Six years ago, 47 world leaders gathered in Washington, D.C., to work together to protect against the greatest security threat facing the world: catastrophic nuclear terrorism. The first Nuclear Security Summit was the largest gathering of heads of government since the founding of the United Nations 45 years earlier, and it put an essential spotlight on the imperative to lock down vulnerable nuclear materials.

At that 2010 summit, the leaders launched a major initiative to reduce and secure the more than 2,000 metric tons of weapons-usable nuclear materials then spread across hundreds of sites around the globe. The task was awesome—and so was the leaders’ joint commitment to it.

It was a watershed moment for nuclear security.

As leaders prepare to gather again in Washington for what will be their fourth and final summit, they can point to significant progress made on their pledge—progress documented in the two previous editions of the NTI Nuclear Security Index.

Since the start of 2010, a dozen countries have eliminated weapons-usable nuclear materials from their territories, nuclear security policies and practices have been strengthened in dozens more, and the entry into force of a key international treaty has moved closer to reality.

In large part as a result of the summit process, global leaders today understand that nuclear materials security is much more than just a sovereign concern. It is clear that because of the catastrophic nature of the threat, poor security in one country has the potential to affect us all. And it is also clear that we need to establish an effective global system for nuclear materials security.

The White House, previous summit hosts South Korea and the Netherlands, and other leaders who have made nuclear materials security a priority have good reason to be proud of their achievements, both in practical steps taken and in raising greater awareness about the risk.

As the 2016 summit approaches, however, leaders also have cause for concern. Their final meeting in Washington comes at a particularly perilous time for global security. Relations are frayed across the Euro-Atlantic region as one...
crisis seems only to give way to another. Brutal attacks and incidents by ISIL (the Islamic State of Iraq and the Levant), Boko Haram, al Qaeda, and other organizations with deadly intent are on the rise. A sting in Southeast Europe revealed last year exposed a vibrant and shockingly audacious black market in nuclear materials.

The 2016 NTI Nuclear Security Index, the third edition of our biennial assessment of nuclear security conditions around the world, reveals another problem: amid this global chaos, progress on the goals set at the 2010 summit has slowed.

In contrast to 2014, when the NTI Index reported that seven countries had eliminated their weapons-usable nuclear materials in the previous two years, this edition finds that only one country, Uzbekistan, has removed all of its dangerous nuclear materials since the last NTI Index came out. Progress in a host of other areas has also slowed, raising questions about the ability to sustain progress on this important initiative after the 2016 summit.

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Without the high-level attention and impetus provided by the summits and with so many competing priorities in a deeply unsettled world, can governments remain focused on the need to tighten nuclear materials security?

It's a troubling question given how much is left undone and the potential consequences of inaction.

Today, 24 states still have one kilogram or more of weapons-usable nuclear materials, and although the amount is down from two years ago, nearly 2,000 metric tons of weapons-usable nuclear materials remain stored around the world, much of it still too vulnerable to theft. The risk is compounded by the fact that a terrorist group wouldn’t need much nuclear material to make a nuclear bomb. Enough highly enriched uranium to fill a five-pound bag of sugar or a quantity of plutonium the size of a grapefruit is all terrorists would need to build and detonate a weapon. The result: catastrophic consequences that would stretch across the globe for economies, commerce, militaries, public health, the environment, civil liberties, and the stability of governments.

Meanwhile, cyber attacks are increasing—nuclear facilities are just as vulnerable as other key infrastructure—and a growing number of states are exploring nuclear energy even though they lack the legal, regulatory, and security frameworks to ensure that their facilities are secure as well as safe.
Today, 24 states still have one kilogram or more of weapons-usable nuclear materials, and although the amount is down from two years ago, nearly 2,000 metric tons of weapons-usable nuclear materials remain stored around the world, much of it still too vulnerable to theft.

In addition to assessing the security of nuclear materials, the 2016 NTI Index assesses for the first time important emerging threats and vulnerabilities, adding indicators to determine how well states are prepared to handle cyber threats and potential acts of sabotage to nuclear facilities. The results are troubling.

I believe it is fair to say that today we are at a crossroads on nuclear security. When the 2016 Nuclear Security Summit opens, leaders will have important questions to answer: Will they take the difficult steps needed to better protect against nuclear theft, attack, and sabotage? Will they work together to build the global architecture needed to protect against catastrophic nuclear terrorism? Will they sustain the momentum that the summit process created?

We at NTI believe leaders must show even greater resolve today in the face of escalating threats. Because the consequences of an act of nuclear terrorism would reverberate around the globe, leaders also have an obligation to work together. We are in a race between cooperation and catastrophe, and the world’s leaders must run faster.

Sam Nunn
Co-Chairman and Chief Executive Officer
Nuclear Threat Initiative
Six years ago, world leaders gathered for the first time to collectively address the growing threat of catastrophic nuclear terrorism. At that first Nuclear Security Summit in 2010, the leaders launched a major initiative to lock down the more than 2,000 metric tons of weapons-usable nuclear materials then spread across the globe and to reduce stocks of plutonium and highly enriched uranium, which are the key ingredients needed to build a nuclear weapon.

Today, as leaders prepare to gather in Washington, D.C., for their fourth and final summit, they can cite progress on their pledge to protect vulnerable nuclear materials from theft by terrorists seeking weapons of mass destruction and to build a robust nuclear security system involving all states in the ongoing protection of dangerous nuclear materials. Since early 2010, a dozen countries have eliminated weapons-usable nuclear materials from their territories, dozens more have strengthened their nuclear security practices and policies, and a key international treaty is closer to entry into force.

However, the global threat environment has worsened. At the same time, progress on goals set during the first three summits has slowed, according to the results of the 2016 NTI Nuclear Security Index (NTI Index). It’s a troubling development at a time of escalating and evolving threats from sophisticated and well-financed terrorist organizations, from nuclear smugglers, and from hackers capable of launching devastating cyber attacks at nuclear facilities.

In addition, the current global nuclear security system still has major gaps that prevent it from being truly comprehensive and effective. For instance, no common set of international standards and best practices exists, there is no mechanism for holding states with lax security accountable, and the legal foundation for securing materials is neither complete nor universally observed.

Without a comprehensive and effective global system in place, states’ approaches to nuclear security continue to vary widely, thereby creating dangerous weak links that terrorists could exploit as they seek the easiest path to weapons-usable nuclear materials.
Given the global challenges in the past two years—from an increase in terrorist atrocities in the Middle East to deepening tensions across the Euro-Atlantic region to the complex negotiations over Iran’s nuclear program and threats out of North Korea—there’s no question that it has been a challenging time for governments to keep nuclear materials security atop their priority lists.

As leaders prepare for the fourth and final Nuclear Security Summit in Washington this spring, it is also fair to acknowledge that six years is a relatively short time in which to initiate and execute major changes in the perception of threats and priorities.

In addition to assessing the risks posed by vulnerable nuclear materials and insufficient security policies in states that don’t have materials, the 2016 NTI Index assesses for the first time the potential risks to nuclear facilities posed by sabotage and cyber attack. The NTI Index assesses progress, highlights areas for improvement, and offers recommendations for action.

SLOWED PROGRESS: THE NTI INDEX DATA

Progress on reducing the amount of dangerous nuclear materials worldwide and on better securing existing stocks has slowed. Since 2014, no improvements have been made in the core protection and control measures assessed by the NTI Index, including on-site physical protection, control and accounting, insider threat prevention, physical security during transport, or response capabilities. The 2016 NTI Index also finds that across the entire Index, 43 improvements have been made since 2014, compared with 59 improvements found in the 2014 NTI Index.

In addition, the 2016 NTI Index finds that only one state from the “theft ranking” for countries with one kilogram or more of weapons-usable nuclear materials, Uzbekistan, has removed its materials in the past two years—compared with seven states that had removed their materials in the two years before the 2014 NTI Index was published.
The theft ranking assesses countries with weapons-usuable nuclear materials based on these five categories. Countries without materials were assessed on three categories.

**KEY**

- Countries with weapons-usuable nuclear materials
- Countries without weapons-usuable nuclear materials

*This indicator does not apply to countries without nuclear materials.

Note: For information about data sources used for scoring, see the full EIU Methodology at www.ntiindex.org.
HOW THE SABOTAGE RANKING MEASURES NUCLEAR SECURITY CONDITIONS

1. Number of Sites
   1.1 Number of sites

2. Security and Control Measures
   2.1 On-site physical protection
   2.2 Control and accounting procedures
   2.3 Insider threat prevention
   2.4 Response capabilities
   2.5 Cybersecurity

3. Global Norms
   3.1 International legal commitments
   3.2 Voluntary commitments
   3.3 International assurances

4. Domestic Commitments and Capacity
   4.1 UNSCR 1540 implementation
   4.2 Domestic nuclear security legislation
   4.3 Independent regulatory agency

5. Risk Environment
   5.1 Political stability
   5.2 Effective governance
   5.3 Pervasiveness of corruption
   5.4 Groups interested in committing acts of nuclear terrorism

The sabotage ranking assesses countries with nuclear facilities based on these five categories.

Note: For information about data sources used for scoring, see the full EIU Methodology at www.ntiindex.org.

Jamaica, which already had less than one kilogram of weapons-usable nuclear materials, also removed its materials.

Finally, the NTI Index identifies a trend toward a plateau or even an increase in nuclear material stockpiles, with the end of the U.S.-Russia HEU Purchase Agreement and with India, Japan, the Netherlands, North Korea, Pakistan, and the United Kingdom all increasing their stocks of weapons-usable materials over the past four years.

ILL-PREPARED FOR THE EMERGING CYBER THREAT

With evolving global threats in mind, this year’s NTI Index assesses for the first time how states are protecting their nuclear facilities against cyber threats. Like critical infrastructure, nuclear facilities are not immune to cyber attack—a particular concern, given the potentially catastrophic consequences. Such an attack could facilitate the theft of nuclear materials or an act of sabotage.
The 2016 NTI Index includes a set of basic indicators relating to cybersecurity, and the results show that although some countries have been taking steps to protect nuclear facilities from cyber attack, many do not yet have the laws and regulations needed to provide effective cybersecurity:

- Too many states require virtually no effective security measures at nuclear facilities to address the threat posed by hackers.
- Of the 24 countries with weapons-usable nuclear materials, 9 received a maximum score for the cybersecurity indicator; 7 states scored 0. Of the 23 countries that have nuclear facilities but no weapons-usable nuclear materials, 4 received a maximum score for the cybersecurity indicator; 13 states scored 0, including some that are expanding the use of nuclear power.
- In the past two years, eight countries with weapons-usable nuclear materials have updated their laws and regulations with respect to cybersecurity at nuclear facilities. In the period between 2012 and 2014, nine countries made similar updates.

Also for the first time, the NTI Index assesses nuclear security conditions related to the protection of nuclear facilities against acts of sabotage. This new set of rankings assesses 45 countries where an act of sabotage against a nuclear facility could result in a significant radiological release similar in scale to the release in Japan in 2011 when a tsunami hit the Fukushima Daiichi Nuclear Power Plant.

Once again, the 2016 NTI Index finds shortfalls. In addition to the concerns related to cybersecurity, many developing states, including those actively considering the introduction of nuclear energy, are struggling to put in place the measures necessary to protect nuclear facilities from sabotage.

In the 2014 Nuclear Security Summit Communiqué, leaders wrote, “Continuous efforts are needed to achieve our common goal of strengthening the international nuclear
security architecture, and we recognize that this is an ongoing process.”

As the high-profile Nuclear Security Summit process comes to a close, reaching agreement on an ongoing process to build an effective global nuclear security system and to sustain high-level political attention on nuclear security must be a top priority. This NTI Index offers specific recommendations for the global community to sustain progress in the short and longer term, including (a) identifying a coalition of willing partners who will maintain momentum; (b) tracking and catalyzing future progress through the Convention on the Physical Protection of Nuclear Material, the key legal agreement underpinning nuclear materials security; and (c) providing appropriate resources to the International Atomic Energy Agency (IAEA) to meet an expanded role.

Next is a summary of observations and recommendations. Comprehensive results, country-specific recommendations, methodology, and more resources are available at www.ntiindex.org.

OBSERVATIONS: THE STATE OF NUCLEAR SECURITY

Key Trends

Progress in securing and eliminating materials has slowed. In the 2016 NTI Index, no improvements have been made in the core protection and control measures assessed by the NTI Index, which include (a) on-site physical protection, (b) control and accounting, (c) the ability to mitigate the insider threat, (d) physical security during transport, and (e) response capabilities—a troubling finding. In addition, since the last NTI Index, a single country from the theft ranking for countries with one kilogram or more of weapons-usable nuclear materials—Uzbekistan—removed all of its weapons-usable nuclear materials. In 2014, seven states were on that list. Jamaica, which already had less than one kilogram of weapons-usable nuclear materials, also removed its quantities.

On the upside, of the 24 countries with materials, 4 became parties to key international agreements related to nuclear materials security, 6 made new voluntary commitments (such as contributing to the IAEA Nuclear Security Fund), and 8 passed or updated laws and regulations on cybersecurity. Twelve other states have decreased their quantities of materials over the most recent four-year period measured.

Global stocks of weapons-usable nuclear materials have decreased overall, but trends point to an increase in the near future. Twelve of the 24 countries with materials—including nuclear-armed France, Russia, and the United States—decreased their quantities of weapons-usable nuclear materials over the most recent four-year period measured by the NTI Index, and Uzbekistan removed all of its weapons-usable nuclear material.

Despite that progress, trends indicate that global stocks are expected to plateau or even increase in the immediate future. Japan, the Netherlands, and the United Kingdom

WHAT AN EFFECTIVE GLOBAL SYSTEM TO SECURE NUCLEAR MATERIALS SHOULD LOOK LIKE

Over three years, NTI worked with senior government officials, representatives from international organizations such as the International Atomic Energy Agency, leading experts, and nuclear industry representatives to reach a consensus on the following four elements of an effective global nuclear security system:

1. All weapons-usable nuclear materials and facilities should be covered by the system, including materials outside civilian programs (or “military materials”).

2. All states and facilities holding those materials should adhere to international standards and best practices.

3. States should help build confidence in the effectiveness of their security practices and should take reassuring actions to demonstrate that all nuclear materials and facilities are secure.

4. States should work to reduce risk through minimizing or, where feasible, eliminating weapons-usable nuclear materials stocks and the number of locations where they are found.
have increased quantities for their civilian nuclear energy sectors; India and Pakistan have increased quantities for both civilian and military purposes; and North Korea is taking new steps to produce new weapons-usable nuclear materials.

**States without materials are supporting global norms and implementing international commitments.** Notable security improvements have been made among the 152 states with less than one kilogram of or no weapons-usable materials—important because those states’ territories could be used as safe havens, staging grounds, or transit points for terrorist operations. Of the 152 states, Sweden ranks first, and Djibouti is most improved. The majority of improvements involved states becoming parties to key international legal agreements and making voluntary commitments to support global security efforts.

**Remaining Challenges**

**The Nuclear Security Summits have had a positive effect, but the strategic goal of developing an effective global nuclear security system remains unachieved.** The summits have placed an important spotlight on the urgency of nuclear materials security and have raised it to the head-of-state level. A number of states have eliminated all of their inventories of weapons-usable nuclear materials, a significant achievement. Yet despite recent progress toward the goal of securing all weapons-usable nuclear materials, the current global system for securing nuclear materials still has major gaps that prevent it from being truly comprehensive and effective.

For example, no common set of international standards and best practices exists, there is no mechanism for holding states with lax security accountable, and the legal foundation for securing materials is neither complete nor universally observed. In addition, 83 percent of all stocks are military materials and thus remain outside existing international security mechanisms, such as the IAEA guidelines for the protection of civilian materials.

Finally, participation in international peer review—a tool for improving performance and building confidence in others about the effectiveness of a state’s security—or other measures that would build confidence in the security of materials remain limited. Of the 24 states with weapons-usable nuclear materials, 16 have had a nuclear security peer review in the past five years, and 7 have never had one. As the threats escalate, it is therefore clear that the summits have not achieved the essential goal of developing an effective global nuclear security system that fully addresses and fills current systemic gaps. With the summit process coming to a close, it may be even more difficult to sustain the political attention and momentum needed to fill those gaps.

**Countries with new or emerging nuclear energy programs struggle to meet the threat.** Of the 45 states in the new sabotage ranking, 23 have less than one kilogram of or no weapons-usable nuclear materials but are included because they have nuclear power reactors or research reactors with a capacity of two megawatts or greater. Many of them are developing countries or countries with new programs (or are considering them) and have yet to establish effective nuclear security regimes. For instance, Chile, Egypt, and Indonesia are considering new nuclear energy programs but do not yet have the legal and regulatory structure in place that is required for effective
THE CYBER THREAT

The cyber threat has expanded exponentially in recent years, with a series of damaging, high-profile attacks that have made headlines around the world. Recent attacks against banking and commerce systems, private companies, and national governments highlight the growing gap between the threat and the ability to respond to or manage it.

Like all critical infrastructure, nuclear facilities are not immune to cyber attack. That reality is particularly worrisome, however, given the potentially catastrophic consequences of a cyber attack on a nuclear facility. Such an attack could facilitate the theft of nuclear materials or an act of sabotage. For example, access control systems could be compromised, thus allowing the entry of unauthorized persons seeking to obtain nuclear material or to damage the facility. Accounting systems could be manipulated so that the theft of material goes unnoticed. Reactor cooling systems could be deliberately disabled, resulting in a Fukushima-like disaster.

Government authorities and facility operators are struggling to keep pace with this new threat, and national and international guidance is still evolving. With the increasing use of digital systems, such challenges will only continue to grow.

Given the vulnerabilities and potentially serious consequences, cybersecurity at nuclear facilities has recently received greater attention at the IAEA, among national regulators and facility operators, and within the Nuclear Security Summit process. In recognition of the growing threat, the 2016 NTI Index now includes a cybersecurity indicator to provide a more complete picture of nuclear security around the world.

The new cybersecurity indicator, included in both the theft ranking and sabotage ranking, asks the following four questions:

- Do domestic laws, regulations, or licensing requirements require nuclear facilities to have protection from a cyber attack?
- Do domestic laws, regulations, or licensing requirements require nuclear facilities to protect critical digital assets from a cyber attack?
- Does the state consider cyber threats in its threat assessment or design basis threat for nuclear facilities?
- Does the regulator require a performance-based program, which includes tests and assessments of cybersecurity at nuclear facilities?

Those questions were designed and selected with input from the International Panel of Experts, as well as the results of a study funded by NTI and conducted by the Institute for Safety and Security at the Brandenburg University of Applied Sciences to characterize the cyber-nuclear security regulatory frameworks in five different countries. For more information about this study and NTI’s cyber-nuclear security program, see www.nti.org/cyber.

security. In addition, some states with established nuclear energy programs, such as South Korea and Taiwan,1 received scores in the Security and Control Measures category that were average for countries with nuclear power.

Nuclear facilities are not prepared for the growing cyber threat. Of the 24 states with weaponsusable nuclear materials and the 23 states that have nuclear facilities but no weaponsusable nuclear materials, 13 receive a maximum score for cybersecurity: Australia, Belarus, Bulgaria, Canada, Finland, France, Hungary, the Netherlands, Russia, Switzerland, Taiwan, the United Kingdom, and the United States. Twenty states score 0 and

1 For information on Taiwan’s status and its treatment in the NTI Index, see the full EIU Methodology at www.ntiindex.org.
do not even have basic requirements to protect nuclear facilities from cyber attacks.

RECOMMENDATIONS: AN AGENDA FOR ASSURANCE, ACCOUNTABILITY, AND ACTION

Building an Effective Global Nuclear Security System

Although states have begun to think more globally about their nuclear security responsibilities—shifting from the view that security is only a sovereign responsibility—there is still no effective global system in place for securing all weapons-usable nuclear materials. A truly effective global system is one that would cover all materials, including “military materials,” where all states and facilities would adhere to international standards and best practices, where states would take reassuring actions to build confidence in the effectiveness of the security of their materials, and where states would reduce risks through minimizing or, where feasible, eliminating stocks of weapons-usable nuclear materials and the number of locations where they are found.

To build such a system, states need to address critical gaps, specifically:

- Strengthen and build confidence in the security of military materials. States with military materials should secure those materials to the same or higher standards as civilian materials, including through the application of standards and best practices that are at least consistent with IAEA nuclear security guidelines, and these states should take steps to reassure others that they are securing the materials properly.

- Bolster the international legal foundation for nuclear security. To move closer to a common set of guidelines and best practices that states can apply, all states must become parties to the International Convention for the Suppression of Acts of Nuclear Terrorism and the Convention on the Physical Protection of Nuclear Material (CPPNM) and must work to bring the 2005 Amendment to the CPPNM into force. Even before signing or ratifying those conventions, states should voluntarily implement the requirements and should publicize those actions when they do. Finally, states should also implement IAEA nuclear security guidance.

- Increase international confidence in the effectiveness of nuclear security, and help build accountability. Words alone are not enough to give states confidence in one another’s security practices. States must take specific steps to assure others and be held accountable for their actions, such as
EXECUTIVE SUMMARY

ADDRESSING SABOTAGE

On March 11, 2011, a tsunami caused by a major earthquake slammed into the Fukushima Daiichi Nuclear Power Plant in Japan, disabling the backup power supplies and cooling ability of three of the plant’s reactors. The loss caused a partial meltdown of three of the reactor cores, resulting in a significant radioactive release and leading to the evacuation of people within 20 kilometers of the plant. The accident brought comparisons to perhaps the world’s most infamous nuclear disaster, the 1986 accident at Chernobyl, Ukraine, where a routine test went wrong, causing a catastrophic release of radiation.

Neither of those events was the result of sabotage, but an attack that deliberately disrupts or damages a nuclear facility—through a physical attack, a cyber attack, or a combination of both—could produce a similar release of radiation. Given these widespread dangers, the 2016 NTI Index includes the first-ever assessment of nuclear security conditions related to the protection of nuclear facilities against acts of sabotage.

To assess the quality of states’ protections against sabotage, NTI considered facilities, the sabotage of which could result in a significant radiological release causing serious off-site health consequences. The assessment includes 45 countries that have one or more of the following facilities:

- Operating nuclear power reactors or nuclear power reactors that have been shut down within the last five years
- Research reactors with a capacity of two megawatts or greater
- Reprocessing facilities
- Spent fuel pools, only if the fuel has been discharged in the last five years and if not associated with an operating reactor.

With input from the International Panel of Experts and other outside advisors, the NTI Index framework was adjusted for sabotage. Although most measures to protect against theft apply equally to protecting nuclear facilities against sabotage, there are some differences, such as the focus on protecting certain equipment, systems, and devices that, if damaged, could lead to a radiological release.

Twenty-three of those countries have less than one kilogram of or no weapons-usable nuclear materials, and therefore their security measures are being assessed for the first time.

participating in peer reviews and publishing nuclear security regulations. States should make voluntary commitments, such as (a) contributing to organizations that promote best practices, (b) participating in workshops and training on security, and (c) providing security assistance to other states.

Commit to further decreasing stocks of weapons-usable nuclear materials. The more material and sites, the greater the exposure to risk of theft, so all states should work to minimize their use of weapons-usable nuclear materials in civilian energy programs, and they should reduce or eliminate stockpiles of those materials where possible.

Sustaining High-Level Political Attention on Nuclear Security

If the summits end without a mechanism to enable continued progress and to ensure implementation of existing commitments, nuclear security efforts risk backsliding. Defining a path to sustain momentum and high-level attention must be a priority for the 2016 summit.
To sustain progress in both the short and longer terms, leaders need to identify a coalition of willing partners who will maintain momentum; track and catalyze future progress through the CPPNM, which is the key legal agreement underpinning nuclear materials security; and provide appropriate resources to the IAEA to meet an expanded role.

**Improving Individual State Stewardship of Nuclear Materials**

To improve their stewardship, states should take the following actions:

› Strengthen cybersecurity at nuclear facilities and build technical capacity. Governments should include the cyber threat within the national threat assessment for their nuclear facilities and should put in place a clear set of laws, regulations, standards, and licensing requirements for all nuclear facilities that require protection of digital systems from cyber attack. At the facility level, leadership must prioritize cybersecurity, determine potential consequences, and ensure that digital assets and networks are characterized and secure and that security systems are routinely tested.

› Improve security and control measures to protect materials from theft and facilities from sabotage. States and private industry should protect against theft and sabotage by strengthening physical protection and control and accounting measures. At a minimum, nuclear security laws and regulations should be in line with IAEA guidance, and states and private industry should take the radiological consequences of an act of sabotage into account when designing physical protection. States and plant owners should also (a) continually test whether their security is adequate, (b) build a culture of security excellence at facilities, and (c) encourage the exchange of best practices.

› Ensure that effective nuclear security regimes are in place before building nuclear energy programs. Before or in tandem with planning new nuclear energy programs, states must put the necessary legal and regulatory frameworks in place for proper security. States should turn to the IAEA, the World Institute for Nuclear Security, and other states with established programs for guidance.

› Establish independent regulatory agencies, and strengthen existing ones. Without an independent agency, it is impossible to regulate security and provide oversight and accountability for those with nuclear security responsibilities, and states cannot reassure themselves or others that their nuclear materials are accounted for and safe.

› Deliver on nuclear security commitments. Many commitments made at the 2010, 2012, and 2014 Nuclear Security Summits have not yet been fulfilled, including important pledges related to securing radioactive sources, which are not covered by the NTI Index. Governments must first and foremost fulfill those pledges and also share appropriate information to enable accurate tracking in the future.

For more on the radiological threat, visit www.nti.org.