



Losing Focus in a Disordered World





The NTI Nuclear Security Index

The 2020 Nuclear Threat Initiative (NTI) Nuclear Security Index (NTI Index) assesses the security of some of the deadliest materials in the world—highly enriched uranium (HEU) and plutonium—against theft and the security of nuclear facilities against sabotage. Stolen HEU or plutonium could be used to build a nuclear bomb; the sabotage of a nuclear facility could result in a dangerous release of radiation.

The NTI Index uses public information to track country-level progress on nuclear security and recommends actions for governments to protect nuclear materials and facilities and to strengthen the global nuclear security architecture. Developed with the Economist Intelligence Unit (EIU) and informed by an international panel of respected nuclear security experts, the NTI Index has been released biennially since 2012. The NTI Index includes two theft rankings and one sabotage ranking:

- > Theft: Secure Materials—A ranking of 22 countries with 1 kilogram or more of weaponsusable nuclear materials to assess actions related to securing those materials against theft
- > Theft: Support Global Efforts—A ranking of 153 countries and Taiwan with less than 1 kilogram of or no weapons-usable nuclear materials to assess actions related to supporting global nuclear security efforts
- Sabotage: Protect Facilities—A ranking of 46 countries and Taiwan with nuclear facilities, such as nuclear power reactors and research reactors, to assess actions related to protecting those facilities against sabotage

For the first time, the 2020 NTI Index is accompanied by a separate **Radioactive Source Security Assessment** that assesses the national policies, commitments, and actions to secure radioactive sources and prevent a dirty bomb in 175 countries and Taiwan. This new assessment does not score or rank countries.

All data are available in Excel models and can be downloaded at www.ntiindex.org.



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Foreword

The world today faces complex and potentially catastrophic threats: the slow burn, quite literally, of climate change; a naturally occurring or manufactured virus that kills millions of people worldwide; a radiological dirty bomb explosion that renders a city center uninhabitable for years; a nuclear weapons exchange that could incinerate entire countries; or the detonation of a terrorist nuclear bomb built from stolen nuclear material that kills thousands of people in an instant. All would create additional, enormous consequences for our environment, global economies, and humanity as a whole.

The COVID-19 pandemic offers a window into the grave implications of poor planning to prevent a crisis from emerging and then escalating. Preventing a naturally occurring virus is tough, but there have been countless missed opportunities to slow the spread and stem the damage—and the unfolding disaster has offered a powerful lesson in the importance of prevention and preparation, coordination and cooperation, accountability and action—all grounded in attention to the science.

These fundamentals are the foundation for the NTI Nuclear Security Index, a biennial ranking of nuclear security conditions worldwide that recommends steps that countries and the global community should take to strengthen security of nuclear materials and nuclear facilities and evaluates progress against those steps. Born out of concern the world is not doing enough to prevent a terrorist attack with almost incomprehensible consequences, the NTI Index has tracked progress and provided guidance on nuclear security since 2012.

This year, for the first time, the results show that progress to secure nuclear materials and facilities has slowed significantly. This is an alarming development for a host of reasons. It comes at a time when the global risk environment is characterized by growing disorder and disruption and the international community's ability to manage cross-border threats is taxed. Disinformation and disruptive technologies have added to governments' challenges, and

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NTI Vice President Laura S. H. Holgate (left) and Senior Director Samantha Neakrase (right) lead discussions with the International Panel of Experts.

intensified competition among major nuclear powers—particularly the United States, Russia, and China—has strained international institutions, treaties, and norms. Constant vigilance by nuclear operators, governments, and international organizations will be needed to keep pace with the threats in this increasingly dangerous risk environment.

The key finding of this year's NTI Index may be an outcome of the end of the series of Nuclear Security Summits—head-of-state events begun in 2010 and held every two years through 2016 that brought high-level attention to nuclear dangers, promoted efforts to reduce them, and resulted in important progress toward securing materials and facilities against nuclear terrorism and other threats.

Security improvements captured by the NTI Index between 2012 and 2018 reflected the work of the summits. Since the summit process ended in 2016, no comparable, cooperative global effort has emerged to replace the summits' role in galvanizing countries to take bold, ambitious actions—even as the terrorist threat and new concerns such as cyber attacks on nuclear facilities, continue to mount. Now, in the first reflection of the post-summit nuclear security landscape, it is no surprise that progress has slowed.

Given the challenging security backdrop for this key finding, it is more important than ever to identify

shortfalls and to call for governments, industry, and the international community to once again step up their efforts to prevent a catastrophic attack or act of sabotage that could further shake global foundations.

We all know this work can be successful. In 2012, when the NTI Index was launched, 32 countries had 1 kilogram or more of weapons-usable nuclear materials; today, that number is 22, and the countries that have addressed the threat in the most permanent ways possible—by eliminating or disposing of all of their weapons-usable nuclear materials—are a model for the world. Scores of countries also have taken important steps to mitigate the threat of theft or sabotage by improving physical security around materials and facilities, tightening security during transport of materials, expanding cybersecurity practices, adopting new insider threat-prevention measures, and more.

No one should conclude, however, that progress has slowed because much of the work is completed. That is simply not the case. As the data show, large gaps remain across all the categories and indicators we examine—and the report shows major weaknesses in key areas such as insider threat prevention, security culture at facilities, and cybersecurity. More rigorous threat assessments, personnel vetting, and new regulations, among other steps, must be put in place before extremists exploit weaknesses in these areas and do real damage. Continuous improvement—even among high-performing

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countries—must also be a priority, not only to keep pace with, but to stay ahead of, evolving threats.

Thousands of radiological sources held in every country offer extremists another path to cause chaos—and in conjunction with the NTI Index, we are releasing a first-of-its-kind Radioactive Source Security Assessment that examines national policies and actions to secure these potentially dangerous sources. Typically used for research, medical, industrial, or agricultural purposes, the sources often are poorly secured and housed in areas open to the public, such as hospitals and universities. In the hands of an extremist, a radiological source can be used to build and detonate a radiation-spewing dirty bomb in the heart of a city.

Unlike weapons-usable nuclear materials, these sources don't pose an existential threat, and a dirty bomb would not cause mass casualties or injuries—but cleanup would be enormously costly, environmental and psychological consequences would be significant, and the area around a detonation would be uninhabitable for years.

The good news is that the risk can be eliminated by replacing the dangerous sources with equally effective alternative technologies. NTI has worked closely with

New York City, Atlanta, and the state of California—along with Central Asia and the United Kingdom—to do just that. We hope the new assessment included in these pages will build increased awareness of the risk, start a broader discussion about alternatives, and highlight best practices for keeping sources secure.

As we've learned through the COVID-19 pandemic, global security is only as strong as the weakest link. When it comes to existential threats—and even to those that could do just serious damage—every country can do more and must do more. Leaders around the world have a responsibility to use all the tools at their disposal, from the adoption and enforcement of new security requirements to coordinating and cooperating with other countries, to protect against nuclear and radiological terrorism so that we never have to face the terrible consequences.

Ernest J. Moniz
Co-Chair and Chief Executive Officer
Nuclear Threat Initiative



Executive Summary

Losing Focus in a Disordered World

rogress on global nuclear security has slowed significantly over the past two years, despite sizeable gaps that continue to leave nuclear materials and facilities vulnerable to theft and acts of sabotage. The 2020 NTI Nuclear Security Index finds that although a great deal of work remains to protect materials and facilities against increasingly capable extremist groups, the rate of improvement to national regulatory structures and the global nuclear security architecture has declined since 2018. This reverses a trend of substantial improvements made between 2012 and 2018, and it comes at a time when prospects for improving efforts to prevent nuclear terrorism are complicated by growing global disorder and disruption.

The decline highlighted in the 2020 NTI Index suggests that without the driving force of the Nuclear Security Summits, which ended in 2016, or similar high-level events, attention to nuclear security has waned. This is a particularly dangerous development when terrorist capabilities and growing cyber threats contribute to a more complicated and unpredictable environment and geopolitical tensions and events such as the COVID-19 pandemic are challenging cooperation and exposing the limits of how countries cope with cross-border threats.

Recognized as the premier resource and tool for tracking progress on global nuclear security, the NTI Index assesses nuclear security conditions in 175 countries and Taiwan. It assesses (a) actions to secure nuclear materials in the 22 countries that have 1 kilogram or more of weapons-usable nuclear materials, the highly enriched uranium and plutonium that can be stolen and used to build nuclear bombs; (b) actions to protect nuclear facilities in 46 countries and Taiwan that have nuclear facilities at which an act of sabotage could result in a dangerous

Progress on global nuclear security has slowed significantly over the past two years, despite sizeable gaps that continue to leave nuclear materials and facilities vulnerable to theft and acts of sabotage.

To address the overall finding that progress has slowed significantly, countries must strengthen and sustain political attention on nuclear security to drive progress on adopting nuclear security regulations and on building a more effective global nuclear security architecture.

release of radiation; and (c) actions in 153 countries and Taiwan that have less than 1 kilogram of or no weapons-usable nuclear materials to determine how well they support global nuclear security efforts.

NTI Index results and recommendations, released biennially since 2012 and using publicly available information, help guide governments and industry on how best to develop and implement security measures around some of the world's deadliest materials. For each of the five editions of the Index, NTI and its partner, the Economist Intelligence Unit (EIU), have updated the categories and indicators to reflect changing global threat levels, risks posed by evolving practices and technologies, and input from an international panel of nuclear security experts. For the 2020 NTI Index, updates were made across all rankings to account for progress made over the past decade and the availability of new tools to address risks.

For the first time, NTI this year is releasing a separate Radioactive Source Security Assessment in conjunction with the NTI Index. The first-of-its-kind assessment, which does not rank or score countries, evaluates national policies, commitments, and actions taken in 175 countries and Taiwan to prevent the theft of radioactive materials that could be used to build dirty bombs. The key finding: the international architecture for radiological security is extremely weak, and thousands of radioactive sources remain vulnerable to theft from the hospitals, university labs, and industrial sites where they are used

for a variety of beneficial purposes. Although the use of a radiological dirty bomb would not have consequences approaching the scale of those caused by a nuclear detonation, the likelihood that one will be detonated is far greater and the consequences would still be significant: environmental and psychological damage, enormous cleanup costs, and the inability to use the area around the explosion for years.

TOP NTI INDEX FINDINGS AND RECOMMENDATIONS

Australia ranks first for its security practices for the fifth time among countries with weapons-usable nuclear materials and for the third time in the sabotage ranking. In the ranking for countries without materials, New Zealand and Sweden tie for first. Most improved among countries with materials in 2020 is Pakistan, which was credited with adopting new on-site physical protection and cybersecurity regulations, improving insider threat prevention measures, and more.

To address the overall finding that progress has slowed significantly, countries must strengthen and sustain political attention on nuclear security to drive progress on adopting nuclear security regulations and on building a more effective global nuclear security architecture. One way to do this is to send high-level delegations to upcoming conferences and meetings to make commitments and to report on progress.

The NTI Index includes nine additional high-level findings and recommendations.

- No countries have eliminated their stocks of weapons-usable nuclear materials since 2016, and the number of countries with those materials has plateaued. Decreases in quantities of materials also are slowing. Countries with materials should revive efforts to reduce stocks of highly enriched uranium and plutonium and should focus on long-term, sustainable stewardship of materials.
- Regulatory requirements for nuclear security are not comprehensive, with significant weaknesses in key areas such as insider threat prevention, security culture, and cybersecurity. Countries must strengthen these regimes; theft of nuclear materials or sabotage of a nuclear facility anywhere in the world would have significant implications for all countries, including potential public backlash against the use of peaceful nuclear technology, such as nuclear energy.
- Countries do not have adequate measures in place to address the human factor of nuclear security. Countries must strengthen insider threat-prevention measures and security culture.

- Cybersecurity regulations are slowly adapting to the growing cyber threat to nuclear facilities, but the adoption of these requirements continues to trail the urgency of the threat. Given the rapid evolution of cyber threats, countries must strengthen cybersecurity at nuclear facilities including through (a) integrating physical protection and cybersecurity; (b) protecting critical digital assets, such as systems related to physical protection, control, accounting, and safety; and (c) building greater awareness of cyber threats among facility personnel.
- Despite continued actions to strengthen the global nuclear security architecture, the rate of improvement has slowed and significant gaps in the architecture remain. Countries must work to strengthen and sustain political attention on nuclear security, the International Atomic Energy Agency (IAEA) and the United Nations should work to achieve universalization of key legal instruments governing nuclear security, and countries should implement their treaty obligations and participate in voluntary initiatives, among other steps.

KEY FACTS ABOUT THE NTI INDEX



Serves as
an objective
assessment of
nuclear security
conditions
around the world



Data gathered from publicly available information



Researched by the Economist Intelligence Unit



Advised by an international panel of experts



Government input provided through data confirmation

- Countries without nuclear materials are not sufficiently engaged in efforts to bolster the global nuclear security architecture. To address regional disparities and conflicting priorities, the IAEA should work with countries to build a stronger, more inclusive narrative around nuclear security, stressing that nuclear security is critical to maintaining public support for peaceful uses of nuclear technology.
- > The IAEA still lacks the political and financial support it needs to fulfill its nuclear security mission. Countries should increase support for the IAEA by contributing to its Nuclear Security Fund and supporting and participating in IAEA activities, and the IAEA should work to build awareness of those activities and of how it has helped countries benefit from peaceful nuclear use.
- With the exception of publishing regulations, countries' actions to build confidence in nuclear security through information sharing and peer review remain limited. Countries should increase transparency and confidence by publishing annual nuclear security reports, by making public declarations about their progress on nuclear security, and by participating regularly in peer reviews, among other steps.
- More countries are interested in acquiring nuclear technology for research or energy purposes, but nine countries planning new nuclear power programs have varying levels of preparedness to take on nuclear security responsibilities. To be responsible stewards, countries considering new nuclear energy capabilities should establish legal and regulatory frameworks that address insider threat prevention, cybersecurity, security culture, physical protection, control and accounting procedures, and response capabilities.

TOP RADIOACTIVE SOURCE SECURITY ASSESSMENT FINDINGS AND RECOMMENDATIONS

Countries in the Radioactive Source Security Assessment did not receive scores or ranks. To address the overall finding that the international architecture for radiological security is extremely weak, countries should bolster the global radiological architecture by ratifying key international agreements, by making political commitments to the IAEA Code of Conduct and related Supplemental Guidance, and by participating in voluntary initiatives.

The Radioactive Source Security Assessment includes four additional high-level findings and recommendations.

- Most countries do not have the national regulatory regimes in place to secure and control radioactive sources and protect them from theft and unauthorized use. Countries should establish the national legal framework necessary to effectively regulate and control radioactive sources, including an oversight body and requirements to secure radioactive sources.
- Most countries do not have adequate regulatory requirements for tracking and controlling the movement of radioactive sources, both nationally and transnationally, so that only authorized recipients receive and possess radioactive sources. Countries should put in place national measures to track and control the movement of radioactive sources domestically and internationally, to prevent them from

falling into the wrong hands.

- Countries are ill-equipped to regulate and control radioactive sources in their country at all stages of their life cycles, from production, manufacture, use, and transport to disposition. Countries should establish regulatory measures and practices to track materials throughout their life cycles and follow relevant IAEA guidance on end-of-life management.
- Very few countries have made public commitments to replace high-activity radioactive sources with alternative technology, and there is varying capacity around the world to implement and sustain the technology's use. Countries should commit to replacing high-activity radioactive sources with alternative technologies where possible. They should work to identify and address challenges to adopting alternative technology and to share information that can help other countries adopt these technologies, if they have the capacity to do so.

This report highlights key trends in global nuclear security and offers a host of recommendations for improvements at the country level and for ways to build a more effective global nuclear security architecture. It also provides rankings, country-level data, and detailed findings from the new Radioactive Source Security Assessment.

More information, including data to download in Excel models, is available at **www.ntiindex.org**.



Results Tables

The tables on the following pages show the high-level results of the three NTI Index rankings and the Radioactive Source Security Assessment. The NTI Index results tables show overall and category ranks and scores. The Radioactive Source Security Assessment does not rank or score countries. Instead, the percentage of countries receiving each answer choice is shown. More detailed results are available in Excel models, available at **www.ntiindex.org**.



0														
OVE	RALL SCORE				1. QUANTITIES AND SITES					2. SECURITY AND CONTROL MEASURES				
			-	e since				-	e since			Change since		
Rank / 2		/ 100	2018	2012	Rank / 2		Score / 100	2018	2012	Rank / 2		e / 100	2018	2012
1	Australia	93	+1	+15	1	Switzerland	95	0	+20	1	United Kingdom	96	0	+15
=2	Canada	87	0	+20	2	Australia	94	0	-1	2	United States	89	0	+6
=2	Switzerland	87	+3	+12	=3	Iran	89	0	0	3	Canada	88	0	+24
4	Germany	85	+3	+16	=3	Norway	89	0	-5	4	Australia	87	0	+25
=5	Netherlands	82	+1	+12	=5	Belarus	75	0	-6	=5	China	80	0	+39
=5	Norway	82	+4	+11	=5	South Africa	75	0	-6	=5	Germany	80	0	+25
7	Belgium	80	+3	+17	=7	Belgium	72	0	+11	7	Italy	76	0	+23
8	Japan	77	-1	+27	=7	Canada	72	0	+5	8	Belgium	75	+8	+30
=9	United Kingdom	76	0	+8	=7	Germany	72	0	+5	=9	Japan	74	0	+19
=9	United States	76	0	+10	=7	Kazakhstan	72	0	+5	=9	Netherlands	74	0	+23
11	Italy	75	0	+15	=11	Italy	70	0	-6	=11	Belarus	72	0	+18
=12	France	69	-1	+10	=11	Netherlands	70	0	-5	=11	Switzerland	72	0	+6
=12	Kazakhstan	69	+1	+14	13	Israel	47	0	0	13	Russia	70	0	+17
=14	Belarus	65	0	+6	14	Japan	42	-6	+18	14	France	64	0	+4
=14	China	65	0	+20	=15	China	33	0	0	=15	Kazakhstan	57	0	+14
=16	Israel	57	0	+10	=15	France	33	0	-11	=15	Pakistan	57	+25	+41
=16	Russia	57	+1	+6	=15	North Korea	33	0	-18	17	Norway	47	0	+9
=16	South Africa	57	+1	0	18	United States		0	0	=18	India	44	0	+6
19	Pakistan	47	+7	+17	=19	India	19	0	0	=18		44	0	0
											Israel			
20	India	41	0	+8	=19	Pakistan	19	0	0	20	South Africa	36	0	+4
21	Iran	33	0	+2	=19	Russia	19	0	-6	21	North Korea	27	0	0
22	North Korea	19	+1	-3	22	United Kingdo	m 14	0	0	22	Iran	26	0	0

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions. = denotes tie in rank.



3. G	. GLOBAL NORMS				4. DOMESTIC COMMITMENTS AND 5. RISK ENVIRON CAPACITY					MENT				
Danie (6		/ 100	•	e since	Danie / C	20	2 / 100	•	e since	Dl. (20		•	e since
Rank / 2	Australia	re / 100 96	2018 +4	2012 +33	Rank / 2	22 S Australia	Score / 100 100	2018	2012 +11	Rank /	zz s Norway	core / 100 94	2018 +2	2012 +3
=1	Japan	96	+2	+31	=1	Canada	100	0	+27	2	Switzerland	88	0	-4
=1	United States	96	-2	+34	=1	France	100	0	+22	3	Australia	87	0	-2
4	Norway	94	+4	+31	=1	Germany	100	+11	+11	4	Canada	83	0	+4
5	Belgium	93	0	+30	=1	Italy	100	0	+22	=5	Germany	81	+3	+13
=6	Canada	92	0	+34	=1	Japan	100	0	+69	=5	Netherlands	81	+2	+2
=6	Germany	92	0	+22	=1	Netherlands	100	0	+16	7	Japan	75	0	0
=6	United Kingdom	92	0	+18	=1	Norway	100	+11	+16	8	United Kingdo	m 73	+5	+10
9	Switzerland	87	+4	+29	=1	Russia	100	0	+5	9	Belgium	71	+2	-7
=10	Kazakhstan	85	0	+26	=1	Switzerland	100	+11	+11	10	France	66	-6	+3
=10	Netherlands	85	0	+15	=1	United Kingdo	m 100	0	0	11	United States	63	+4	-10
12	France	84	0	+31	=1	United States	100	0	+22	12	South Africa	53	+4	+3
13	Italy	83	0	+31	=13	Israel	95	0	+27	=13	Belarus	48	-2	-1
14	China	72	-2	+23	=13	Kazakhstan	95	0	+16	=13	Israel	48	-1	+5
15	India	67	0	+28	=15	Belgium	89	0	+11	15	China	44	+4	+18
16	Russia	56	+2	+4	=15	China	89	0	+15	16	Italy	41	+4	+1
17	Israel	54	-3	+21	=15	Pakistan	89	0	+16	17	India	39	+1	+7
18	South Africa	52	+2	0	=18	Belarus	78	0	+5	18	Kazakhstan	36	+6	+7
19	Belarus	47	0	+10	=18	South Africa	78	0	0	19	North Korea	34	+5	+3
20	Pakistan	45	+1	+9	20	India	36	0	0	20	Russia	29	+3	+5
21	Iran	27	0	+9	21	Iran	5	0	0	21	Iran	18	-1	-1
22	North Korea	0	0	0	22	North Korea	0	0	0	22	Pakistan	16	0	+9

Overall and category scores and ranks for 2020 are shown.

All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.

THEFT: SUPPORT GLOBAL EFFORTS

OVER A	ALL SCORE			
			Chang	e since
ank / 15	4	Score / 100	2018	2012
=1	New Zealand	98	0	+18
=1	Sweden	98	+1	+16
3	Finland	95	-2	+13
=4	Denmark	92	+3	+9
=4	South Korea	92	+1	+20
=6	Hungary	90	-1	+17
=6	Spain	90	0	+14
=8	Czech Republic	89	0	+14
=8	Poland	89	-2	+18
10	Singapore	88	0	+37
11	Lithuania	87	+4	+15
12	United Arab Emirates	86	-3	+14
=13	Chile	85	0	+22
=13	Romania	85	0	+16
=15	Jordan	84	0	+25
=15	Mexico	84	0	+25
17	Slovenia	83	-2	+7
18	Luxembourg	80	0	+7
19	Austria	79	+1	+3
=20	Armenia	78	0	+17
=20	Slovakia	78	+1	+5
=20	Ukraine	78	-1	+12
=23	Argentina	77	-3	+18
=23	Estonia	77	+3	+9
25	Philippines	76	-2	+24
=26	Indonesia	75	+1	+26
=26	Latvia	75	+2	+6
=26	Nigeria	75	0	+36
=29	Croatia	74	+3	+13
=29	Morocco	74	-1	+22
=31	Iceland	73	+1	+3
=31	Ireland	73	-2	0
=31	Malta	73	-1	+12
=34	Cyprus	72	+2	+5
=34	Georgia	72	+4	+32
=36	Bulgaria	71	+3	+3
=36	Cuba	71	+2	+5
=36	Paraguay	71	0	+20
=36	Portugal	71	-2	+1
	<u> </u>			

3. GL	DBAL NORMS			
			Chang	e since
Rank / 15	4	Score / 100	2018	2012
=1	Finland	100	0	+26
=1	Georgia	100	+6	+49
=1	Hungary	100	0	+43
=1	Mexico	100	0	+49
=1	New Zealand	100	0	+37
=1	Poland	100	0	+37
=1	South Korea	100	0	+37
=1	Spain	100	0	+32
=1	Sweden	100	0	+37
=1	Ukraine	100	0	+32
=11	Czech Republic	94	0	+31
=11	Denmark	94	+5	+26
=11	Jordan	94	0	+37
=11	Lithuania	94	+6	+31
=11	Morocco	94	0	+43
=11	Nigeria	94	0	+60
=11	Romania	94	0	+31
=18	Armenia	89	0	+32
=18	Chile	89	0	+38
=20	Indonesia	88	+6	+48
=20	United Arab Emirates	88	-6	+20
22	Philippines	83	-6	+32
=23	Thailand	82	+17	+48
=23	Vietnam	82	0	+59
25	Singapore	77	0	+43
=26	Argentina	76	-6	+25
=26	Slovenia	76	-5	+13
28	Turkey	70	-6	+30
29	Algeria	69	-6	+23
=30	Bosnia and Herzegovina	68	0	+22
=30	Croatia	68	+5	+11
=30	Paraguay	68	0	+28
=30	Slovakia	68	0	+11
34	Malaysia	65	0	+31
35	Luxembourg	64	0	+18
=36	Austria	63	0	+6
=36	Azerbaijan	63	+6	+17
=36	Bahrain	63	0	+12
=36	Bulgaria	63	+6	+6

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.

			Chang	e since				Chai
ık / 15	54	Score / 100	2018	2012	Rank / 15	4	Score / 100	2018
=1	Albania	100	0	0	1	Singapore	95	0
=1	Argentina	100	0	+9	2	New Zealand	94	+3
=1	Armenia	100	0	+9	=3	Iceland	91	+7
=1	Austria	100	0	0	=3	Sweden	91	+3
=1	Azerbaijan	100	0	+66	5	Luxembourg	86	+3
=1	Bosnia and Herzegovina	100	0	+9	6	Barbados	85	+7
=1	Brazil	100	0	0	7	Austria	82	+2
=1	Bulgaria	100	0	0	8	Finland	81	-6
=1	Croatia	100	0	+26	9	Seychelles	80	+11
=1	Cuba	100	0	0	=10	Denmark	77	0
=1	Cyprus	100	0	0	=10	Taiwan	77	+2
=1	Czech Republic	100	0	0	=12	Bahamas	76	+2
=1	Denmark	100	0	0	=12	Estonia	76	+2
=1	Estonia	100	0	0	=14	Botswana	75	+2
=1	Finland	100	0	0	=14	Brunei	75	+2
=1	Ghana	100	0	+34	16	Slovenia	74	+2
=1	Greece	100	0	0	17	Bhutan	73	0
=1	Hungary	100	0	0	18	Cape Verde	72	+3
=1	Iceland	100	0	0	19	Uruguay	71	+3
=1	Ireland	100	0	0	20	South Korea	70	+4
=1	Jamaica	100	0	+26	=21	Chile	69	0
=1	Jordan	100	0	+17	=21	Ireland	69	+2
=1	Latvia	100	0	0	=21	Malta	69	-4
=1	Lithuania	100	0	0	=21	Qatar	69	+10
=1	Luxembourg	100	0	0	=21	Slovakia	69	+6
=1	Macedonia	100	0	+17	=26	Czech Republic	67	+2
=1	Malta	100	0	+26	=26	Latvia	67	+8
=1	Mexico	100	0	+9	=28	Malaysia	66	0
=1	Moldova	100	0	+26	=28	Mauritius	66	0
=1	New Zealand	100	0	0	=28	United Arab Emirates	66	-1
=1	Philippines	100	0	+26	31	Costa Rica	64	0
=1	Poland	100	0	+9	32	Portugal	63	+2
=1	Portugal	100	0	0	33	Cuba	62	-1
=1	Romania	100	0	0	34	Namibia	61	+1
=1	Serbia	100	0	0	35	Hungary	60	-3
=1	Singapore	100	0	+57	=36	Lithuania	59	+6
=1	Slovakia	100	0	0	=36	Spain	59	0
=1	Slovenia	100	0	0	38	Poland	58	-6
=1	South Korea	100	0	0	39	Senegal	57	+6

Overall and category scores and ranks for 2020 are shown.

All countries are scored 0–100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.

VERA	LL SCORE				3. GL	.OB
			Chang	e since		
ank / 15		Score / 100	2018	2012	Rank / 1	54
40	Turkey	70	-4	+15	=36	С
=41	Bosnia and Herzegovina	69	+1	+12	=36	E
=41	Ghana	69	-1	+17	=36	L
=43	Azerbaijan	68	+3	+30	=36	Li
=43	Moldova	68	0	+12	=36	M
45	Greece	67	+1	0	=36	M
=46	Brazil	66	+2	+6	=36	Р
=46	Montenegro	66	+2	+12	=36	U
=46	Serbia	66	+3	+7	48	Ir
=46	Uruguay	66	+1	+12	=49	Α
=50	Albania	65	-6	+9	=49	В
=50	Algeria	65	-3	+12	=49	В
=50	Jamaica	65	+3	+14	=49	С
=50	Macedonia	65	0	+11	=49	С
=50	Uzbekistan	65	+4	+18	=49	G
55	Costa Rica	64	-2	+8	=49	G
=56	Namibia	63	-3	+13	=49	lr
=56	Peru	63	-1	+12	=49	K
=56	Qatar	63	+3	+11	=49	K
=59	Botswana	62	-2	+11	=49	M
=59	Mongolia	62	+1	+5	=49	M
=59	Senegal	62	+4	+18	=49	M
=59	Taiwan	62	+1	+10	=49	Р
63	Bahrain	61	0	+8	=49	Р
=64	Seychelles	60	+3	+4	=49	S
=64	Vietnam	60	0	+32	=49	S
=66	Malaysia	59	0	+24	=49	S
=66	Saudi Arabia	59	0	+28	=67	С
=66	Tajikistan	59	0	+10	=67	Q
=69	Kuwait	58	+1	+30	=69	С
=69	Mauritania	58	-2	+9	=69	D
=71	Burkina Faso	57	+2	+13	=69	G
=71	Ecuador	57	-1	+13	=69	K
=71	Mali	57	+1	+8	=69	M
=71	Niger	57	0	+8	=69	M
=75	Côte d'Ivoire	56	0	+37	=69	N
=75	Gabon	56	0	+5	=69	Ta
=75	Kenya	56	+1	+1	=69	Ti
=75	Thailand	56	+9	+25	=69	U

3. GL0	DBAL NORMS			
- J - J - C				
Damle / 15		0/100	-	e since
=36	Cyprus	Score / 100 63	2018 +6	2012 +17
=36	Estonia	63	+6	+12
=36	Latvia	63	0	+6
=36	Libya	63	+6	+12
=36	Moldova	63	0	+6
=36	Montenegro	63	+6	+23
=36	Panama	63	+12	+12
=36	Uzbekistan	63	+6	+17
48	Ireland	58	-5	+1
=49	Albania	57	-11	+17
=49	Bangladesh	57	+6	+11
=49	Brazil	57	+6	+17
=49	Cambodia	57	+11	+17
=49	Cuba	57	+6	+17
=49	Ghana	57	0	+11
=49	Greece	57	0	0
=49	Iraq	57	-6	+40
=49	Kenya	57	0	0
=49	Kyrgyz Republic	57	0	+23
=49	Macedonia	57	0	+11
=49	Madagascar	57	0	+17
=49	Malta	57	0	+11
=49	Peru	57	0	+17
=49	Portugal	57	-6	+6
=49	Saudi Arabia	57	0	+11
=49	Senegal	57	+6	+28
=49	Serbia	57	+6	+11
=67	Colombia	52	0	+12
=67	Qatar	52	0	+23
=69	Côte d'Ivoire	51	0	+34
=69	Dominican Republic	51	0	+5
=69	Gabon	51	0	+5
=69	Kuwait	51	0	+17
=69	Mali	51	0	+5
=69	Mauritania	51	0	0
=69	Niger	51	0	+5
=69	Tajikistan	51	0	+11
=69	Turkmenistan	51	0	0
=69	Uruguay	51	0	+17

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.

4. DOMESTIC COMMITMENTS AND CAPACITY Change since Rank / 154 Score / 100 2018 2012 Spain 100 0 =1 Sweden 100 0 0 Taiwan 100 0 +17 =1 Tajikistan 100 0 +17 =1 Turkey 100 0 +9 100 0 Ukraine +9 =1 **United Arab Emirates** 100 0 +9 =1 =1 Uzbekistan 100 0 +26 Burkina Faso 0 =48 91 +17 =48 Chile 91 0 +17 =48 Congo (Dem. Rep. of) 91 0 0 =48 Costa Rica 91 0 +17 91 0 =48 Ecuador +17 =48 Guatemala 91 0 0 91 0 +17 =48 Mali 0 =48 Mauritania 91 +34 Mongolia 91 0 =48 +8 =48 Montenegro 91 0 0 =48 Namibia 91 0 +8 =48 Nicaragua 91 0 +8

. RIS	K ENVIRONMENT			
			Chang	e since
nk / 15	4	Score / 100	2018	2012
=40	Cyprus	56	-3	-8
=40	Jamaica	56	+9	+13
=40	Mongolia	56	+2	+11
=43	Georgia	55	+3	+20
=43	Ghana	55	-2	+6
45	Rwanda	54	+5	+10
=46	Guyana	53	+4	+9
=46	Kuwait	53	+7	+13
=46	São Tomé and Príncipe	53	+10	+18
=49	Belize	52	+5	+1
=49	Croatia	52	0	-2
=49	Trinidad and Tobago	52	+4	+12
=52	Bulgaria	51	+2	+2
=52	Romania	51	-1	+8
=52	Vietnam	51	0	0
=55	Oman	50	+3	+14
=55	Panama	50	+5	+11
=55	Paraguay	50	0	+6
=55	Swaziland	50	+2	+7
=59	Argentina	49	-1	+14
=59	Egypt	49	0	+15
=59	Suriname	49	+1	-1
62	Colombia	48	0	+13
=63	Fiji	47	+4	+5
=63	Gambia	47	+11	+12
=63	Jordan	47	+2	+14
=63	Lesotho	47	+2	-7
=63	Samoa	47	+4	+5
=63	Solomon Islands	47	+4	+5
=63	Tonga	47	+4	+5
=63	Vanuatu	47	+4	+5
=71	Sri Lanka	45	+2	+5
=71	Zambia	45	-1	-4
=73	Bahrain	44	0	+2
=73	Gabon	44	+2	0
=73	Greece	44	+3	-2
=73	Saudi Arabia	44	0	+12
=73	Thailand	44	+4	+2
=78	Dominican Republic	43	0	+8

Overall and category scores and ranks for 2020 are shown.

All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

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+25

+17

+8

+25

+9

+17

+74

+9

+9

+9

+9

+9

+9

0

+8

-9

+8

+8

+17

=48

=48

=48

=48

=64

=64

=64

=64

=64 =64

=64 =64

=64

=73

=73

=73

=73

=73 =73 Nigeria

Peru

Uganda

Algeria

Botswana

Indonesia

Kenya

Niger

Tanzania

Tunisia

Uruguay

Bahrain

Afghanistan

Bangladesh

Cameroon

Cape Verde

Gabon

Côte d'Ivoire

Paraguay

⁼ denotes tie in rank.

OVERA	ALL SCORE			
			Chang	e since
Rank / 15		Score / 100	2018	2012
=79	Bangladesh	55	+2	+4
=79	Tunisia	55	-1	+4
81	Guatemala	53	+1	+4
82	Nicaragua	52	0	+4
=83	Panama	51	+6	+10
=83	Tanzania	51	+1	+6
=85	Congo (Dem. Rep. of)	50	+2	+1
=85	Uganda	50	-4	+8
=87	Cameroon	49	+1	+10
=87	Rwanda	49	+2	+3
89	Cape Verde	48	+1	+5
=90	Colombia	46	0	+12
=90	Kyrgyz Republic	46	0	+18
=92	Dominican Republic	44	0	+10
=92	Lebanon	44	0	-3
=92	Madagascar	44	0	+10
=92	Mozambique	44	0	+1
96	Afghanistan	43	0	+5
=97	Malawi	42	0	+19
=97	Zambia	42	+5	+20
=99	El Salvador	41	0	+5
=99	Swaziland	41	+1	+15
=101	Cambodia	40	+6	+10
=101	Lesotho	40	-2	+9
=101	Mauritius	40	0	+6
=101	Turkmenistan	40	-1	+2
105	Iraq	39	-6	+24
=106	Bolivia	38	+3	+11
=106	Djibouti	38	+1	+17
108	Sri Lanka	37	+1	+6
109	Benin	36	+13	+19
=110	Fiji	35	+1	-1
=110	Honduras	35	+1	+10
=110	Libya	35	+3	+2
113	Oman	33	+1	+8
=114	Bahamas	32	+1	0
=114	Barbados	32	+2	+4
=116	Egypt	30	-3	+11
=116	Ethiopia	30	0	+10
-110	Litilopia	30	U	110

3. GL	OBAL NORMS			
			Chang	o oinoo
Rank / 15	4	Score / 100	2018	e since 2012
=69	Zambia	51	+11	+34
=80	Afghanistan	46	0	+12
=80	Benin	46	+29	+35
=80	Burkina Faso	46	+6	+12
=80	Cameroon	46	0	+18
=80	Costa Rica	46	-5	+12
=80	Ecuador	46	0	+12
=80	El Salvador	46	0	+6
=80	Iceland	46	0	+6
=80	Jamaica	46	0	+6
=80	Lesotho	46	-5	+6
=80	Malawi	46	0	+17
=80	Mongolia	46	0	0
=80	Namibia	46	-5	+23
=80	Swaziland	46	0	+12
=80	Tunisia	46	0	+6
=95	Bolivia	40	+6	+17
=95	Botswana	40	-6	+11
=95	Central African Republic	40	0	0
=95	Congo (Dem. Rep. of)	40	0	0
=95	Djibouti	40	0	+17
=95	Fiji	40	0	0
=95	Guatemala	40	0	+6
=95	Lebanon	40	0	0
=95	Nicaragua	40	0	+6
=95	Seychelles	40	0	0
=105	Comoros	34	0	0
=105	Honduras	34	0	+6
=105	Mozambique	34	0	0
=105	Myanmar	34	0	+23
=105	Oman	34	0	+6
=105	Sri Lanka	34	0	0
=105	Sudan	34	+6	+11
=105	Tanzania	34	0	+5
=105	Togo	34	0	+11
=105	Uganda	34	-6	+5
=105	Yemen	34	0	+11
=116	Burundi	29	0	+6
=116	Chad	29	+12	+12

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.



THEFT: SUPPORT GLOBAL EFFORTS (cont'd)

l. DOI	MESTIC COMMITMENTS	AND CAPAC	CITY	
nk / 15	4	Score / 100	Chang 2018	e since 2012
=73	Kuwait	74	0	+65
=73	Lebanon	74	0	0
=73	Morocco	74	0	+8
=73	Qatar	74	0	0
=73	Rwanda	74	0	0
=73	Saudi Arabia	74	0	+65
=73	Senegal	74	0	+8
=73	Seychelles	74	0	0
87	Mozambique	66	0	+9
=88	Ethiopia	43	0	+26
=88	Georgia	43	0	+17
=88	Iraq	43	0	+26
=88	Kyrgyz Republic	43	0	+26
=88	Malawi	43	0	+43
=88	Malaysia	43	0	+26
=94	Bolivia	34	0	+8
=94	Colombia	34	0	+8
=94	Djibouti	34	0	+25
=94	Dominican Republic	34	0	+17
=94	El Salvador	34	0	+8
=94	Honduras	34	0	+17
=94	Madagascar	34	0	+17
=94	Mauritius	34	0	+17
=94	Panama	34	0	+8
=94	Sierra Leone	34	0	+17
=94	Solomon Islands	34	0	+17
=94	Sri Lanka	34	0	+17
=94	Syria	34	0	+17
=94	Turkmenistan	34	0	+8
=94	Venezuela	34	0	0
=94	Vietnam	34	0	+17
=110	Barbados	26	0	+9
=110	Cambodia	26	0	+9
=110	Central African Republic	26	0	+17
=110	Egypt	26	0	+9
=110	Laos	26	0	+9
=110	Lesotho	26	0	+26
=110	Myanmar	26	0	+9
=110	Swaziland	26	0	+26
-110	Swaziiaiiu	20	U	⊤ ∠0

Overall and category scores and ranks for 2020 are shown.

All countries are scored 0–100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.

OVERA	LL SCORE			
Damle / 15		C / 100	Chang 2018	e since
Rank / 15 =116	Myanmar	Score / 100 30	-1	2012 +15
=116	Solomon Islands	30	+1	+7
=120	Comoros	29	0	+4
=120	Sierra Leone	29	0	+10
=120	Togo	29	+1	+10
=123	Central African Republic	28	0	+2
=123	Trinidad and Tobago	28	+1	+2
=125	Laos	27	-1	+5
=125	Tonga	27	+1	+1
=127	Bhutan	26	0	+4
=127	Brunei	26	0	-1
=127	Guyana	26	+1	+2
=127	Sudan	26	+2	+8
131	Vanuatu	25	+1	+7
=132	Nepal	24	+2	+8
=132	Venezuela	24	+2	+2
=134	Burundi	23	0	+7
=134	Congo (Brazzaville)	23	-1	+15
=134	Guinea-Bissau	23	+1	+4
=137	Gambia	22	+3	+6
=137	Haiti	22	0	+3
=137	Liberia	22	+9	+11
=140	Belize	21	+1	0
=140	Guinea	21	+1	+8
=140	São Tomé and Príncipe	21	+3	+10
=140	Syria	21	+6	+10
=140	Timor-Leste	21	-1	+7
=145	Chad	20	+5	+8
=145	Samoa	20	+2	+2
=145	Suriname	20	0	0
=145	Zimbabwe	20	+2	+9
149	Yemen	18	0	+4
=150	Angola	16	0	-1
=150	Papua New Guinea	16	0	+3
152	Equatorial Guinea	15	+1	+3
153	Eritrea	13	+1	+1
154	Somalia	7	+3	+6

2 .CL-6	DBAL NORMS					
3. GL(JBAL NUKWS					
			Change since			
Rank / 154		Score / 100	2018	2012		
=116	Rwanda	29	0	0		
=116	Taiwan	29	0	+6		
120	Mauritius	28	0	0		
=121	Bahamas	23	0	0		
=121	Congo (Brazzaville)	23	0	+23		
=121	Egypt	23	-5	+12		
=121	Guinea-Bissau	23	0	0		
=121	Guyana	23	0	0		
=121	Haiti	23	0	0		
=121	Laos	23	0	+6		
=121	Liberia	23	+17	+17		
=121	Nepal	23	+6	+6		
=121	Sierra Leone	23	0	+6		
=121	Syria	23	+12	+12		
=121	Venezuela	23	+6	+12		
=121	Zimbabwe	23	+6	+12		
=134	Cape Verde	17	0	0		
=134	Ethiopia	17	0	+6		
=134	Guinea	17	0	0		
=134	Solomon Islands	17	0	0		
=134	Tonga	17	0	0		
=134	Trinidad and Tobago	17	0	0		
=140	Angola	11	0	0		
=140	Equatorial Guinea	11	0	0		
=140	Gambia	11	0	0		
=140	Vanuatu	11	0	+11		
=144	Barbados	6	0	0		
=144	Belize	6	0	0		
=144	Bhutan	6	0	0		
=144	Brunei	6	0	0		
=144	Papua New Guinea	6	0	0		
=144	Samoa	6	0	0		
=144	São Tomé and Príncipe	6	0	0		
=144	Somalia	6	+6	+6		
=144	Suriname	6	0	0		
=144	Timor-Leste	6	0	0		
154	Eritrea	0	0	0		

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.



4. DO	MESTIC COMMITMENTS	AND CAPAC	ITY		5. RIS	K ENVIRON
Danie / 15	4	Carra / 100	-	e since	Dank / 15	4
Rank / 15 =110	Thailand	Score / 100 26	2018	2012 +9	=115	4 Madagasca
=110	Timor-Leste	26	0	+17	=115	Philippines
=110	Tonga	26	0	0	120	Bosnia and
=110	Trinidad and Tobago	26	0	0	=121	Congo (Bra
=110	Vanuatu	26	0	0	=121	Eritrea
=110	Zambia	26	0	+17	=121	Mauritania
=124	Belize	17	0	0	=121	Uganda
=124	Benin	17	0	+8	125	Guatemala
=124	Bhutan	17	0	0	=126	Equatorial (
=124	Brunei	17	0	0	=126	Haiti
=124	Burundi	17	0	+17	=126	Kyrgyz Rep
=124	Comoros	17	0	+17	=126	Myanmar
=124	Congo (Brazzaville)	17	0	+17	=126	Turkmenist
=124	Eritrea	17	0	+8	=126	Uzbekistan
=124	Fiji	17	0	-9	=132	Bangladesi
=124	Gambia	17	0	+8	=132	Cambodia
=124	Guinea	17	0	+17	=132	Nicaragua
=124	Haiti	17	0	+8	135	Mali
=124	Libya	17	0	0	136	Cameroon
=124	Nepal	17	0	+8	=137	Kenya
=124	Oman	17	0	+8	=137	Nigeria
=124	Papua New Guinea	17	0	+8	=137	Tajikistan
=124	Samoa	17	0	0	=140	Burundi
=124	São Tomé and Príncipe	17	0	+17	=140	Sudan
=124	Sudan	17	0	+8	142	Zimbabwe
=124	Suriname	17	0	0	=143	Chad
=124	Togo	17	0	+8	=143	Congo (Der
=124	Zimbabwe	17	0	+17	=143	Lebanon
=146	Angola	9	0	0	=146	Ukraine
=146	Bahamas	9	0	0	=146	Venezuela
=146	Chad	9	0	+9	148	Central Afri
=146	Equatorial Guinea	9	0	+9	149	Somalia
=146	Guinea-Bissau	9	0	+9	150	Libya
=146	Guyana	9	0	0	=151	Afghanista
=146	Liberia	9	0	+9	=151	Iraq
=146	Somalia	9	0	+9	=153	Syria
=146	Yemen	9	0	0	=153	Yemen
1 40	. 5.11611		U	U	100	70011

5. RIS	K ENVIRONMENT			
			Change	e since
Rank / 15	4	Score / 100	2018	2012
=115	Madagascar	33	+1	-11
=115	Philippines	33	0	+7
120	Bosnia and Herzegovina	31	+2	-5
=121	Congo (Brazzaville)	30	-4	-1
=121	Eritrea	30	+2	-6
=121	Mauritania	30	-6	-5
=121	Uganda	30	-6	-8
125	Guatemala	29	+1	+4
=126	Equatorial Guinea	28	+2	+2
=126	Haiti	28	+1	+3
=126	Kyrgyz Republic	28	-1	-1
=126	Myanmar	28	-3	+7
=126	Turkmenistan	28	-1	0
=126	Uzbekistan	28	+5	+10
=132	Bangladesh	27	-4	+6
=132	Cambodia	27	+2	+1
=132	Nicaragua	27	0	-3
135	Mali	26	+5	+2
136	Cameroon	24	+1	-4
=137	Kenya	22	+2	-8
=137	Nigeria	22	+2	+7
=137	Tajikistan	22	-3	-2
=140	Burundi	21	+2	0
=140	Sudan	21	-1	+2
142	Zimbabwe	18	-2	-6
=143	Chad	17	0	-1
=143	Congo (Dem. Rep. of)	17	+6	+4
=143	Lebanon	17	+1	-9
=146	Ukraine	14	-3	-16
=146	Venezuela	14	-2	-13
148	Central African Republic	11	+2	-9
149	Somalia	9	+2	+5
150	Libya	8	+3	-12
=151	Afghanistan	3	0	0
=151	Iraq	3	-11	-8
=153	Syria	0	0	-3

Overall and category scores and ranks for 2020 are shown.

All countries are scored 0–100, where 100 = most favorable nuclear materials security conditions.

⁼ denotes tie in rank.



SABOTAGE: PROTECT FACILITIES

OVE	RALL SCORE				1. N	IUMBER OF SITES					ECURITY AND C	ONTRO		
			Chang	e since				Change	since				Chang	je since
Rank /	47 So	core / 100	2018	2016	Rank /	47 Scor	e / 100	2018	2016	Rank /	47 S	core / 100	2018	2016
1	Australia	92	+1	+11	=1	Algeria	100	0	0	1	United Kingdom	95	0	+11
2	Canada	90	0	+9	=1	Armenia	100	0	0	2	United States	88	0	+3
3	Finland	89	0	+4	=1	Australia	100	0	0	=3	Australia	87	0	+26
4	United Kingdom	88	+1	+7	=1	Bangladesh	100	0	0	=3	Canada	87	0	+10
=5	Germany	84	+3	+12	=1	Bulgaria	100	0	0	5	Finland	86	+3	+5
=5	Hungary	84	-1	+6	=1	Chile	100	0	0	6	Hungary	83	0	0
=7	Netherlands	83	+1	+8	=1	Egypt	100	0	0	7	Romania	80	0	0
=7	United States	83	0	+6	=1	Israel	100	0	0	8	China	79	0	+36
=9	Czech Republic	82	+1	+7	=1	Jordan	100	n/a	n/a	=9	Bulgaria	77	+16	+20
=9	Japan	82	+1	+6	=1	Mexico	100	0	0	=9	Germany	77	0	+10
=9	Romania	82	+1	+3	=1	Morocco	100	0	0	11	Czech Republic	74	0	+9
=9	Sweden	82	+1	+7	=1	Peru	100	0	0	12	Japan	73	0	+2
=9	Switzerland	82	+3	+10	=1	Poland	100	0	0	13	Belgium	72	+9	+11
=14	Norway	81	+3	+10	=1	Slovenia	100	0	0	=14	Netherlands	69	0	+5
=14	Slovenia	81	+2	+8	=1	United Arab Emirates	100	n/a	n/a	=14	Slovenia	69	+4	+6
16	Belgium	80	+3	+6	=1	Uzbekistan	100	0	0	=14	Switzerland	69	0	0
17	Poland	78	0	+6	=17	Argentina	80	0	0	17	Taiwan	68	+2	+4
=18	France	77	-1	+3	=17	Brazil	80	0	0	18	Russia	67	0	0
=18	South Korea	77	0	+7	=17	Czech Republic	80	0	0	=19	South Korea	66	0	+4
=18	United Arab Emirat	es 77	n/a	n/a	=17	Finland	80	0	0	=19	Ukraine	66	0	+7
21	Bulgaria	75	+8	+11	=17	Hungary	80	0	0	=21	Poland	65	+4	+4
=22	China	74	+1	+19	=17	Indonesia	80	0	0	=21	United Arab Emirat	es 65	n/a	n/a
=22	Spain	74	0	+8	=17	Iran	80	0	0	=23	Armenia	63	0	+8
24	Slovakia	73	+4	+7	=17	Kazakhstan	80	0	0	=23	Sweden	63	0	+2
=25	Indonesia	69	0	+7	=17	Netherlands	80	0	0	25	France	59	0	0
=25	Kazakhstan	69	+1	+13	=17	North Korea	80	0	0	=26	Pakistan	56	+15	+22
27	Argentina	68	-2	+6	=17	Norway	80	0	0	=26	Slovakia	56	+4	+4
28	Armenia	67	0	+6	=17	Pakistan	80	0	0	28	Spain	55	0	+6
29	Ukraine	65	0	+8	=17	Romania	80	0	0	=29	Indonesia	53	0	0
30	Russia	64	+1	+4	=17	Slovakia	80	0	0	=29	Kazakhstan	53	0	+10
31	Israel	61	-1	+5	=17	South Africa	80	0	0	31	India	52	0	+7
32	Chile	60	+2	+8	=32	Belgium	60	0	0	32	Norway	49	0	+4
33	Pakistan	58	+5	+12	=32	Canada	60	0	0	33	Jordan	46	n/a	n/a
34	Morocco	57	+1	+8	=32	India	60	0	0	=34	Argentina	45	0	0
35	South Africa	56	+1	0	=32	South Korea	60	0	0	=34	Peru	45	0	0
36	Uzbekistan	55	+2	+5	=32	Spain	60	0	0	36	Brazil	43	+7	+7
37	Mexico	54	+1	+11	=32	Sweden	60	0	0	37	Uzbekistan	41	0	0
=38	India	53	0	+7	=32	Switzerland	60	0	0	38	South Africa	40	0	0
=38	Jordan	53	n/a	n/a	=32	Taiwan	60	0	0	39	Israel	36	0	0
=38	Taiwan	53	0	+2	=32	Ukraine	60	0	0	40	Chile	35	0	0
41	Peru	52	+1	+4	=41	China	40	0	0	41	Algeria	32	0	+2
42	Brazil	47	0	+1	=41	Germany	40	0	0	=42	Iran	23	0	0
43	Bangladesh	45	+1	+8	=41	United Kingdom	40	0	0	=42	North Korea	23	0	0
44	Algeria	42	-2	+2	=44	France	20	0	0	44	Mexico	21	0	0
45	Egypt	40	-2	+5	=44	Japan	20	0	0	45	Egypt	19	0	0
46	Iran	21	0	+1	=44	Russia	20	0	0	46	Bangladesh	17	0	0
											~			

Overall and category scores and ranks for 2020 are shown. All countries are scored 0-100, where 100 = most favorable nuclear security conditions. = denotes tie in rank.



3. 0	GLOBAL NORMS					OOMESTIC COMM CAPACITY	MITMEN	TS AN	ID	5.	RISK ENVIRONMI	ENT		
			-	je since				-	e since				-	je since
Rank /		core / 100	2018	2016	Rank /		core / 100	2018	2016	Rank		ore / 100	2018	2016
1	France	97	0	+13	=1	Argentina	100	0	+16	=1	Norway	94	+2	+5
=2	Australia	94	+4	+13	=1	Australia	100	0	0	=1	Sweden	94	+5	+8
=2	Canada	94	0	+16	=1	Bulgaria	100	+11	+16	3	Switzerland	88	0	-3
=2	Japan	94 94	+3	+16	=1	Canada Czech Republic	100	0	+5 0	4 5	Australia	87	0	+3
=2	Mexico		+3	+23	=1	•	100 100				Canada	83 82	0	+1
=2	Poland Sweden	94 94	0		=1	Finland	100	0	0	6 =7	Finland	81	-2 +3	
=2	Ukraine	94	0	+16 +19	=1 =1	France	100	+11	0 +11	=7	Germany Netherlands	81	+3	+11
	United States					Germany				9		77		+/
=2 10	Belgium	94 93	-3 0	+10 +13	=1 =1	Hungary Indonesia	100 100	0	+16 +15	10	Slovenia Taiwan	76	+1 -2	+3
=11	Norway	91	0	+16	=1	Israel	100	0	+21	11	Japan	75	0	+5
=11	United Kingdom	91	0	+13	=1	Japan	100	0	0	12	Slovakia	73	+4	+5
13	Romania	90	+6	+15	=1	Kazakhstan	100	0	+21	13	United Kingdom	73	+5	+6
=14	Finland	88	-3	+10	=1	Netherlands	100	0	+10	=14	Belgium	71	+2	-3
=14	Germany	88	0	+19	=1	Norway	100	+11	+16	=14	United Arab Emirat		n/a	n/a
=14	South Korea	88	-3	+10	=1	Romania	100	0	0	=16	Czech Republic	69	+1	+1
17	Indonesia	86	+4	+21	=1	Russia	100	0	+10	=16	South Korea	69	+1	+9
=18	Hungary	85	-3	+10	=1	Slovakia	100	0	+11	=18	France	66	-6	0
=18	Kazakhstan	85	0	+14	=1	Slovenia	100	0	+11	=18	Hungary	66	0	-2
=18	Netherlands	85	0	+10	=1	Spain	100	0	+5	20	Spain	64	+2	+12
=18	Spain	85	0	+13	=1	Switzerland	100	+11	+16	=21	Chile	63	-1	-1
=22	Chile	84	0	+17	=1	United Kingdom	100	0	0	=21	United States	63	+4	+2
=22	China	84	0	+13	=1	United States	100	0	+11	23	Poland	61	-4	+2
=22	Czech Republic	84	0	+16	=24	Armenia	89	0	+5	24	Bulgaria	57	+1	+3
=22	Switzerland	84	+5	+30	=24	Belgium	89	0	0	=25	Argentina	55	-3	+2
26	United Arab Emirat		n/a	n/a	=24	China	89	0	+15	=25	Romania	55	-1	0
=27	India	81	0	+12	=24	Morocco	89	0	+15	27	South Africa	53	+4	+3
=27	Jordan	81	n/a	n/a	=24	Pakistan	89	0	+11	28	Israel	48	-1	-10
=29	Morocco	78	+4	+19	=24	Poland	89	0	+5	29	Brazil	47	-4	-2
=29	Slovenia	78	+3	+12	=24	South Korea	89	0	+5	=30	China	44	+4	+7
31	Argentina	76	-4	+11	=24	Sweden	89	0	+5	=30	Morocco	44	-3	-4
32	Armenia	74	-3	+10	=24	United Arab Emirat	tes 89	n/a	n/a	32	Jordan	40	n/a	n/a
33	Russia	64	+3	0	=24	Uzbekistan	89	0	+15	=33	Egypt	39	-5	-3
34	Slovakia	63	+6	+6	34	Bangladesh	84	0	+21	=33	India	39	+1	+6
35	Algeria	60	-4	0	=35	South Africa	78	0	0	=33	Mexico	39	+1	+3
=36	Brazil	59	-2	-3	=35	Ukraine	78	0	+5	36	Peru	37	-4	-1
=36	Bulgaria	59	+4	+4	37	Egypt	67	0	+15	=37	Indonesia	36	-5	-3
=36	Israel	59	-4	+10	=38	Chile	58	+11	+16	=37	Kazakhstan	36	+6	+12
39	Pakistan	58	0	+9	=38	Mexico	58	0	+21	39	North Korea	34	+5	+8
40	Peru	56	-3	+3	=38	Peru	58	+11	+16	40	Uzbekistan	32	+3	+2
41	South Africa	51	0	-3	41	Taiwan	42	0	0	41	Algeria	31	-2	-2
42	Bangladesh	50	+4	+8	=42	Algeria	36	0	+10	=42	Armenia	29	+1	+1
43	Uzbekistan	47	+3	+3	=42	Brazil	36	0	+5	=42	Russia	29	+3	+8
44	Egypt	29	-4	+9	=42	India	36	0	+5	44	Bangladesh	21	-2	+5
45	Taiwan	22	-3	-3	=42	Jordan	36	n/a	n/a	45	Iran	18	-1	-13
46	Iran	14	0	+4	46	Iran	15	0	+10	46	Pakistan	16	0	+2
47	North Korea	0	0	0	47	North Korea	0	0	0	47	Ukraine	14	-2	0

Overall and category scores and ranks for 2020 are shown. All countries are scored 0–100, where 100 = most favorable nuclear security conditions. = denotes tie in rank.



NATIONAL MEA	ASURES		
		No or no data available	Yes
Regulatory Oversight	Does the country maintain a radioactive source regulatory oversight body?	19%	81%
Security Measures	Are there regulations that require security measures to be in place to protect radioactive sources?	44%	56%
State Registry	Does the state maintain a registry of radioactive sources?	64%	36%
Inspection Authority	Does the state have authority to inspect facilities with radioactive sources?	49%	51%
Export Licenses	Are there licensing requirements for exporting IAEA Category 1 sources?	55%	45%
GLOBAL NORMS	3		
		No	Yes
IAEA Code of Conduct Status	Has the state made a political commitment and notified the IAEA of their intent to abide by the Code of Conduct on the Safety and Security of Radioactive Sources?	22%	78%
	Has the state notified the IAEA of their intent to abide by the Guidance on the Import and Export of Radioactive Sources?	32%	68%
	Has the state nominated a Point of Contact to facilitate imports and exports of radioactive source material?	19%	81%
	Has the state made available their responses to the IAEA Importing and Exporting States Questionnaire?	40%	60%
	Has the state notified the IAEA of their commitment to implement the Guidance on the Management of Disused Radioactive Sources?	79%	21%
International Participation	Does the state participate in the Global Initiative to Combat Nuclear Terrorism (GICNT)?	51%	49%
	Did the state send an official delegation to the 2018 International Conference on the Security of Radioactive Material?	59%	41%
International Conventions	Is the country a state party to the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)?	39%	61%
	Is the country a state party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management?	54%	46%
	Is the country a state party to the Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency?	40%	60%



		No	Yes				
Intent	Has the state subscribed to INFCIRC/910?	82%	18%				
		No or no data available	Yes				
Implementation	Has the country publicly declared a regulatory requirement, policy, or commitment to implementing alternative technology to replace high-activity radioactive sources?	94%	6%				_
		No data available	Frequent power outages (80th-99th percentile)	60th-79th percentile	40th-59th percentile	20th-39th percentile	Infrequent power outages (0-19th percentile)
Capacity	What is the average percentage of businesses experiencing power outages each month?	26%	15%	15%	15%	14%	15%
		No data available	Few people with degrees (0-19th percentile)	20th-39th percentile	40th-59th percentile	60th-79th percentile	Many people with degrees (80th-99th percentile)
	What percentage of the population over 25 holds a tertiary degree or higher?	39%	13%	12%	13%	12%	13%
RISK ENVIRONM	IENT						
		No data available	Very high	High	Moderate	Low	Very low
Political Stability	What is the risk of significant social unrest during the next two years?	4%	8%	24%	39%	19%	5%
		No data available	Not clear, established, or accepted	Two of the three criteria are absent	One of the three criteria is absent	Clear, established, and accepted	Very clear, established, and accepted
	How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another?	5%	16%	23%	18%	22%	15%
		No data available	Very high	High	Moderate	Low	No threat
	Is there a risk that international disputes/ tensions will negatively affect the polity during the next two years?	5%	11%	19%	32%	30%	3%

RADIOLOGICAL (cont'd)

		No data available	Territorial conflict; opposition has effective control over a region or regions	Sporadic and incursive conflict	Incursive conflict; government remains in control, but opposition engages in frequent armed incursions	Sporadic conflict; government control is firm, but opposition engages in isolated incidents of violence	No armed conflict exists
Political Stability	Is this country presently subject to armed conflict, or is there at least a moderate risk of such conflict during the next two years?	5%	6%	8%	10%	30%	42%
		No data available	Very high	High	Moderate	Low	Very low
	Are violent demonstrations or violent civil/labor unrest likely to occur during the next two years?	5%	7%	20%	28%	33%	7%
		No data available	Very low	Low	Moderate	High	Very high
	How effective is the country's political system in formulating and executing policy?	54%	2%	13%	19%	11%	2%
	What is the quality of the country's bureaucracy and its ability to carry out government policy?	5%	18%	38%	26%	9%	5%
		No data available	Very high	High	Moderate	Low	Very low
Pervasiveness of Corruption	How pervasive is corruption among public officials?	5%	23%	30%	22%	12%	10%
		No data available	Very high	High	Moderate	Low	Very low
Illicit Activities by Non-State Actors	How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption to business operations?	3%	6%	6%	24%	39%	21%
	How likely is organized crime to be a problem for government and/or business?	0%	10%	19%	31%	32%	8%
	How many firearms were seized during the interdiction of illicit weapons trafficking?	51%	10%	10%	10%	10%	10%



About the Nuclear Security Index

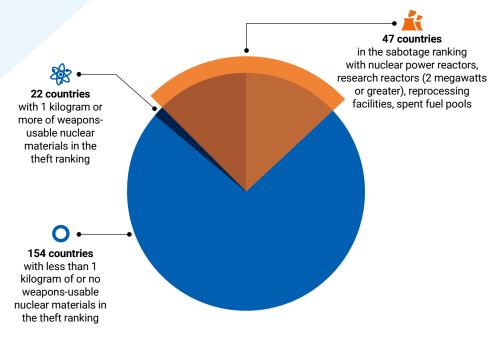
The NTI Index is a groundbreaking assessment of nuclear security conditions in countries around the world. It promotes actions to strengthen nuclear security and build confidence, and it highlights progress and trends over time. Published biennially since 2012, the NTI Index includes two theft rankings and one sabotage ranking:

- **Theft: Secure Materials**—A ranking of 22 countries with 1 kilogram or more of weaponsusable nuclear materials—highly enriched uranium (HEU) and separated plutonium—to assess actions to secure materials against theft
- **Theft: Support Global Efforts**—A ranking of 153 countries and Taiwan¹ with less than 1 kilogram of or no weapons-usable nuclear materials to assess actions to support global nuclear security efforts
- > Sabotage: Protect Facilities—A ranking of 46 countries and Taiwan with or without weapons-usable nuclear materials, but which have nuclear facilities such as nuclear power reactors and research reactors, to assess actions to protect nuclear facilities against sabotage

The NTI Index ...
promotes actions to
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trends over time.

Taiwan is included in the theft ranking for countries without nuclear materials and the sabotage ranking. Given Taiwan's status, "About the Nuclear Security Index" describes the number of countries in the NTI Index as "153 countries and Taiwan" and "46 countries and Taiwan" in the theft and sabotage rankings, respectively. Further references to numbers of countries in the report and website include Taiwan. For more on how Taiwan is treated in the Index, see the full EIU methodology at www.ntiindex.org.

Figure 1: Countries in the NTI Index



WHY AN INDEX?

Nuclear materials that could be used to build a nuclear bomb are located in 22 countries around the world. And 154 other countries could serve as safe havens, staging grounds, or transit routes for illicit nuclear activities. Nuclear facilities that could be at risk of sabotage, leading to release of radioactive materials, exist in 47 countries.² Terrorist groups interested in committing acts of nuclear terrorism continue to pose risks around the world, and their capabilities continue to evolve. Constant vigilance by nuclear operators, governments, and international organizations will be needed to keep pace with evolving threats.

The international community has seen significant progress on nuclear security over the past two decades, including as a result of the Nuclear Security Summits. Since 2012, the NTI Index has identified significant gaps and challenges in global nuclear security and demonstrated that continued prioritization of nuclear security at national and international levels is critical for preventing potentially catastrophic outcomes.

The NTI Index was developed to promote country actions to strengthen nuclear security, track progress, identify nuclear security priorities, and build accountability. Keeping track of nuclear security is even more important now that the summits have ended. With the first three editions of the NTI Index timed for release before the 2012, 2014, and 2016 summits, the NTI Index was able to track progress, including actions taken to fulfill summit commitments, in an era when global leadership and political attention on nuclear security were at their highest levels.

In the absence of the driving force of the summits, the NTI Index can serve a much-needed forcing function for continued progress by highlighting evolutions in best practices and priorities, raising red flags where gaps and challenges remain unaddressed, and promoting action and accountability. The NTI Index also provides an assessment of the health, sustainability, and comprehensiveness of the global nuclear security architecture, including the International Atomic Energy Agency (IAEA) and international treaties.

² Belarus is preparing to launch its new nuclear power reactor now that the initial fuel load has been delivered. The fuel delivery was completed after research for the 2020 edition of the NTI Index closed and therefore was not included in this year's sabotage ranking. It will be added to the sabotage ranking in the next edition of the NTI Index.

DEVELOPMENT OF THE INDEX

The Economist Intelligence Unit (EIU) conducts all research using publicly available information, such as national laws and regulations, treaty databases, and other primary and secondary sources. The NTI Index does not conduct reviews of on-the-ground security but rather assesses national-level actions, such as the comprehensiveness of a country's regulatory framework, its commitment to global norms, and its participation in global initiatives.

Countries with weapons-usable nuclear materials and/ or nuclear facilities have an opportunity to review and comment on the NTI Index data before the Index is published so that it is as accurate and up-to-date as possible. This data confirmation process increases transparency and provides a foundation for productive engagement with governments on the Index results.

The NTI Index is designed to represent international perspectives about nuclear security priorities. To help achieve this, decisions about the elements of the NTI Index frameworks and how those elements are prioritized through weighting are made with input from an international panel of experts.

THE FRAMEWORKS

The frameworks for the three rankings differ slightly from each other but, in general, include a variety of factors that impact a country's nuclear security conditions:

- Quantities and Sites: This category captures the quantity of nuclear materials, the number of sites, and the frequency of transport in a particular country, all related to the risk that materials could be stolen. In addition, it includes a leading indicator as to whether the country is increasing or decreasing its overall material quantities. This category is not included in the theft ranking for countries without materials. The sabotage ranking looks at only the number of sites, not quantities of material.
- Security and Control Measures: This category encompasses the core activities directly related to protection and accounting of nuclear materials. It

includes indicators of physical protection, control and accounting, insider threat prevention, security during transport, response capabilities, cybersecurity, and security culture. This category is not included in the theft ranking for countries without materials.

- Global Norms: This category includes actions that contribute to the establishment of global norms for nuclear materials security. It includes important international legal commitments, voluntary participation in a number of global initiatives, international assurances, and nuclear security information circulars (INFCIRCs).
- Domestic Commitments and Capacity: This category includes actions that indicate how well a country has implemented its international commitments and a country's capacity to do so. This category includes the extent of United Nations Security Council Resolution 1540 implementation, the status of legislation to implement the amended Convention on the Physical Protection of Nuclear Material (CPPNM), and the presence of an independent regulatory agency.
- Risk Environment: This category includes contextual factors, such as political stability, effective governance, corruption, and illicit activities by non-state actors that can affect a country's ability to implement effective security and regulatory oversight.

Countries are scored on a scale of 0 to 100, where 100 is the top score. Weights are applied to categories and indicators to reflect relative priorities. Overall scores are calculated on the basis of the weighted sum of category scores. Category scores are the weighted sum of the indicator scores within that category. Indicator scores are the sum of the subindicator scores normalized on a scale of 0 to 100. A low score is between 0 and 33, a medium score is between 34 and 66, and a high score is between 67 and 100.

The NTI Index assesses the risk of theft of weaponsusable nuclear materials and the risk of sabotage of nuclear facilities. It does not assess a country's actions related to smuggling and illicit trafficking, nonproliferation, or disarmament.

Figure 2: How the Theft Ranking Measures Nuclear Security Conditions



The theft ranking assesses countries with weapons-usable nuclear materials based on these five categories. Countries without materials are assessed on three categories.

KEY



Countries with weapons-usable nuclear materials

Countries without weapons-usable 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.

Figure 3: How the Sabotage Ranking Measures Nuclear Security Conditions



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.



Radioactive sources in teletherapy devices could be stolen and used to build dirty bombs.

IMPORTANT NEW ELEMENTS IN 2020

For the 2020 edition, NTI took a fresh approach to the NTI Index to account for progress on nuclear security and new tools available to address risks. Among the key changes across all three rankings are the following:

- In areas where most countries excelled, questions were adjusted to raise the bar to promote continuous improvement.
- New indicators were added to the rankings for countries with nuclear materials and/or nuclear facilities to reflect newer priorities, such as Security Culture. Existing high-priority indicators, such as Insider Threat Prevention and Cybersecurity, were strengthened by adding new subindicators.
- Credit is given to countries that use new tools for nuclear security cooperation and confidence building. For example, those actions include subscribing to nuclear security INFCIRCs, publishing reports from IAEA International Physical Protection Advisory Service (IPPAS) missions, and publicly reporting on nuclear security progress.
- Key elements of the international architecture, such as the IAEA and the amended CPPNM, are given higher prominence by adding new subindicators. Those subindicators include (a) participation in IAEA activities such as the Incident and Trafficking Database and the Nuclear Security Guidance

Committee, (b) representation at the IAEA International Conference on Nuclear Security at the ministerial level, and (c) submission of information to the IAEA on laws and regulations as required by the amended CPPNM.

Also new in 2020 is a first-of-its-kind Radioactive Source Security Assessment, released in conjunction with the NTI Index. It assesses national measures in 176 countries to prevent a dirty bomb.

ADDITIONAL RESOURCES

The NTI Index website (www.ntiindex.org) has several resources for users depending on their interests. This report is available for download, along with a more detailed EIU methodology. All data are available for download in interactive data models, which include underlying scores as well as tools to better understand the data.

Detailed country profiles are also available in the interactive data models and on the website to offer a deeper dive into a country's performance. The website includes an interactive tool that simulates a country's scores if it were to take recommended actions.



Radioactive Source Security Assessment

There is no existing global assessment of the security around radioactive sources. To fill this gap, this report includes a separate, first-of-its-kind Radioactive Source Security Assessment of national policies, commitments, and actions to secure radioactive sources and prevent a dirty bomb in 176 countries. This new assessment also uses publicly available information, but it does not score or rank countries.

THE RISK OF A DIRTY BOMB

Thousands of radioactive sources used in countries around the world for medical, industrial, agricultural, research, or other purposes could be stolen and used in a dirty bomb. Not only are these sources widely used, but they are housed in locations that lack high levels of security, such as hospitals and universities and other industrial settings. Because a dirty bomb is relatively easy to construct, its use is more likely than a nuclear weapon. It would not result in large numbers of deaths or injuries, but the consequences would still be serious: large-scale economic costs stemming from cleanup and inability to use the affected area for years, environmental damage, and significant psychological consequences.

Thousands of radioactive sources used in countries around the world for medical, industrial, agricultural, research, or other purposes could be stolen and used in a dirty bomb.

ABOUT THE RADIOACTIVE SOURCE SECURITY ASSESSMENT

The Radioactive Source Security Assessment aims to do the following:

- Build greater awareness of the importance of securing radioactive sources.
- Catalyze a dialogue about priorities for strengthening radioactive source security.
- Promote progress in securing radioactive sources and in reducing the quantities of the most dangerous radioactive sources and applications, including through the use of alternative technologies.
- Highlight leading practices in radiological security, including supporting global norms.
- Provide a unique resource that sets a baseline understanding of the status of global radiological security.
- Promote reporting, information sharing, and benchmarking of national and international commitments and actions on radiological security.

Unlike the Nuclear Security Index, the new Radioactive Source Security Assessment does not score or rank countries. The methodology also does not involve indepth country research. Instead, the assessment relies on existing databases and other sources of consolidated information. In future years, NTI may expand the assessment to include scores, ranks, and more in-depth research.

A separate panel of international radiological security experts advised the development of the Radioactive Source Security Assessment.

THE FRAMEWORK

The Radioactive Source Security Assessment includes four categories:

- > National Measures: This category assesses a country's domestic policies, commitments, and actions for managing and securing radioactive sources. It asks (a) whether countries have an independent regulatory body to provide oversight over radioactive sources; (b) whether a country's domestic laws and regulations explicitly require security (not just safety) measures to be in place to protect radioactive sources; (c) whether the country maintains a national registry of radioactive sources, a key step in tracking and accounting for sources at the national level; (d) whether the country has authority to inspect facilities with radioactive sources; and (e) whether there are licensing requirements for the export of International Atomic Energy Agency (IAEA) Category 1 radioactive sources.3
- Slobal Norms: This category assesses a country's international commitments and support for global norms around radioactive sources. It examines each country's commitments in the context of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources, including the Supplemental Guidance on the Import and Export of Radioactive Sources and Supplemental Guidance on the Management of Disused Radioactive Sources. It also asks whether a country participates in international organizations or conferences and is a party to key international legal agreements related to radiological security.
- Alternative Technologies: This category assesses a country's commitment to supporting the development and implementation of alternative technology to highactivity radioactive sources, as well as each country's capacity to sustainably implement alternative technologies to high-activity radioactive sources.
- > Risk Environment: Similar to the NTI Index, the Radioactive Source Security Assessment includes indicators of a country's risk environment.

³ Category 1 sources are radioactive materials that, according to the IAEA, "would be likely to cause permanent injury to a person who handled it, or were otherwise in contact with it, for more than a few minutes." IAEA Category 1 sources are as follows: radioisotope thermoelectric generators (RTGs); irradiators; teletherapy sources; and fixed, multibeam teletherapy (gamma knife) sources. See www-pub.iaea.org/MTCD/publications/PDF/Pub1227_web.pdf.

Framework for the Radioactive Source Security Assessment

A. O National Measures Global Norms A.1 Regulatory Oversight B.1 IAEA Code of Conduct Status A.2 Security Measures **B.2** International Participation A.3 State Registry **B.3** International Conventions A.4 Inspection Authority A.5 Export Licenses RADIOLOGICAL D. A Risk Environment **#** Commitment and Capacity to Adopt Alternative D.1 Political Stability **Technologies** D.2 Effective Governance C.1 Intent D.3 Pervasiveness of Corruption C.2 Implementation D.4 Illicit Activities by Non-State Actors C.3 Capacity

See the full EIU methodology at www.ntiindex.org for more information on the methodology for the Radioactive Source Security Assessment.

About NTI and the EIU

NUCLEAR THREAT INITIATIVE

NTI is a nonpartisan, non-profit global security organization focused on reducing nuclear and biological threats imperiling humanity. Founded in 2001 by former U.S. Senator Sam Nunn and philanthropist Ted Turner, who continue to serve as co-chairs, NTI is guided by a prestigious international board of directors. Ernest J. Moniz serves as co-chair and chief executive officer; Joan Rohlfing is president and chief operating officer.

www.nti.org

ECONOMIST INTELLIGENCE UNIT

The Economist Intelligence Unit (EIU) is the research arm of The Economist Group, publisher of *The Economist*. As the world's leading provider of country intelligence, the EIU helps governments, institutions, and businesses by providing timely, reliable, and impartial analysis of economic and development strategies. Through our public policy practice, we provide evidence-based research for policymakers and stakeholders seeking measurable outcomes in fields ranging from technology and finance to energy and health. We conduct research through interviews, regulatory analysis, quantitative modeling, and forecasting, and we display the results through interactive data visualization tools. Through a global network of more than 900 analysts and contributors, the EIU continuously assesses and forecasts political, economic, and business conditions in more than 200 countries.

www.eiu.com

Explore the NTI Nuclear Security Index and the Radioactive Source Security Assessment at www.ntiindex.org





- See profiles for all countries in the NTI Index, including areas for improvement
- > Explore how different actions would improve a country's score
- > Compare country scores, ranks, and trends
- Review the full methodology, including detailed descriptions of the NTI Index indicators
- Download Excel spreadsheets to analyze all NTI Index data
- > Review the Radioactive Source Security Assessment—new in 2020!

