

Abbas Maleki

*Iran's nuclear file:  
recommendations for the future*

There have been several recent events, both domestic and international, that are likely to have an impact on the shape of a future nuclear program in Iran. First, on March 12, 2009, the five permanent members of the UN Security Council (Russia, China, France, the United Kingdom, and the United States) along with Germany (the P5+1) published a joint statement on Iran's nuclear file, reaffirming their unity of purpose and strong support for the International Atomic Energy Agency's (IAEA) essential role in establishing confidence in the exclusively peaceful nature of Iran's nuclear program.<sup>1</sup> The P5+1 claimed they remain firmly committed to a comprehensive diplomatic solution, including through direct dialogue, and urged Iran to take this opportunity to engage with them.<sup>2</sup>

Second, Iran's presidential election took place on June 12, 2009, and attracted considerable controversy. The incumbent, Mahmoud Ahmadinejad, was officially declared the winner, but the opposition candidates, Mir Hossein Mousavi, Mohsen Rezaee, and Mehdi Karroubi, at first refused to accept the results. Akbar Hashemi Rafsanjani, a veteran of the Is-

lamic Revolution and head of the powerful Assembly of Experts, did not send his congratulations to Ahmadinejad. Widespread demonstrations occurred in Iran after the election. Few observers expressed the view that, because Iran's foreign policy is connected to Supreme Leader Ayatollah Ali Khamenei, there would be no change in Iran's nuclear policies and activities, regardless of the president. Nevertheless, it seems the situation for Iran's policies has changed after the election because of new internal and external pressures.

Third, on July 11, 2009, Iran's Foreign Minister, Manouchehr Mottaki, said Iran is preparing a new package of political, security, and international issues to be put to the West. And on July 17, 2009, President Ahmadinejad named Iran's former envoy to the IAEA, Ali Akbar Salehi, the new vice president and head of the Atomic Energy Organization of Iran (AEOI).<sup>3</sup> Salehi replaces Gholam Reza Aqazadeh, who resigned after holding the post for 12 years. Salehi served as Iran's ambassador to the IAEA from 1997 to 2005.

These recent developments call for rethinking the direction for Iran's nuclear activities. The Iranian election has made the job ahead much harder, but the determination to find ways to

build trust and to create a strong diplomatic process has never been greater.

Nuclear energy has two facets. When used for peaceful purposes, such as power generation, medical services, agriculture, and industry, it can contribute to improvements in quality of life. However, it can also be used for military or criminal purposes. Thus, there are both great opportunities and great risks. Two of the greatest opportunities arise from the contributions nuclear power can make to energy security and environmental challenges.

*Energy Security.* Nuclear energy can ease concerns about security of energy supply. As economies grow, energy demands also increase. In regions such as Asia and the Middle East, plans for and expressions of interest in nuclear energy have been increasing. The expectation that nuclear energy will fill the gap between energy demand and supply has become very high.

An objective review of the facts makes clear Iran's need for alternative sources of energy, including nuclear. According to a study by the U.S. National Academy of Sciences, "Iran's energy demand growth has exceeded its supply growth," and therefore, "Iran's oil export will decline," or even "could go to zero within 12 – 19 years."<sup>4</sup> The study acknowledges that Iran's need for nuclear power is "genuine, because Iran relies on money proceeds from oil exports for most revenues, and could become politically vulnerable if exports decline." Nuclear reactors, the report adds, "will substitute for the power now generated by petroleum, thus, freeing petroleum for export." In fact, Iran's current plans to produce 20,000 megawatts (MW) of nuclear electricity by 2020 may save Iran 190 million barrels of crude oil every year, or nearly \$14 billion annually.<sup>5</sup>

*Environmental Challenges.* Nuclear energy is also expected to contribute to global and national efforts to cope with global warming, as carbon dioxide emissions from nuclear are much smaller than those from fossil fuel sources. Compared with major energy sources, including other non-fossil-fuel alternatives, nuclear power is one of the most effective energy sources to reduce CO<sub>2</sub> emissions.<sup>6</sup>

Aside from the expected contributions to energy security and environmental challenges, a rationale for promoting nuclear energy in Iran must take into account economics, energy and technical independence, and military policy/national security.

1. Iran's civil nuclear program has a clear economic rationale because Iran has a need to generate revenues from the sale of fossil fuels.
2. Iran's insistence on controlling its own enrichment process is the logical consequence of its diversification and energy security policy, in addition to its aim to establish technical independence. This goal is itself fully within the limits of the Nuclear Non-Proliferation Treaty (NPT).
3. As made clear in assessments by the U.S. intelligence services and joint U.S.-Russia track-2 assessments,<sup>7</sup> Iran's decision to pursue a military nuclear program is ambiguous. A decision on whether Iran will produce highly enriched uranium (HEU) has not yet been taken, and there is still no decision about forging ahead with a nuclear program. The missile program is on a different level compared to the nuclear program. The report concluded that there is at present no intermediate-range ballistic missile (IRBM) or intercontinental ballistic

missile (ICBM) threat from Iran, and that such a threat, even if it were to emerge, is not imminent.<sup>8</sup>

The rationale for promoting nuclear energy is based on Iran's understanding of questions of rights and questions of security. Iran believes that each nation has the "inalienable right" to enjoy the benefits of the peaceful use of nuclear energy, in conformity with the provisions of nonproliferation and safeguards obligations in the NPT and the IAEA statute. Many international commentators believe that this inalienable right should not permit the acquisition of sensitive nuclear materials and technology without transparent and plausible plans for strictly peaceful programs. As a result, Iran's government and people have come to believe that they are being denied the right to access peaceful nuclear technology despite Iran's expression of readiness to guarantee the "three Ss": safety of its facilities and operation; security of facilities and materials; and safeguards.

While Iran expects nuclear energy to play an increasing role in bettering Iranian lives, nuclear energy also poses serious security challenges to Iran's national interests. This is especially true in light of rising nuclear proliferation threats caused by the diversion of peaceful nuclear programs to military use, by withdrawal from international nonproliferation treaties and agreements, and by theft or illicit trade of nuclear materials by non-state actors. Some of Iran's neighbors – Pakistan, Afghanistan, and Iraq, and the Caspian Sea and Persian Gulf regions in general – pose particular risks in terms of nuclear proliferation.

Iranian leadership rejects double standards on nuclear violence. They feel that insisting that Iran heed UN Security Council resolutions for nu-

clear programs is hypocritical when Israel's nuclear weapons capabilities do not face the same mandate. "There are a number of resolutions" from the IAEA and other organizations "calling on Israel to join the NPT, calling on Israel to place all their nuclear facilities under inspection of the IAEA, and obviously by getting rid of their nuclear weapons, as allegedly they are," says Gustavo Zlauvini, representative of the IAEA Director General to the UN.<sup>9</sup> Akbar Etemaad, the first head of the AEOI during the Shah's era, says:

The U.S. and its allies fear that even building a peaceful enrichment capability would allow Iran to covertly produce weapons-grade material, and have argued that Tehran's violations of transparency and disclosure requirements of the NPT should mean it has forfeited its right to enrich uranium. But that argument has so far not been embraced by the U.N. or the IAEA, which reports there is no evidence that Iran was working actively to build nuclear weapons.<sup>10</sup>

Indeed, based on Islamic jurisprudence, the development and use of weapons with indiscriminate impact on the population and the environment are prohibited. The leader of the Islamic Republic has issued a religious decree against weapons of mass destruction (WMDs) and specifically against the development, production, stockpiling, and use of nuclear weapons.<sup>11</sup> From a strategic point of view, Iranian leaders realize that nuclear weapons do not provide domestic stability or external security. Iran's policymakers believe that development or possession of nuclear weapons undermine Iranian security. Even the perception that Iran is pursuing nuclear weapons negatively impacts Iran's power by decreasing its regional influence and increasing its global vulnerabilities.

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Iran does not need nuclear weapons to protect its regional interests in the immediate neighborhood. In fact, to augment Iranian influence in the region, it has been necessary for Iran to win the confidence of its neighbors, an effort that will inevitably suffer from such perceptions. Furthermore, with the current state of its technological development and military capability, Iran cannot reasonably rely on nuclear deterrence against its adversaries in the international arena or in the wider region. Engaging in a spiraling arms race to establish and maintain nuclear deterrence would also be prohibitively expensive, draining the limited economic resources of the country.<sup>12</sup>

New multinational mechanisms to assure supplies of nuclear fuel, at market prices, to countries with peaceful nuclear energy programs should be given a key role in nuclear power development. These mechanisms not only assure fuel supply, but also promote nonproliferation and the sharing of nuclear energy opportunities on a multilateral basis.<sup>13</sup> The West Asia region, including the Persian Gulf, would particularly benefit from exploring the feasibility of an International Nuclear Consortium (INC) for multilateral nuclear enrichment and management of spent fuel, under the supervision of the IAEA and with several operators. There are two options for Iran's participation in such a consortium:

1. Designing a consortium with the joint participation of the AEOI and European companies; or
2. Establishing a regional organization that would lead to the creation of a consortium in the West Asia region, called the West Asia Atomic Energy Agency (WAAEA). The WAAEA would set up a regional fuel cycle. (It remains

to be determined politically if this INC can include Iran or if it would be parallel to another international fuel cycle under strict IAEA surveillance.)

The most difficult question is whether multinational enrichment facilities should be encouraged in potentially unstable areas in return for rolling back incipient nuclear weapons programs. In 2005, using the model suggested by IAEA experts, Iran proposed to convert its enrichment facilities to regional or multinational schemes, which provide the greatest degree of transparency by allowing the concerned parties to participate in the ownership and operation of these facilities. However, none of these proposals, which were presented by Iran from January 2005 to October 2006, received any meaningful consideration, primarily due to the tendency of the United States to manufacture a nuclear crisis instead of searching for a solution. It is worth noting that Iran's proposal for the establishment of an international consortium was initially considered very promising by the EU High Representative for Common Foreign and Security Policy Javier Solana, leading to public statements of progress following his meetings with Iran's nuclear negotiator. In a letter dated May 8, 2008, to the UN Secretary-General from the Foreign Minister of Iran, the Iranian government stated that it is ready to consider "establishing enrichment and nuclear fuel production consortiums in different parts of the world – including in Iran." The letter also spoke of nuclear disarmament.

In 2007, a study by John Thomson and Geoffrey Forden of MIT suggested that measures can be taken to prevent the expropriation of a multinational facility by the Iranian government, and that the likelihood of discovering any concealed enrichment facility in Iran

would be enhanced by establishing a multinational facility. They proposed a multinationally owned and operated enrichment facility located in Iran, using Urenco or Russian centrifuges, that would supplant Iran's nationally operated enrichment facility. (A requirement for international staffing should be a part of the agreement in places like Iran, where regional security considerations are a factor.) Their analysis describes legal, organizational, and technological barriers to nuclear proliferation, as well as barriers to nationalization.<sup>14</sup> In the model they outline, consumer countries would be heavily involved in ownership and management.<sup>15</sup> Forden and Thomson reported that Iranians they spoke with expressed an interest in involving India and South Africa in such a facility.

Experts at MIT have proposed another approach that could resolve the impasse (if tailored to meet the bottom lines of all sides).<sup>16</sup> A joint-venture enrichment plant could be established in Iran (meeting the Iranian desire for enrichment on their soil), but with an international staff on duty around the clock and with the use of efficient European centrifuges enclosed in "black boxes" (meeting the Western demand that the approach not give Iran a leg up in centrifuge technology, which could be applied to military use). Iran would own the plant jointly with European countries (possibly with Russia and China as well), making any attempt to shift the facility to weapons work a seizure of other nations' property. The countries would manage the facility jointly under continuous and intensive international inspection. The black box arrangement is the same one planned to protect proprietary European centrifuge technology at a new nuclear plant in the United States. This arrangement would be coupled with

a no-attack commitment, political dialogue, verification steps, and a halt to Iran's own enrichment work.

Reliable assurance of fuel supply is key to effective multilateral mechanisms. Assurance of supply for non-nuclear-fuel-cycle states (in other words, putting the multilateral approach to the nuclear fuel cycle in practice) would be significant in shaping and embedding robust nonproliferation norms and habits in the international community.

Further research on international involvement in Iranian nuclear facilities has been done at Harvard's Belfer Center for Science and International Affairs. Associate Professor of Public Policy and Co-Principal Investigator of the Project on Managing the Atom Matthew Bunn has expressed his views on potential contributions of international staff or ownership of key facilities in Iran. He suggests an international staff on duty around the clock, but one that would work with Iranians. He believes that having zero centrifuges in Iran would be the best outcome for U.S. and international security, but that insisting on zero centrifuges is likely to lead to no agreement.<sup>17</sup>

In late 2006, President Ahmadinejad said that in five years (that is, by 2012) Iran would begin to produce nuclear fuel and sell it to Western countries at a 50 percent discount. The offer was made contingent on the West ceasing its programs to reprocess spent nuclear fuel. Iran's initiative was reinforced by the first test run of the second centrifuge cascade (164 P-1 centrifuges) at the Natanz isotope separation facility. The productivity of one Iranian centrifuge is about three separative work units (SWU); the buildings at the Natanz factory can hold up to 54,000 centrifuges of Iranian production, with a total capacity of about

150,000 to 160,000 SWU of uranium hexafluoride for the production of civilian nuclear fuel. At the current price of about \$160 per SWU, the sale of all fuel produced at the Natanz factory in a year (given a capacity of 150,000 SWU), even with a 50 percent discount, would bring in \$12 million per year.<sup>18</sup> This is an insignificant sum for oil-exporting Iran, but a successful contract would allow Iran to take the first step toward establishing itself as a provider of nuclear fuel cycle services on the world market.

At around the same time that Iran announced this initiative, Tehran was offered the opportunity to host a Urenco enrichment facility on its territory. The facility would produce materials for an international fuel bank controlled by the IAEA. As Forden and Thomson proposed, the facility could be controlled jointly by the IAEA and the investor (the European Troika and Urenco). Moreover, their proposal did not exclude the option of using the Iranian P-1 centrifuge and replacing it in the future with new Urenco models (TC-12 or even the TC-21).<sup>19</sup> According to the Forden and Thomson proposal, the factory could house 3,000 TC-12 centrifuges, which would correspond to the production volume of 120,000 SWU, worth \$56 to \$84 million. At the same time, the production of 5 million SWU per year would require the installation of 125,000 centrifuges, while the expenses on the construction of the enterprise would reach \$2.3 to \$2.4 billion. The installation of 50,000 TC-21 centrifuges would allow the production of about 840 tons of enriched uranium per year (at 4 percent enrichment), which would be enough to load 40 standard 1,000 MW reactors, fully covering Iran's potential needs for enriched uranium and still allowing for exports. However, this initiative was not embraced by Urenco and was not pursued any further.<sup>20</sup>

Iran's nuclear file has pivotal impacts on Iran's relations with other countries. Bilateral, multilateral, regional, and international ties between Iran's government and other players have been affected tremendously by Iran's stance on nuclear technology. Iran's Foreign Minister, Manouchehr Mottaki, must manage the future of Iran's international relations following the post-election chaos of June 2009.

Iran's relations with the P5+1 have been mixed. After October 2003, Iran continued some of its enrichment-related activities, but Tehran and EU3 (Germany, France, and Britain) agreed in November 2004 to a more detailed suspension agreement. Iran resumed uranium conversion in August 2005 under the leadership of President Ahmadinejad, who had been elected two months earlier. In January 2006, Iran announced that it would resume research and development on its centrifuges at Natanz. In response, the IAEA Board adopted a resolution on February 4, 2006, that referred the matter to the UN Security Council. Two days later, Tehran announced that it would stop implementing the IAEA's Additional Protocol, which provides for broader IAEA inspections. In June 2006, the P5+1 presented a proposal to Iran that offered a variety of incentives for Tehran. The proposal called on the government to "address the [IAEA's] outstanding concerns ... through full cooperation" with the Agency's ongoing investigation of Tehran's nuclear programs; to "suspend all enrichment-related and reprocessing activities"; and to resume implementing its Additional Protocol.<sup>21</sup> These requirements have also been included in several UN Security Council resolutions, the most recent of which, Resolution 1803, was adopted March 3, 2008. That resolution called on IAEA Director General ElBaradei to report within 90 days on

whether Iran had complied with the Security Council requirements, adding that the council would respond to Iranian noncompliance with additional sanctions. ElBaradei's May 26, 2008, report to the Security Council and the IAEA Board indicated that Tehran has continued to defy the council's demands by continuing work on its uranium enrichment program and heavy-water reactor program. Iranian officials have repeatedly stated that Iran will not suspend its enrichment program.

EU High Representative for Common Foreign and Security Policy Javier Solana traveled to Tehran on June 13, 2009, to present a revised version of the June 2006 offer, on which the P5+1 had reached agreement in early May. Tehran has told the IAEA that it would implement its Additional Protocol "if the nuclear file is returned from the Security Council" to the Agency. It is, however, unclear how the council could meet this condition. Even before the confirmation of a new term for President Ahmadinejad, it was always likely that Iran's response to the months-old invitations to talk from both President Obama and the six negotiating countries would be wary and tough. Still, the Iranians are likely to return to the negotiating table at some point; when they do so will depend on how soon the turmoil within the political establishment dies down. Given skepticism in the West about Iran's election results, fresh Iranian government resentments will now be on the table alongside old ones. Crucially, though, these grievances are unlikely to sink the talks before they get started: the issues are too important. Neither side, for that matter, has a better policy in mind.

Political relations between Europe and Iran are strained because their interests

often clash, they do not trust each other, and they run their domestic affairs very differently, as Richard Dalton, former British Ambassador to Tehran, has said.<sup>22</sup> Perceptions matter. In the last year, Iran's rulers have interpreted sympathetic Western media reports of demonstrations, especially post-election, as interference arising from hostility. Continued multilateral talks and diplomacy are needed to de-escalate the crisis over Iran's nuclear program, and Europe should be heavily involved in this process, even if it is long and difficult.

Relations (or lack thereof) between the United States and Iran following the Islamic Revolution were often not warm, but since 1996 the relationship has worsened because of Iran's intention to invest seriously in nuclear technology. Iran was worried by the United States' post-9/11 wars in Iraq and Afghanistan, which serve to encircle Iran; its categorization of Iran as part of an "axis of evil"; and its branding of Iran as a new Cold War enemy, as recommended during the Bush administration, thus precluding the politics of engagement. In 2004, the United States changed its nonproliferation threshold from objecting to any nuclear facility in Iran to objecting to enrichment activities. Many commentators in Iran believe that a solution to the nuclear standoff will come from reestablishing relations between Washington and Tehran.<sup>23</sup>

I think Iran's economic, political, and social problems are rooted in cultural and historical trends that will not be resolved overnight by resuming relations. Hard-liners in Iran feel that America's power is in decline and that Tehran should take advantage at this juncture. However, they leave two questions unanswered: first, will American power diminish before it can damage Iran? Second, will the end of American

dominance coincide with the appearance of a new unipolar power or with the creation of a multipolar world system? If the latter, will Iran be prepared for a multipolar environment?

Iran's relationship with Russia has been somewhat more productive. Russia has proposed a Russian-Iranian joint venture whereby fuel for Iran's reactors would be enriched in Russia rather than in Iran. The venture would use Russian centrifuges, and Iranian scientists would not have access to them. Iran already has experience with delays in Russian nuclear supplies, and insisted on continuing its own centrifuge development, which the United States and some European countries reject. Russia's proposal could serve the interests of all sides, if coupled with several additional steps. First, all sides should agree on three steps to guarantee that fuel to Iran's reactors will not be cut off: (1) the major nuclear fuel suppliers should form a commercial consortium that would guarantee to step in if Russian supply were interrupted; (2) the United States, Russia, and other countries should contribute enriched uranium to an IAEA-controlled fuel bank, whose rules would require it to provide fuel if there were an interruption of supply unless it was ordered not to do so by the Security Council; and (3) Iran and the major powers should establish a stockpile of some three years' worth of nuclear fuel to be held in Iran (much like the U.S. strategic petroleum reserve).

There is hope for Iran's future successful engagement with these international partners and for Iran's plans to pursue a robust nuclear power program. I offer these final recommendations, in international, domestic, diplomatic, multilateral mechanisms, and technical areas, to suggest ways forward as Iran seeks to strengthen and expand its nuclear file.

*International Issues.* An ambitious reinvigoration of the grand bargain that was struck 40 years ago in the NPT is needed to usher in a new era of cooperation on preventing proliferation. The renewed grand bargain will need to combine steps that can be taken immediately alongside a vision for the longer term. It will also need to draw in states that are not parties to the NPT. Rather than rushing toward confrontation, with all its risks, all sides must put historic antipathies aside and find face-saving solutions. To give the Iranian advocates of compromise a chance to succeed, the United States and the other major powers need to put offers on the table that will show the people of Iran that nuclear restraint and compliance will put their nation on a path toward peace and prosperity.

Article VI of the NPT legally obligates the nuclear-weapons states-parties to negotiate in good faith toward nuclear disarmament. At the 2000 NPT Review Conference, those states agreed that the Treaty represented an "unequivocal undertaking" to "accomplish the total elimination of their nuclear arsenals."<sup>24</sup> This commitment is an integral part of the NPT bargain, and the need for the NPT to become universal cannot be stressed enough. Nuclear-weapons states must recommit to the vision of a world free of nuclear weapons and take firmer steps in that direction. Iran does support a path toward a world free of nuclear weapons.

Any viable solution needs to meet the bottom lines of all sides. For Iran, this means reliable civilian nuclear energy, defense of its rights under the NPT, maintenance of its pride and technological development, and assurances against attack. For the United States and Europe, the bottom lines are no nuclear weapons in Iran; a broad and

verifiable gap between the nuclear activities that would continue in Iran and a nuclear weapons capability; and full Iranian cooperation with verification (including resolving all questions about past nuclear activities). The West's longstanding complaint about Iran's other policies, and Iran's complaints about the West, must be addressed; however, it is unlikely that all of these problems can be solved in an initial nuclear deal.

All participants (including the United States) should assure Iran that they will not attack or threaten to overthrow Iran's government as long as Iran complies with the nuclear deal and does not commit or sponsor aggression. Such a pledge is key to changing Iranian perceptions that Iran should retain a nuclear weapons option. Iran has already offered to sign mutual non-aggression pacts with its neighbors.

*Domestic Issues.* Iranians have no desire for international isolation, and the government of Iran is part of, and must be responsive to, Iranian society. The general public does not consider the nuclear issue to be of vital importance. Nuclear technology will do little for the average Iranian. It cannot create more jobs for a country that needs 1 million jobs annually; it cannot change the chronic low efficiency, productivity, and effectiveness of the economy and management; and it will do nothing to improve Iran's commercial ties with the rest of the world. Much of Iran's political elite does not seem ready to engage in a risky undertaking that might jeopardize the very existence of the Islamic government. Iran has a track record of rational action over the past 30 years in a turbulent region.

The result of the presidential election in June 2009 and its consequences have changed Iran's government position, and President Ahmadinejad may likely

be forced to take a new approach, especially regarding the nuclear file. In addition, the June election was not so much a barometer of support for or against President Ahmadinejad as it was a stage in the overhaul of the political system in its entirety. The appointment of Ali Akbar Salehi as head of the AEOI also shows positive progress toward a compromise between Iran and international organizations such as the IAEA. The choice of Iranian representative in the next round of talks will be very important; many recommendations have surfaced for Iran to send Salehi instead of Saeed Jalili, Secretary of the Supreme Council on National Security.

There is a lively debate among Iranian intellectuals on these very questions. Emerging from the debate is the suggestion that the government of the Islamic Republic of Iran, which has survived 30 years without ties with a superpower and which has withstood various sanctions, would be more stable should it decide to pursue a rapprochement. It is hoped that in the next round of talks Iran will agree that while it has every right to enrichment, it will not exercise this right for the time being, or will do so by way of a multilateral mechanism. This approach would not require Iran to disavow any of its NPT rights to peaceful nuclear pursuits. Indeed, Iran would ratify the Additional Protocol, and it would actively cooperate to clear up lingering questions from the IAEA, including voluntarily taking steps beyond the Additional Protocol. This cooperation would also allow Iranian scientists participation in international development of cutting-edge nuclear and non-nuclear energy technologies that pose little security risk.

*Diplomatic Issues.* Iran must take into account the possible end of diplomatic isolation by the United States. Despite

the important role of European players, Iran's security concerns and its regional role in the Persian Gulf, the Middle East, the Caspian Sea region, and West Asia could be considered by the United States, owing to its political and military presence in the region. The fate of the U.S. administration is related to the development of affairs in Iraq, the Middle East, Afghanistan, and with energy geopolitics in general. In all of these fields, Iran is a player. Without significant engagement between the United States and Iran on several areas of shared interest – Iraq, the Taliban and Afghanistan, drug trafficking, and al Qaeda – the starting point for ultimately comprehensive negotiations would be all but impossible. Direct dialogue between the United States and Iran on security in Iraq, Afghanistan, and the Persian Gulf, as well as Iran's ability to play an even more constructive role in regional stability, would set the stage for a thaw in U.S.-Iran relations.

The P5+1 would continue to be the main vehicle for the international community, and would serve as the most likely avenue to end the nuclear dispute with Iran by diplomatic solution. Gradual engagement with Iran is the most reasonable process, beginning with EU Foreign Policy Chief Solana and then adding the United States and other P5+1 countries to the talks. It is also important that Ahmadinejad see these talks as garnering international recognition and attention for Iran.

The other recommendation for upgrading coordination and also for monitoring Iran's nuclear activities would come from companies and corporations that work with all sectors of nuclear development. Iran is trying to normalize its nuclear file, and one part of this process involves interaction between Iranian nuclear companies and their counterparts in other countries.

Sanctions are another area that requires further diplomatic attention. Sanctions of products and goods, such as petrol, are likely to hurt ordinary Iranians more than government. U.S. threats are not seen as being directed against Iran's government but against Iranians in general.

*Multilateral Mechanisms.* Should Iran achieve its stated goals, it could become a sort of West Asian Japan – that is, a state without nuclear weapons but possessing virtually all stages of the nuclear fuel cycle. It should be noted that Japan, in spite of its incomparable scientific and technological capabilities, was never able to develop and manufacture a reliable centrifuge. The result has been a gap between Japan's installed capacity of 1 million SWU and its actual production of about 300,000 SWU. Starting in 2010, Japan plans to reequip its enrichment facilities with a new type of centrifuge.

Multilateral mechanisms should not create new nuclear haves and have-nots. International interdependence is already a fact in the area of nuclear fuel supply, and it will be increasingly important, as most "national" fuel cycle programs have international elements. Therefore, for some countries, especially those with small-scale nuclear programs like Iran, it would be more efficient to rely on an international mechanism as a backup to fuel procurement through market mechanisms. Multilateral approaches may provide an alternative measure for states to procure nuclear fuels. Furthermore, international interdependence would help ensure that "national" programs would not divert into military purposes, as interdependence could function as a mutual oversight mechanism.

The Iranian initiative to sell fuel can be used as a means of exercising indirect

control over the Iranian nuclear program as a whole. Should a political decision to purchase Iranian fuel be made, for example, by European companies, the Iranian nuclear program could move from the political to the commercial level. A contract with a Western energy company would inevitably include obligations for Iran to allow IAEA control over the capacities of its factory.

*Technical Issues.* Iran feels the need to invest more in the human resources necessary for high-tech industries, especially the nuclear sciences. The international community should provide necessary assistance (both technically and financially) to help Iran meet this need as well as to share best practice in safety, security, and nonproliferation activities. The

international community should also cooperate with Iran in establishing a regulatory framework and administrative capacities to properly address safety and liability.

Finally, nuclear energy would be an effective means to contain the increase of CO<sub>2</sub> emissions. Relevant mechanisms therefore should be available for nuclear energy projects. The creation of a policy mechanism to incorporate systematically the promotion of nuclear energy in efforts to tackle global warming and to reduce air pollution in Iran (where the consumption per capita of exhaustible energies is two-and-a-half times more than the world average) would be attractive.

#### ENDNOTES

<sup>1</sup> <http://www.iaea.org/Publications/Documents/Infocircs/2009/infocirc749.pdf>.

<sup>2</sup> Ibid.

<sup>3</sup> <http://english.farsnews.net/newstext.php?nn=8804260714>.

<sup>4</sup> Roger Stern, "The Iranian Petroleum Crisis and United States National Security," *Proceedings of the National Academy of Sciences* 104 (1377) (January 2007); International Monetary Fund, "Islamic Republic of Iran: Statistical Appendix," *IME Country Report 04/307* (Washington, D.C.: International Monetary Fund, 2004).

<sup>5</sup> Mohammad Javad Zarif, "Tackling the Iran-US Crisis: The Need for a Paradigm Shift," *Journal of International Affairs* 60 (2) (Spring/Summer 2007): 73.

<sup>6</sup> Endo Tetsuya, "Atoms for the Sustainable Future: Recommendations on Nuclear Energy in the 21st Century" (Japan Institute of International Affairs, January 2008).

<sup>7</sup> Cf. Stratfor Global Intelligence/Reuters, "U.S.: Iran Undecided On Nuclear Program – Officials," March 10, 2009.

<sup>8</sup> Alessandro Politi, *Nomos and Khaos: The 2008 Nomisma Report on Economic-Strategic Horizons Outpost for Strategic and Security Scenarios* (Rome: Nomisma, 2009), 84–86.

<sup>9</sup> [http://therealnews.com/t/index.php?option=com\\_content&task=view&id=33&Itemid=74&jumival=394](http://therealnews.com/t/index.php?option=com_content&task=view&id=33&Itemid=74&jumival=394).

<sup>10</sup> Nahid Siamdoust, "Why Iran Won't Budge on Nukes," *Time* (August 6, 2008).

<sup>11</sup> A November 6, 2004, article in the newspaper *Kayhan* quoting from Ayatollah Khamenei's Friday Sermon of November 5, 2004.

<sup>12</sup> Zarif, "Tackling the Iran-US Crisis," 76.

<sup>13</sup> Pierre Goldschmidt, "Mechanisms to Increase Nuclear Fuel Supply Guarantees," paper presented at the Carnegie International Nonproliferation Conference, Washington, D.C., November 7–8, 2005.

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- <sup>17</sup> Matthew Bunn, "Beyond Zero Enrichment: Suggestions for an Iranian Nuclear Deal," Policy Briefs (Harvard University Belfer Center for Science and International Affairs, November 2009).
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- <sup>22</sup> Richard Dalton, "Europe and Iran: Time to Talk," *Time* (July 20, 2009).
- <sup>23</sup> Siamdoust, "Why Iran Won't Budge on Nukes."
- <sup>24</sup> <http://www.iaea.org/NewsCenter/News/PDF/2020report0508.pdf>.