the limited access preserves the option to produce a nuclear weapon in hardened facilities in the future.

Why might Iran take this path?

Iran may opt to rebuild its nuclear programme better shielded from military strikes and cyberattacks—either to bolster leverage in future talks or as a step towards weaponisation.

Restricting factors

- High risk of renewed American and Israeli military action before such facilities can be finished, or soon thereafter.
- Iranian leaders' awareness that having a nuclear programme without a US deal and full international inspections invited military action in the past, yet failed to prise open the door to sanctions relief.
- Scarce financial resources and nuclear capabilities amid an economic downturn worsened by war and public discontent constrain progress on the nuclear file.
- Restored UN sanctions, coupled with stricter American enforcement, constrict Iran's ability to import the goods needed for rebuilding.
- Pushback from Arab neighbours, and possibly Russia and China, against such a course.

Indicators

The following indicators would suggest Iran is attempting to rebuild its nuclear programme underground:

Iran-US/IAEA diplomacy

Iranian officials may engage in some diplomacy with the IAEA and the US without restricting the construction and operations of underground nuclear facilities.

IAEA access

To increase leverage in future talks with the US, or to enhance weaponisation capability, Iranian authorities will likely limit IAEA access. If the ruling elite is rebuilding a civil nuclear programme but wants to protect it from future strikes by building underground facilities, relations with the IAEA are likely to improve, starting with the full implementation of the Comprehensive Safeguards Agreement. If the purpose of building underground is to preserve or expand options for weaponisation, Iran will limit IAEA cooperation and block access to facilities that may be undertaking certain weaponisation activities.

Unbombed sites

Pre-existing activities continue at nuclear sites declared to the IAEA and undamaged by the 12-day war, including the Pickaxe Mountain centrifuge plant, the Russian-operated Bushehr reactor and the Tehran Research Reactor. Development of the planned reactors at Bushehr, Darkhovin (sometimes referred to as the Karun Nuclear Power Plant), and elsewhere proceeds in parallel. Activities at Bushehr and Tehran reactors continue under IAEA monitoring.

Excavation

Iran may start excavating materials or equipment trapped inside bombed sites, most likely with IAEA supervision to reduce the risk of further strikes.

Stockpile

Iran may attempt to access and relocate 60% highly enriched uranium stockpile that is buried underground, most likely with IAEA supervision to reduce the risk of further strikes. Some of this material may already be accessible if it was moved without detection to an undeclared site before the 12-day war.

Construction

Iran constructs new replacement facilities in deeply buried and hardened sites to protect them from strikes. If senior officials intend to improve Iran's capacity to weaponise, they will focus on uranium enrichment facilities, uranium metal and centrifuge facilities.

Enrichment

Initial enrichment activities are limited, but the authorities may gradually scale them up to gain leverage.

R&D

R&D announcements on enrichment-related activity and advanced centrifuges are likely to be declared to the IAEA as part of building leverage.

Explosives testing

If the ruling elite aims to weaponise, it may undertake explosive testing in underground or hidden facilities. If, however, it is rebuilding a civil nuclear programme but wants to protect it against future strikes, it will likely forgo such testing.

Dual-use imports

Iran turns to the black market for raw materials, trading with state and non-state entities.

Missile delivery

Iran continues to develop and produce ballistic missiles capable of delivering a nuclear warhead.

NPT standing

Tehran continues to participate in NPT forums without fulfilling its obligations.

Nuclear weapons doctrine

No changes to the official nuclear-weapons ban, but following supreme leader Ali Khamenei's assassination, voices within the political establishment may increasingly advocate revising the nuclear doctrine in favour of weaponisation.

Nuclear testing

N/A—If Iran carried out nuclear testing using its deeply buried sites, it would clearly fall into a weaponisation scenario.

5. Iran loses control of its nuclear programme due to strikes or strife

Threat level: HIGH. Hardliners, looters or non-state actors might seize nuclear sites and components—and make crude nuclear weapons or disperse nuclear material.

American or Israeli bombings, or an internal power vacuum, could compromise control and safety of Iran's nuclear programme, letting splinter hardliners, looters or non-state actors access sites and critical components. Safety at Bushehr nuclear power plant may be compromised, risking radioactive contamination of Gulf waters and endangering neighbours.

Breaches of sites with radioactive materials, such as the Tehran research reactor, could unleash threats to the local civilian population.

Why might Iran take this path?

This scenario could arise from American and Israeli bombings—including botched special forces raids to seize Iran’s highly enriched uranium stockpile—or from an internal crisis like revolution, coup or civil war disrupting Iranian command and control over nuclear activities and facilities, making space for other actors to take over.

Restricting factors

- American and Israeli military forces have shown restraint during strikes by sparing active nuclear reactors that could unleash radioactive material.
- Gulf Cooperation Council states will likely lobby against sabotaging Iranian nuclear reactors, given that there are direct contamination risks for the region.
- Russia, which retains a foothold in Bushehr, may intervene to prevent a nuclear crisis.
- In the event of state collapse, America and Israel would likely prioritise securing Iran’s nuclear sites, potentially even if it requires ground forces.

Indicators

The following indicators would suggest that nuclear control and safety in Iran have been compromised:

Iran-US/IAEA diplomacy

Diplomacy with Iran is likely impossible either because the state has collapsed or it has lost control over territory with key nuclear sites.

IAEA access

The IAEA has little to no access to Iran’s nuclear sites. With state authority compromised, the agency may be forced to negotiate site access directly with non-state actors.

Unbombed sites

Work on these sites likely halts due to incapacity and lack of resources.

Excavation

Non-state actors or extreme regime elements start excavating materials or equipment trapped inside bombed sites.

Stockpile

N/A—Non-state actors or more extreme regime elements could seize parts or all of Iran's 60% highly enriched uranium stockpile, dispersing cylinders. Mishandled US or Israeli special operations to retrieve the stockpile may have a similar outcome.

Construction

No new construction to replace bombed sites due to incapacity and lack of resources.

Enrichment

N/A—State collapse or loss of control over nuclear sites makes organised enrichment activity impossible.

R&D

N/A—Non-state actors are unlikely to have the resources required for major research and development.

Explosives testing

With access to the right materials and scientific expertise, non-state actors could assemble and test an explosive package, producing a "dirty bomb"—which combines conventional explosives with radioactive material—to sow fear, create chaos and contaminate the area.

Dual-use imports

Non-state groups may attempt to make advances in weaponisation through black-market imports.

Missile delivery

N/A—Non-state actors will not have access to the resources necessary to operate or develop nuclear warhead missile delivery systems.

NPT standing

N/A—Iranian diplomats based abroad may still represent the country at international forums, but this will have little bearing on events inside the country—or international commitments—given the breakdown of the central state.

Nuclear weapons doctrine

Due to internal chaos, previous official state positions become moot. Different groups, including armed factions that control nuclear sites or materials, issue competing positions on the nuclear policy.

Nuclear testing

Non-state actors or regime factions could produce a “dirty bomb”—which combines conventional explosives (rather than nuclear fission or fusion) with radioactive material—to sow fear, create chaos and contaminate the area. A dirty bomb will not constitute a nuclear deterrent against state adversaries because it is not a weapon of mass destruction.

6. Iran weaponises its nuclear programme

Threat level HIGH. With a nuclear arsenal in hand, Iran could threaten adversaries with devastating strikes. While America and Israel can still attack Iran, they would potentially face a much costlier counterstrike, especially if Iran had second-strike nuclear weapons capabilities.

Either under the Islamic Republic or another leadership structure, the ruling class may decide to weaponise Iran’s nuclear programme, most likely in undeclared nuclear facilities rather than at the bombed sites already known to the international community.

To do so, they could take the following pathways:

Route one: If the 60% enriched uranium stockpile and some of the centrifuges survive American or Israeli bombings (and can be accessed), then Iran could enrich uranium to weapons grade. This could allow it to potentially rapidly produce enough weapons-grade uranium for nine to ten nuclear bombs.

Route two: Starting from scratch, Iran would need to enrich natural uranium to weapons-grade, manufacture and assemble new centrifuges, and build new facilities to process yellowcake—the concentrated uranium ore that forms the first step of the nuclear fuel cycle—into uranium gas for enrichment. This route for weaponisation is longer, requiring time and technical competence.

For both these pathways to provide serious deterrence, Iran would need to convert the weapons-grade uranium to metal, fabricate the metal into a core or pit, and fit it with an explosives package. Iran would also still need to invest resources into integrating a warhead and re-entry vehicle into a nuclear-capable ballistic missile delivery system (which could take several months to a year).

Route three: Iran could use its remaining 60% enriched uranium stockpile, convert it into metal without enriching it further, and fit it with an explosives package to produce a “crude” nuclear weapon. This would demonstrate it has entered the nuclear power club, but such a warhead would be far too big to fit on a missile, so its deterrence value would be negligible. Iran would also expose its secret nuclear sites in the process and face American and Israeli bombing in response. This is unlikely to be Iran’s preferred route.

Why might Iran take this path?

Iran’s new supreme leader—or any successor—may view weaponisation as the best insurance policy for regime survival, especially in light of the January 2026 mass protests and repeated wars with America and Israel, which Iranian officials view as intended to provoke regime change.

Restricting factors

- American and Israeli deep intelligence and penetration of Iranian nuclear activities make Iranian advances nearly impossible to conceal without first being bombed.
- If Iran tries to access its enriched uranium in buried facilities, America and Israel may resort to special ground operations to secure or remove the stockpile.
- Rebuilding enrichment capacity from zero demands goods and technology that would be difficult for Iran to procure.
- Iranian leaders may consider that the programme’s steep cost and potential to provoke another war could fuel greater public discontent and protests.
- Opposition to Iran’s weaponisation from Arab states, China and potentially Russia would isolate Iran and leave it more vulnerable to American and Israeli attacks.
- Iranian authorities recognise that nuclear status will not deter all US and Israeli strikes (just as it has not stopped cross-border strikes and skirmishes between nuclear-armed India and Pakistan).

- Weaponisation risks provoking an American or Israeli use of tactical nuclear weapons.

Indicators

The following indicators would suggest Iran is weaponising its nuclear programme:

Iran-US/IAEA diplomacy

Talks with Washington hit a dead end. Iranian leaders become convinced that acquiring nuclear weapons improves their prospects of survival by deterring American and Israeli military attacks and may eventually improve their negotiating hand (akin to the North Korean model).

IAEA access

Iran might feign IAEA cooperation to distract from clandestine enrichment and weaponisation work.

Unbombed sites

Iranian leaders may allow pre-existing activities to continue at nuclear sites declared to the IAEA and undamaged by the 12-day war, including the Pickaxe Mountain centrifuge plant, the Russian-operated Bushehr reactor and the Tehran Research Reactor. Development of the planned reactors at Bushehr, Darkhovin (sometimes referred to as the Karun Nuclear Power Plant) and elsewhere proceeds in parallel. This would provide a visible layer of legitimate nuclear activity that masks what is happening at covert facilities.

Excavation

Iran is unlikely to openly excavate materials or equipment trapped inside bombed sites as this would invite military attacks that may disrupt weaponisation.

Stockpile

Iran may try to secretly access its 60% highly enriched uranium stockpile—or portions of it that officials may have hidden in safe locations before the 12-day war.

Construction

The authorities construct hardened covert replacement facilities in secret (with a focus on uranium enrichment, uranium metal, centrifuge assembly, testing high explosives and nuclear test sites).

Enrichment

Iran enriches uranium to 90% weapons-grade, either from scratch or, more likely, by feeding its existing 60% stockpile into centrifuges. This step, if detected, would be the clearest indicator that weaponisation is actively underway.

R&D

Tehran is unlikely to make announcements prior to nuclear testing, but it will be secretly undertaking weaponisation research.

Explosives testing

Iranian scientists develop and test a high-explosives package (including a nuclear device)—a key step in designing a nuclear device. Explosive testing at a covert site is one of the clearest technical indicators of active intent towards weaponisation.

Dual-use imports

Iran turns to the black market for raw materials, trading with state and non-state entities.

Missile delivery

Iran seeks to mount a nuclear warhead onto a ballistic missile, a process likely requiring months of development. Standalone bombs offer some deterrence, but without missile integration, they cannot reach distant targets, limiting their strategic value.

NPT standing

Iran leaves the NPT, most likely after a successful nuclear test.

Nuclear weapons doctrine

Following supreme leader Ali Khamenei's assassination, voices within the political establishment may increasingly advocate revising the nuclear doctrine in favour of weaponisation. The fatwa against the prohibition of nuclear weapons is eventually annulled; senior leaders may cite the US-Israeli war as the cause for the shift in nuclear doctrine.

Nuclear testing

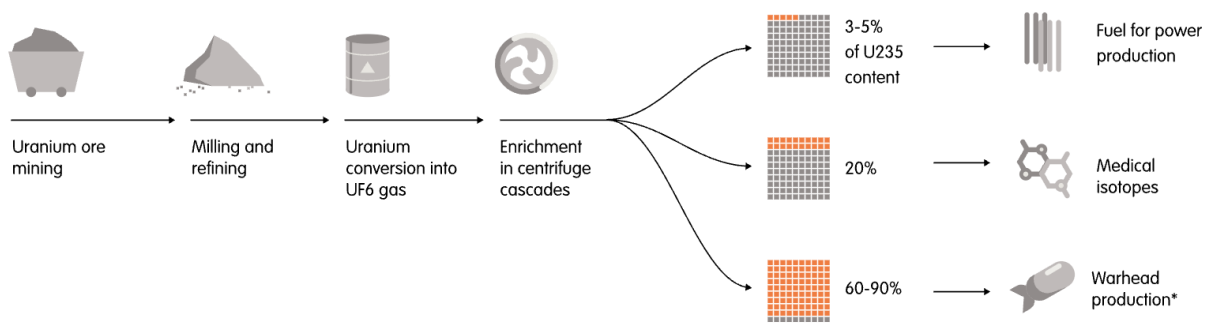
Testing a nuclear device is the final, public confirmation of weaponisation and likely only happens once Iran has developed several bombs. A test would trigger a fundamental shift in regional and global security.

The nuclear programme before June 2025

Just before the 12-day war, Iran was a so-called nuclear “threshold” state: it had all the materials and knowledge to quickly produce weapons-grade uranium for over ten nuclear bombs in about a month.

A guide to uranium enrichment

To make a nuclear bomb, a state needs uranium that contains high concentrations of a certain isotope: U235. Natural uranium contains a mere 0.7% of this isotope; weapons-grade uranium contains more than 90% (but it is possible to build a bomb with uranium enriched to less than 90%). This gap is why uranium needs to be “enriched”.



*The process has been simplified; technical and regulatory steps have been omitted. To make a nuclear bomb, further weapon design and engineering steps are needed that are not shown here.

The process begins by converting uranium ore into a gas called uranium hexafluoride (UF₆). This gas is then fed into centrifuges that spin UF₆ at high speed to concentrate the U235 isotope to the required level. To achieve this at scale, gas centrifuges are linked together forming “centrifuge cascades”.

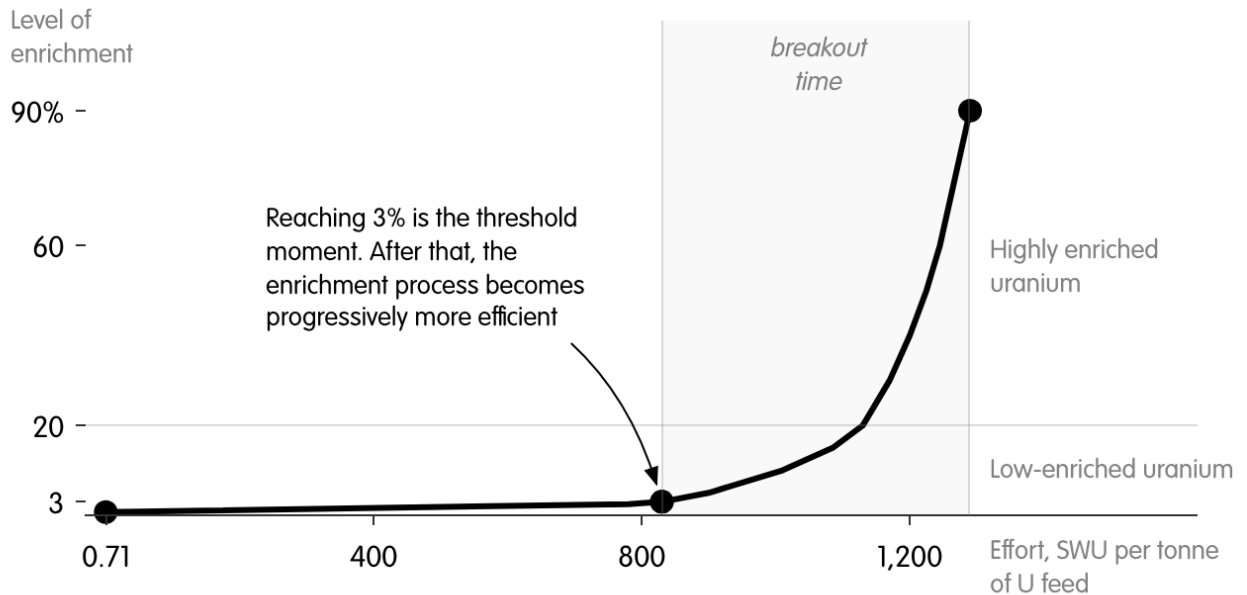
The level of enrichment determines what the uranium can be used for. Below 20%—known as low-enriched uranium—it is suitable for commercial power plants (3–5%) or research reactors and medical isotope production (up to 20%).

Above 20% is highly enriched uranium, usable in some research reactors and naval propulsion. Weapons-grade is conventionally 90% or above, though lower concentrations can suffice with enough material.

The 20% threshold is a key proliferation dividing line. Iran’s enrichment to 60% raises alarm because it sits far above any civilian justification and within reach of weapons-grade.

By May 2025, Iran had a vast stockpile of highly enriched uranium at 60% and centrifuges which could further enrich to weapons-grade at 90%. These two factors significantly reduced how long it would take Iran to produce enough nuclear material for a bomb—its “breakout” time. But producing enough fissile material is only part of the challenge; weaponisation also requires making warheads and delivery systems, and integrating the two.

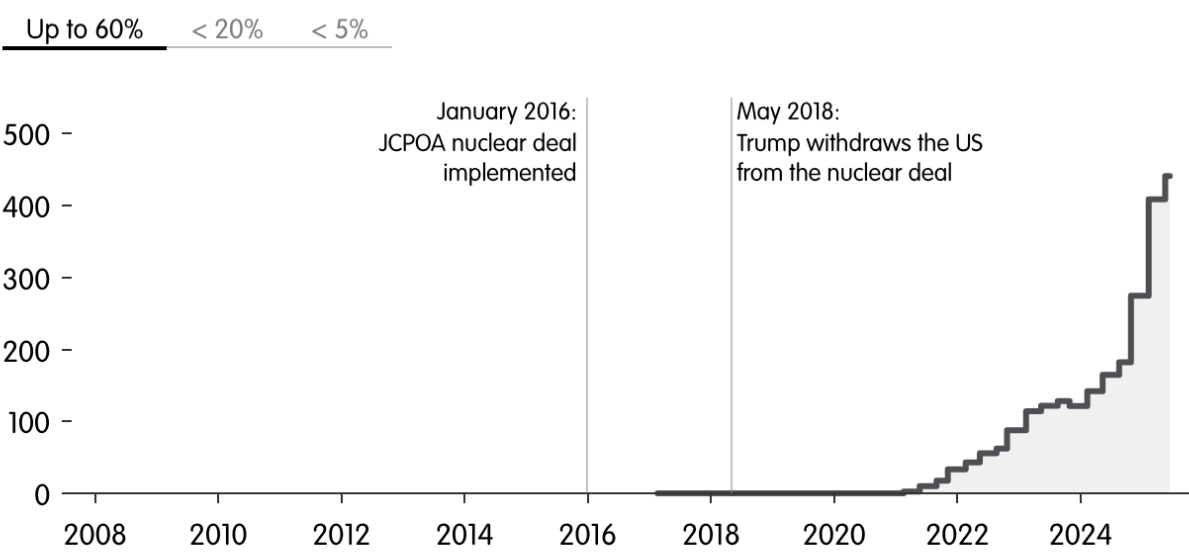
How uranium enrichment works and why it matters. In Separative Work Units (SWU), a standard measure of the effort required to separate isotopes; this shows how much enrichment work is required to process one tonne of natural uranium feed (U feed)



Source: World Nuclear Association
ECFR · ecf.eu

Iranian leaders insisted that they had no intention to weaponise their nuclear programme. They maintain they accelerated their activities after 2018 in response to unjustified Western sanctions and the US withdrawal from the 2015 nuclear deal, the Joint Comprehensive Plan of Action (JCPOA) that had limited Iran's nuclear activities in exchange for the lifting of international sanctions.

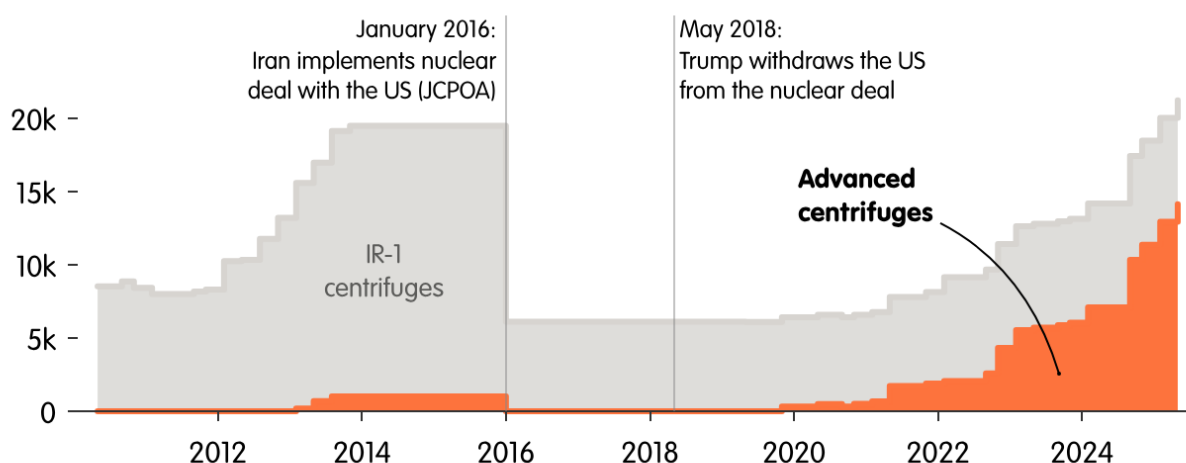
Iran's enriched uranium stockpile. Uranium enriched up to 60% U-235, measured in kilograms of uranium in UF6 form



Source: IAEA
ECFR · ecfr.eu

By 2025, around two-thirds of Iran’s centrifuges were advanced models—IR-2m and above—and delivered the vast majority of enrichment output; the rest were the older IR-1 model, which is much less efficient.

Number of installed centrifuges in Iran, 2010-2025



Source: Arms Control Association
ECFR · ecf.eu

The International Atomic Energy Agency

Western countries rely heavily on the IAEA for information on Iran's nuclear programme and use its assessments to judge the threat it poses. A key Western demand has been to restore IAEA access in line with Iran's obligation as a party to the Non-Proliferation Treaty (NPT).

Iran ratified the NPT in 1970. Under article IV, the treaty guarantees a non-nuclear-weapon state access to nuclear technology for peaceful purposes, subject to verification by the IAEA. Through monitoring and inspections of nuclear sites, the agency is meant to confirm that party states, like Iran, are not diverting nuclear material for any undeclared activities, like weaponisation.

Authorities began restricting the IAEA's access to Iran's nuclear activities in 2021, as part of their response to the US withdrawal from the 2015 nuclear deal. The agency issued regular reports on Iran's nuclear activities up until May 2025; after the June 2025 strikes, Iran blocked IAEA access to the bombed facilities altogether and refused to provide the agency with updated reports regarding the status and location of its enriched uranium.

Assessing the damage to the nuclear programme

In June 2025, concerns partly over Iran's advancing nuclear programme triggered American and Israeli military action despite no clear evidence that Iran had decided to weaponise and

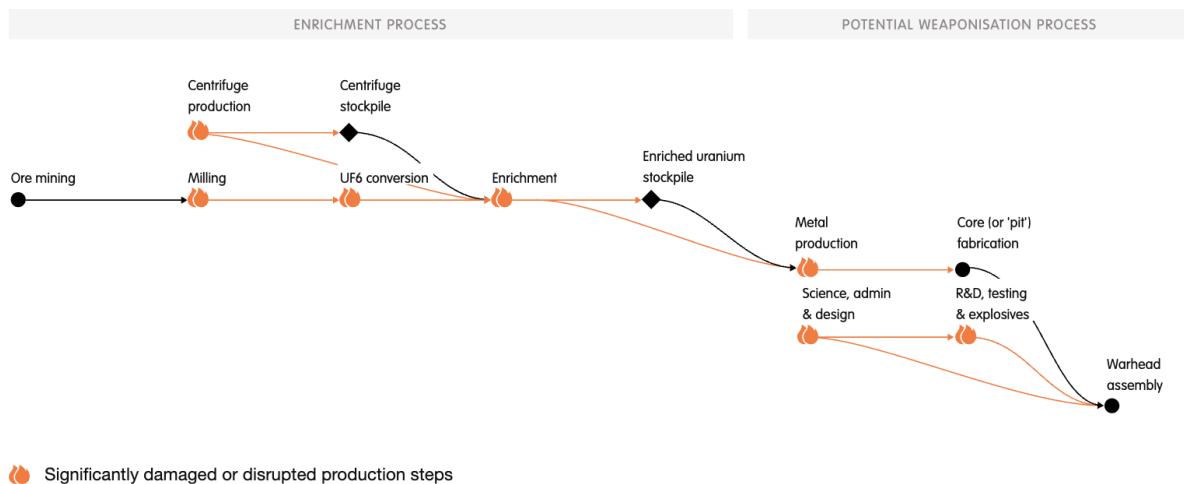
posed an imminent threat. Israel launched a wave of surprise precision strikes against Iranian nuclear sites, scientists and senior military chiefs that initially caught Tehran off guard, but Iran then retaliated with a large missile attack against Israel. America joined the assault, striking three Iranian nuclear sites under “Operation Midnight Hammer”, before Trump imposed a ceasefire ending the 12-day war and boasted that Iran’s nuclear programme had been “obliterated”.

Yet in February 2026, America and Israel jointly launched another wave of wide-scale strikes across Iran. These largely targeted leadership compounds, military bases, missile production sites and economic infrastructure, pointing towards regime change or collapse as the end goal rather than eroding Iran’s capabilities to produce a nuclear bomb. Trump insisted that the war was justified because Iran posed an “imminent” threat to America—a claim widely disputed.

The June 2025 strikes did more damage to Iran’s nuclear infrastructure than those since February 2026, but the full extent of either will not be known until the IAEA is able to visit the sites and issue its reporting. Till then, the assessments compiled below will rely largely on IAEA estimates, satellite imagery and leaked intelligence reports.

The status of Iran’s nuclear programme

The strikes disrupted key steps in the manufacturing and assembly process



The graphic shows production steps assessed as significantly damaged—based on how many facilities in each step were badly hit—rather than those where damage was partial or unclear.

Key centrifuge facilities: destroyed

Damage: The US and Israeli strikes damaged many sites dedicated to centrifuge production (manufacturing and assembly) and have likely destroyed many of Iran’s roughly 18,000 operating centrifuges at Natanz and Fordow.

Why it matters: The destruction of centrifuges and related facilities sets back weaponisation, if Iran has to produce more machines or set up a new enrichment facility.

Residual dangers: Right before the June strikes, Iran had nearly 4,000 centrifuge units that were not operating. That made them less vulnerable to blast effects, and they may prove salvageable to use for weaponisation. A third enrichment facility at Isfahan adds further uncertainty: its status and potential centrifuges installed there are unknown. Undeclared centrifuges elsewhere are also a possibility.

Uranium yellowcake facility: likely destroyed

Damage: The strikes destroyed Ardakan, Iran's only facility for milling uranium and producing yellowcake—concentrated uranium that is the precursor material to producing uranium gas and, ultimately, enriched uranium.

Why it matters: Potentially delays weaponisation if Iran restarts its nuclear programme from scratch and needs to process uranium ore.

Residual dangers: Iran may have existing stockpiles of yellowcake that were not destroyed. It could also rebuild the facility.

Uranium conversion facility: destroyed

Damage: Iran's only uranium conversion facility (also known as the UF₆ production plant) at Isfahan has been destroyed.

Why it matters: Potentially delays weaponisation.

Residual dangers: If Iran cannot access its stockpile of highly enriched uranium—or chooses not to access it to evade detection—then it would likely build a new covert uranium conversion facility to produce the gas necessary for enrichment.

Highly enriched uranium stockpile: largely intact but trapped

Damage: The IAEA believes much of Iran's 440.9kg stockpile of 60% highly enriched uranium has been buried deep in the bombed Isfahan facility since June 2025.

Why it matters: The stockpile is a key building block for weaponisation. It is estimated to be enough for nine to ten nuclear bombs if enriched to weapons-grade.

Residual dangers: Though largely trapped, Iran could still retrieve the stockpile. US intelligence agencies, however, maintain surveillance of the Isfahan site and say they have high confidence they could detect and respond to any retrieval attempt. It would be very difficult for Western actors themselves to safely remove this stockpile without Iranian cooperation. Iranian authorities may have also moved some highly enriched uranium stockpile to other unknown sites prior or during the June bombing.

Uranium metal conversion: primary hub destroyed

Damage: The strikes destroyed Iran's main facility at Isfahan.

Why it matters: It could delay weaponisation.

Residual dangers: Iran can build a new uranium metal conversion facility reasonably swiftly or use existing lab facilities at other locations to produce uranium metal.

Nuclear knowledge: disrupted

Damage: Israel assassinated an estimated 11-20 Iranian nuclear scientists.

Why it matters: The assassinations disrupt atomic research and hobble the recruitment and training of new scientists to revive the nuclear programme and advance weaponisation.

Residual dangers: Iran is likely to have trained many scientists, meaning it is impossible to bomb its knowledge out of existence.

Explosives testing capability: disrupted

Damage: Israeli strikes on Taleghan 2 facility are likely to have penetrated a containment vessel that Iran appeared to be in the process of burying, potentially to protect it from such attacks.

Why it matters: The vessel could have been used for testing explosives relevant for building a nuclear weapon.

Residual dangers: Iran has previous experience with high explosives testing and could build a new containment vessel.

About this project

This regularly updated Iran nuclear monitor is developed in consultation with nuclear security experts, drawing on open-source intelligence, IAEA statements and satellite imagery analysis. Indicators track distinct, observable activities or declarations of intent—for example, diplomacy, enrichment or official nuclear policy—that collectively allow readers to assess which of the six scenarios is most strongly reflected by current evidence. The scenarios are designed to span the spectrum of most realistic outcomes for Iran’s nuclear programme following the US-Israeli strikes of 2025, ranging from a negotiated cap to covert weaponisation. No single indicator is conclusive on its own; the monitor is designed to be read across the full matrix. It is updated periodically as new intelligence and reporting become available.

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