

A Win-Win Formula for Defining Iran's Uranium-Enrichment Capacity

- [Policy White Papers](#)

By Kelsey Davenport

August 2014

Arms Control Association
Iran Nuclear Policy Brief
Analysis on Effective Policy Responses to Weapons-Related Security Threats

BY KELSEY DAVENPORT
AND DARYL G. KIMBALL
AUGUST 28, 2014

A Win-Win Formula for Defining Iran's Uranium-Enrichment Capacity

As negotiators prepare to resume talks over Iran's nuclear program, they face a formidable task: to bridge the remaining gaps and reach a comprehensive nuclear deal by November 24. Perhaps the most difficult issue Iran and the P5+1 (China, France, Germany, Russia, the United Kingdom and the United States) must resolve is how to define the size and scope of Iran's uranium enrichment program.

While negotiators were unable to find the right solution to bridge the uranium enrichment impasse ahead of the initial July 20 deadline, both sides recognized that there is a way forward to find a compromise on this complex issue. Iranian and P5+1 negotiators also made progress on a number of other contentious issues, such as the future of the Arak heavy-water reactor and the Fordow enrichment plant, and increased access in Iran for the International Atomic Energy Agency (IAEA).

Both of these factors contributed to the decision to extend the negotiations through November 24 and continue compliance with the conditions of the interim deal that Iran and the P5+1 reached on November 24, 2013 and began implementing on January 20, 2014.

HIGHLIGHTS

- Iranian and P5+1 negotiators made good progress on some key issues in their past rounds of talks, but they could not yet agree on the parameters for Iran's uranium enrichment program. As a result, the talks were extended through November 24.
- For the next several years, Iran's practical needs are limited, but Iran's leaders are extremely motivated to reduce reliance on foreign energy suppliers and to maintain a uranium-enrichment program that could be expanded if and when the country's nuclear energy needs grow.
- Today, Iran's 10,200 operating first generation centrifuges could theoretically allow Tehran to produce from natural uranium a quantity of weapons-grade uranium gas sufficient for one nuclear bomb (25 kilograms) in about two to three months if such an effort were not detected first. The P5+1 want to extend that time as much as possible.
- By the close of the last round of talks in July, Iran was pushing for an industrial-scale enrichment capacity. The P5+1 was insisting on a drastic reduction of Iran's enrichment capacity from its current 10,200 operating first generation centrifuges.
- This paper describes one proposal for a three phase 11-16 year long agreement, developed by the International Crisis Group and the Arms Control Association, that would increase the time Iran would require to produce enough weapons-grade material for one bomb (to more than nine months, and in the final phases five to six months), but would still provide Iran with more than sufficient capacity for its civilian nuclear program.

Arms Control Association, 1313 L Street, NW, Ste. 130, Washington, D.C., 20005 (202) 463-8270

[Download PDF](#)

As negotiators prepare to resume talks over Iran's nuclear program, they face a formidable task: to bridge the remaining gaps and reach a comprehensive nuclear deal by November 24. Perhaps the most difficult issue Iran and the P5+1 (China, France, Germany, Russia, the United Kingdom and the United States) must resolve is how to define the size and scope of Iran's uranium enrichment program.

To achieve a win-win outcome the two sides must develop a creative, technically sound formula that increases the time it would take for Iran to enrich uranium to weapons grade, while still providing Tehran with a modest program that allows domestic production of enriched uranium to contribute to fueling future civilian reactors and allows research and development to advance centrifuge technology.

A Win-Win Formula for Defining Iran's Uranium-Enrichment Capacity

Published on Arms Control Association (<https://www.armscontrol.org>)

In collaboration with the International Crisis Group, the Arms Control Association has developed a proposal to define Iran's uranium enrichment program in a manner that meets the fundamental concerns of both Tehran and the P5+1. The proposal is the product of feedback from a number of technical and political experts. While this may not be "the solution" to the enrichment puzzle, the proposal offers constructive options for the negotiators to consider.

- [Daryl G. Kimball](#)
- [Iran](#)

Source URL: <https://www.armscontrol.org/policy-white-papers/2014-08/win-win-formula-defining-irans-uranium-enrichment-capacity>