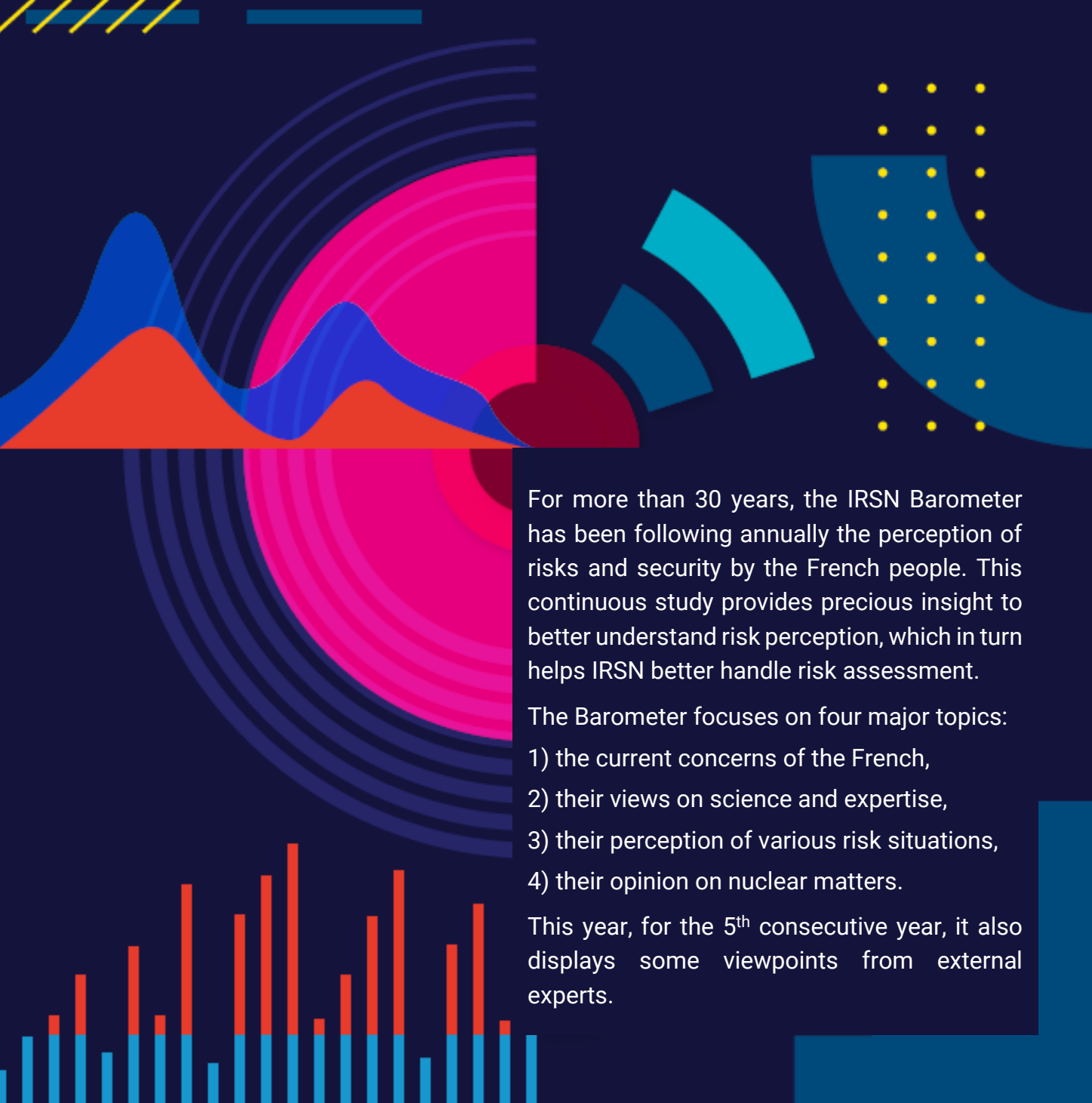




BAROMETER 2021

THE PERCEPTION OF RISKS AND SECURITY
IN FRANCE

<http://barometre.irsn.fr>



For more than 30 years, the IRSN Barometer has been following annually the perception of risks and security by the French people. This continuous study provides precious insight to better understand risk perception, which in turn helps IRSN better handle risk assessment.

The Barometer focuses on four major topics:

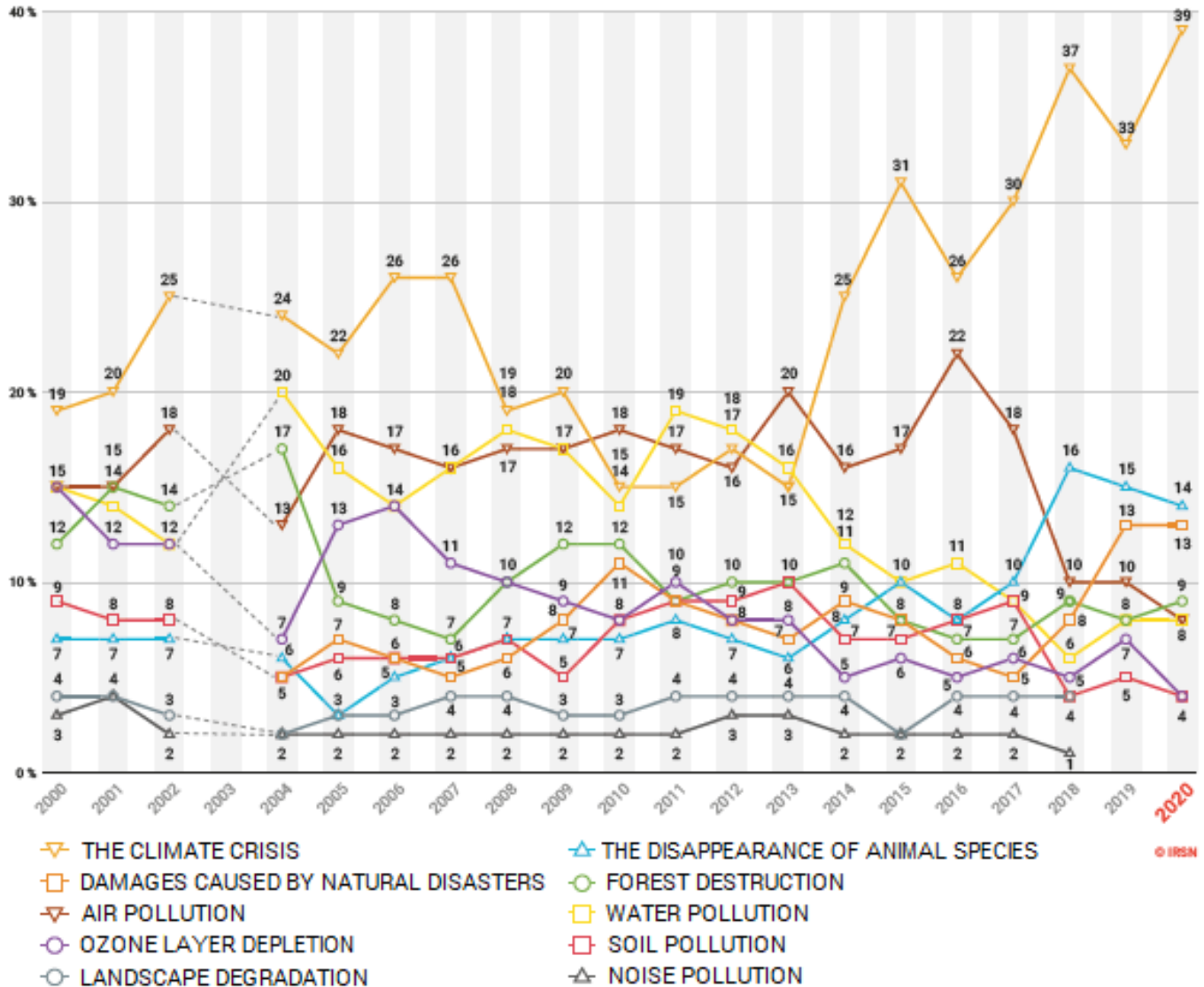
- 1) the current concerns of the French,
- 2) their views on science and expertise,
- 3) their perception of various risk situations,
- 4) their opinion on nuclear matters.

This year, for the 5th consecutive year, it also displays some viewpoints from external experts.

Methodological note: up to this year, the survey had been carried out by face-to-face interviews. In November 2020, it was conducted over the internet for the first time. A face-to-face survey was carried out simultaneously to monitor the effects of this change in methodology. The effects are mostly negligible, except for specific questions which have been singled out. See all results: <http://barometre.irsn.fr>.

In 2020, in the context of the covid-19 pandemic, the **main concern** of the French is "health" (26%), newly introduced this year. It is ahead of "terrorism" (19%) and "the climate crisis" (15%). "Extreme poverty and exclusion", which was top of the list last year, dropped from 20% to 13%.

Part 1 – Question 2: "Among the following environmental issues, which one do you find most concerning?"
Evolution from 2000 to 2020



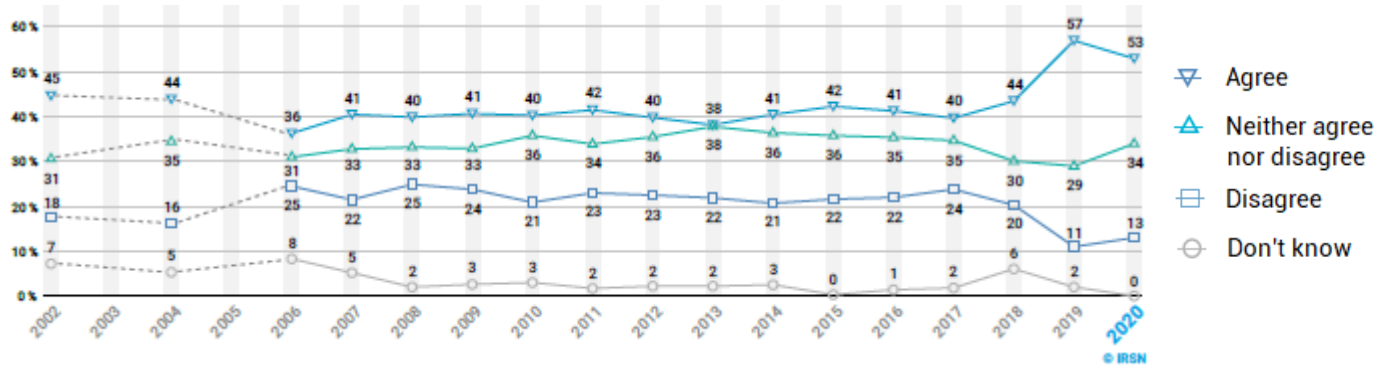
Regarding the **main environmental concern**, "the climate crisis" remains the top priority. With 39% of responses, it widens the gap with the next two issues, identical to last year's: "the disappearance of animal species" (14%) and "damages due to natural disasters" (13%).

As regards the perception of the **catastrophic potential of industrial activities**, nuclear power plants remain in 2020 the installations that the French believe most likely to cause a serious accident in France (33%), ahead of radioactive waste disposals (21%) and chemical facilities (19%). In the context of the covid-19 pandemic, "virus research laboratories" see their score rise from 7% to 13%. Questioned about the **catastrophic events they view as most frightening**, the Chernobyl and Fukushima accidents remain on top, with respectively 46% and 23%

of the responses, ahead of the 2004 Indian Ocean tsunami (13%) and the explosion of the AZF chemical plant in Toulouse, France, in 2001 (8%).

The **image of science and experts** remains largely positive, even if it has been dented by the pandemic. In 2020, 61% of French people declare trusting scientific institutions and 50% have a good or very good opinion of scientific experts, while 11% have a bad or very bad opinion. **The perception of science and technology** confirms its historically high level reached last year. In 2020, the proposition "the development of science and technology generates more benefits than negative effects" is supported by 53%. As for **the top quality expected** from experts, "competence" stays first (34%), ahead of "honesty" (26%) and "independence" (20%).

Part 2 – Question 1: “The development of science and technology generates more benefits than negative effects”



The French show a strong attachment to **having decision-makers rely on experts**. Eighty-two per cent of them think that the creation of the “covid-19 scientific council” by the Government is a good thing and 57 % think that decision-makers do not take enough account of the opinion of scientific experts.

Broad access to quality information still matters a great deal: expert bodies making their reports public is deemed “a priority” for 71 %. And 69 % believe that the same bodies should commit to answering all citizens' questions.

This desire for transparency is complemented by a **demand for quality information**: 79 % of the French consider that “we must be certain of the opinions of scientific experts before informing the public”. This score is well above the historical average (71 %). In a year marked by scientific controversies, the French attach great importance to the reliability of information.

This year, the Barometer continues to follow around **30 risk situations**. For each of them, the French were questioned on two dimensions: the perceived level of risk and the trust in the authorities to handle the situation.

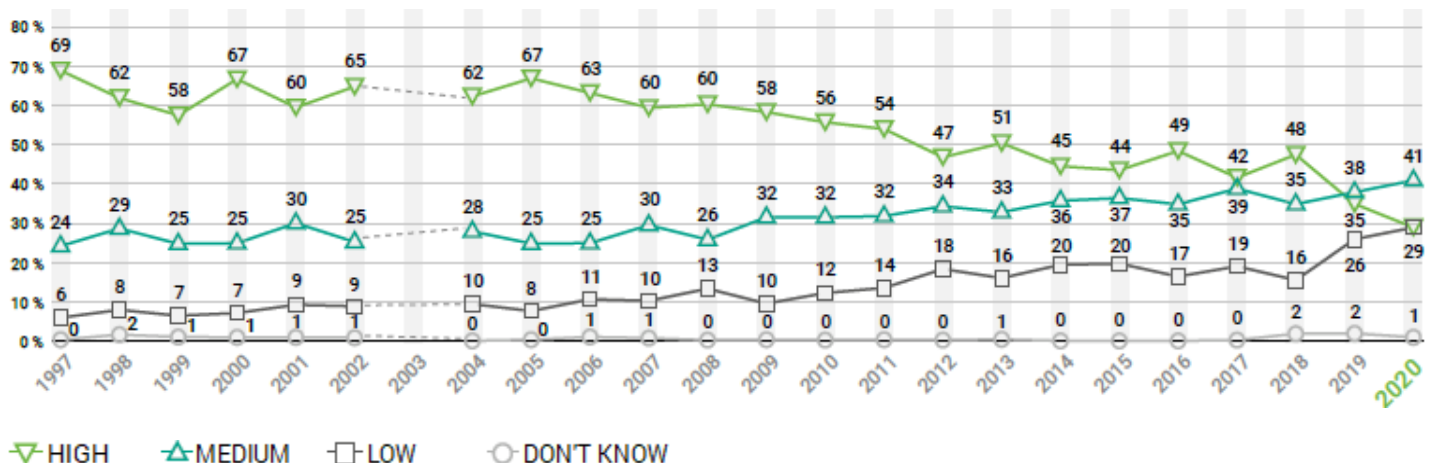
In terms of **perceived level of risk**, the top two situations remain as last year “terrorism” (76 % judge the risk “high”) and “cancer” (73 %). **Pandemics** enter the Barometer in third place with 71 %. Pesticides, third last year, follow with a still high score (67 %). We observe a sustained growth in the perceived risk associated with “**endocrine disruptors**”: the total “high” risk level rose from 33 % in 2014 to 52 % in 2020. The opposite is true for “AIDS”, which has fallen from 69 %

in 1997 to a historic low of 29 % this year following a steady decline. Regarding **nuclear and radiological risks**, “Nuclear power plants” (41 %) and “radioactive waste” (48 %) stay in the middle. This year, both have high “low” and “close to zero” responses: historic peak for waste (23 %) and second historic value for NPPs (26 %). “Medical X-rays” (20 %, “high” responses), “radon” (20 %) and “radiation therapy accidents” (21 %) have, as is customary, the lowest level of perceived risk.

The trust level the French have **in the authorities** to protect them from risk situations decreases overall. The change in methodology (web survey) influenced the responses to this question, as we confirmed with our control survey. The risk for which that the French have the most confidence in the authorities is **AIDS** (41 %). Conversely, and for the first time, **endocrine disruptors** have the lowest level of confidence (16 %), before pesticides (17 %) and nanoparticles (17 %). The level of confidence falls again for noise pollution (21 %), which has moved from 8th to 23rd position in two years. The relative confidence in **nuclear power plants** and **radioactive waste** has increased. The first gains seven places to reach 10th position among 31 this year. The second has moved from 33rd to 21st in two years. The most highly educated tend to trust the authorities more easily, and, for nuclear risks this is particularly true for those with a scientific background.

This year, the Barometer looks at **the French people's opinion of nuclear energy** by asking questions from previous editions which had not been asked for years.

Part 3 – Question 1: “For AIDS, do you consider that the risks for the French in general are ...?”



They appear quite divided. A majority of them have a **retrospective positive view of the nuclear power**: 53 % say that "the construction of the plants was a good thing", 18 % disagree. But they are rather **opposed to the construction of NPPs** (45 % v. 30 % in favour). They are split on the question of their shutdown: 38 % are in favor but 30% are opposed and 32 % neither for nor against.

The two main **arguments in favour** of nuclear power remain energy independence (33 %) and "the low cost of electricity" (24 %). In contrast, the main **argument against** this year is "the production of nuclear waste" (36 %) for the first time since 2009, ahead of "the risk of accident" (27 %) which is usually first.

Ten years after **the Fukushima accident**, the Barometer looks back at how the French consider the Fukushima and Chernobyl accidents. Twenty-nine per cent of them now say that "After the accident, the authorities gave the public complete and correct information", compared with 20 % in 2011 and 2015. The perception of the authorities' role has therefore improved. At the same time, 52 % think that "The truth about the consequences of the Fukushima accident is being hidden", a score that is stable compared to 2011. The equivalent figure is 73 % for the Chernobyl accident.

A focus on nuclear waste confirms that the French know

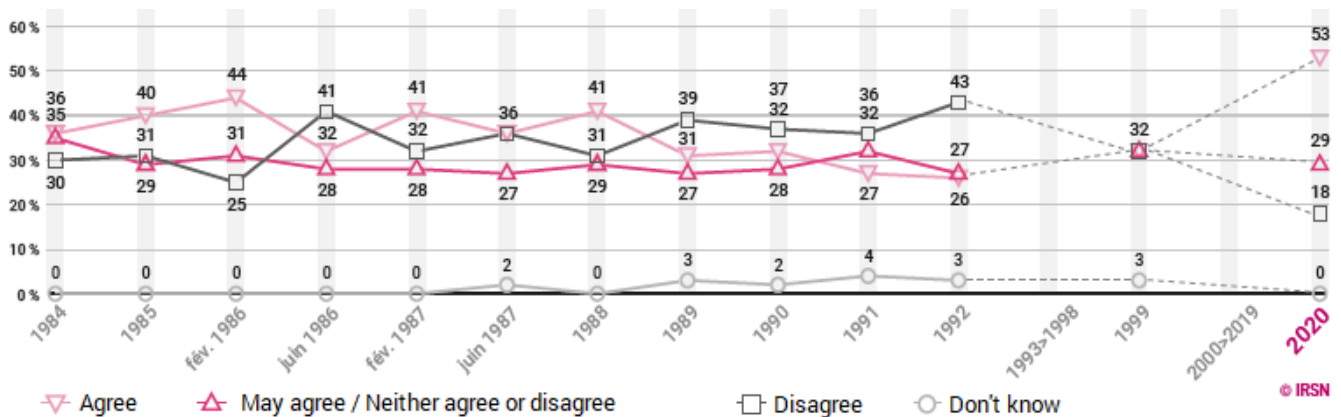
little about how it is being managed. Twenty-seven percent think that very low-level radioactive waste is sent to other countries and 10 % that it is dumped at sea. Furthermore, 39 % believe that it is not "possible to store nuclear waste safely today".

In 2020, 62 % of French people think that a **Fukushima-type accident could happen in France**, but 52 % think it is unlikely. Moreover, 57 % believe that "all precautions are taken to ensure a very high level of safety in French nuclear plants", while 17 % disagree.

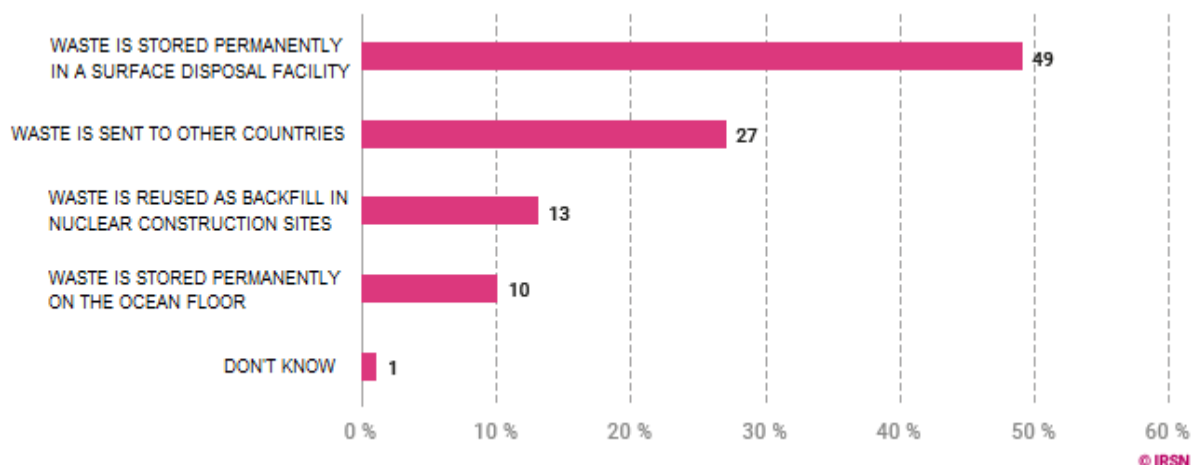
The demand for a **high level of nuclear safety** is confirmed by 86 % of French people who say that "operators of nuclear sites must protect their facilities from all risks, even those deemed highly unlikely" and 77 % consider it is a priority to "strengthen inspections of facilities by the competent authorities".

Finally, concerning the competence and credibility of nuclear actors, the CNRS (French public research organization), ASN (French nuclear safety authority) and IRSN are once again perceived as both the most competent and the most credible. Scientific bodies, experts and operators are perceived as competent and credible. The actors perceived as less credible and less competent remain the trade unions, journalists and political actors.

Part 4 – Question 9: "Here are a number of sentences regarding nuclear energy. Please indicate whether you agree or disagree: The construction of nuclear power plants was a good thing".



Question 10: "What do you think is currently being done with the very low-level radioactive waste produced in France?"



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