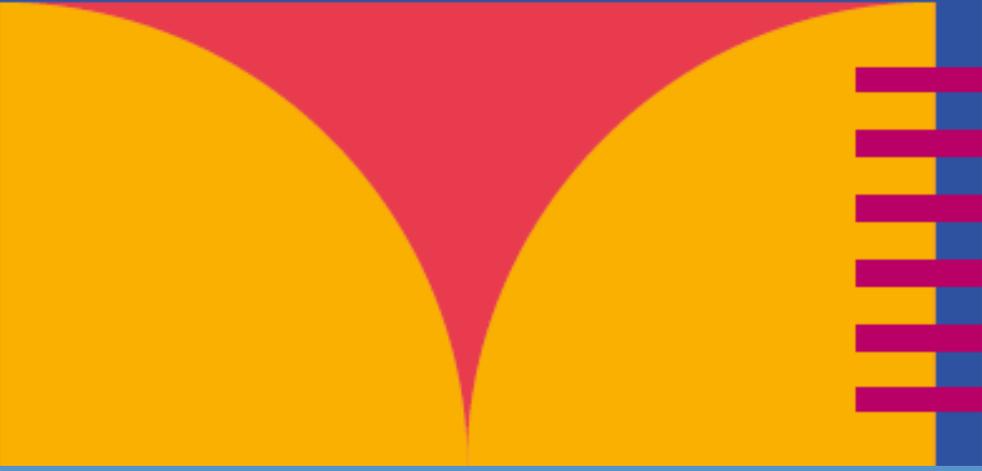
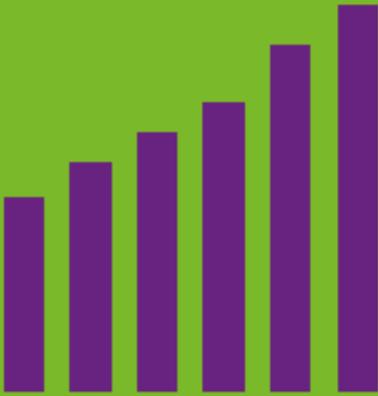




IRSN BAROMETER 2020

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.



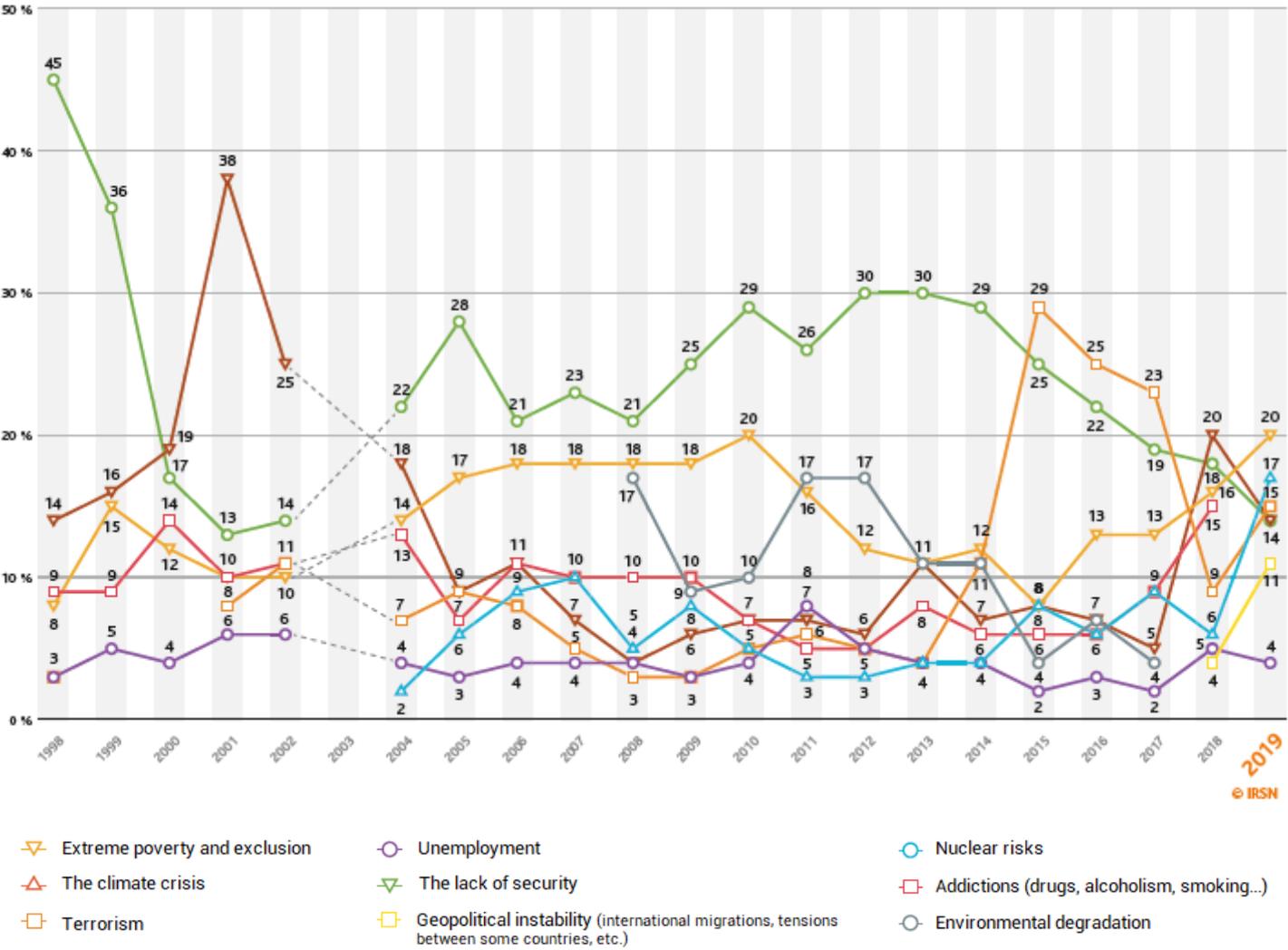
This year, for the 4th consecutive year, it also displays four viewpoints from external experts.

Warning - The 2020 IRSN Barometer survey took place from November 18 to December 3, 2019, which was before the start of the covid-19 pandemic. Therefore, the following results reflect the opinions of the French people before this crisis.

The 2020 IRSN Barometer has been produced with the same methodology as the previous editions. A face-to-face survey was conducted amongst a representative sample of about

1,000 French people. The questionnaire evolved only marginally, so as to take into account recent developments without compromising the continuity of the data set.

Part 1 - Question 1 : "In France, among the following Issues, which one is the most concerning for you?"
 Evolution of the results from 1998 to 2019

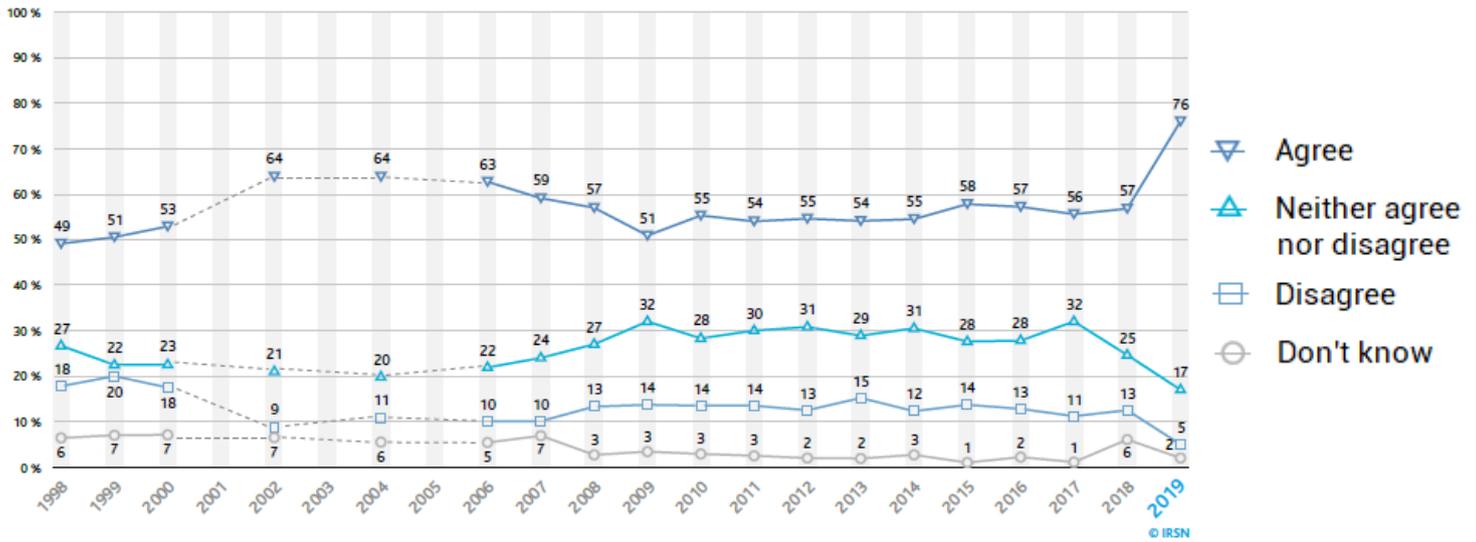


The main concerns of the French have once again undergone significant changes in 2019. "Extreme poverty and exclusion" is now at the top of the list, ahead of "the climate crisis" and terrorism. In 2018, it was third behind "the lack of security" and unemployment. Environmental concerns, now grouped in a single response (instead of two previously), are in second place, a sign of their growing significance for the French. "The lack of security", which was in the lead last year, drops to 5th and loses 6 points. "The geopolitical instability" rises to 11 %, to be compared with the 4 % recorded in the previous edition, as it entered the Barometer.

Regarding the main environmental concern, "the climate crisis" remains clearly on top, gathering about a third of the responses (- 4 points since 2018 but + 18 points since 2013). "The disappearance of animal species" (15 %) stays second. Third place goes this year to "damages due to natural disasters", up from 5th last year (13 %, + 5 points). The survey was conducted during a flood and mudslide episode in south-

eastern France. Concerning the catastrophic potential of industrial facilities, the Barometer does not record any "Lubrizon effect", which could have been expected following the fire at the Lubrizon chemical plant in Rouen on September 26, 2019. Chemical installations remain stable (18 %) and take third place behind nuclear power plants (33 %) and radioactive waste disposals (20 %). The French show a strong confidence in science and expertise this year again. In response to a new question, more than 70 % say they trust scientific institutions. Plus, 65 % have a good or very good opinion of scientific experts (+ 7 points) and only 5 % have a bad or very bad opinion of them. As for the qualities expected from said experts, "competence" is first: the French massively label it as important (91 %), before "honesty" (87 %). Finally, a large majority (76 %) of French people support a wider recourse to experts by political decision-makers.

Part 2 - Question 5 : "Political decision-makers do not sufficiently turn to experts"



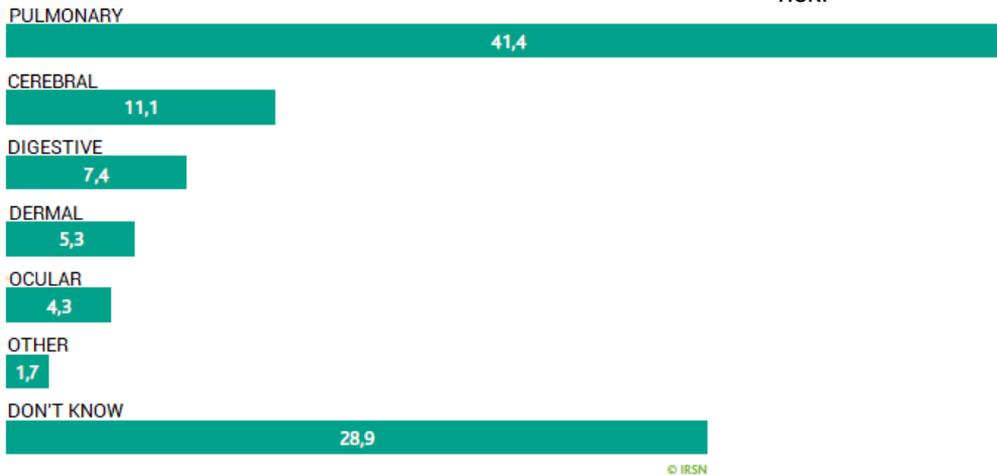
Broad access to quality information still matters a great deal: expert bodies making their reports public is deemed "a priority" for 78 %. And 74 % believe that the same bodies should commit to answering all citizens' questions.

Pluralistic bodies (composed of operators, experts, elected officials, citizens...) are viewed as useful by 89 % of French people. However, the willingness to get personally involved by participating to public meetings continues to decline. It has fallen from 59 % to 44 % between 2004 and 2019. The reasons given by those who are reluctant are primarily "a lack of time" and "the fact that other people are more competent (...)".

This year, the Barometer continues to follow more than **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.

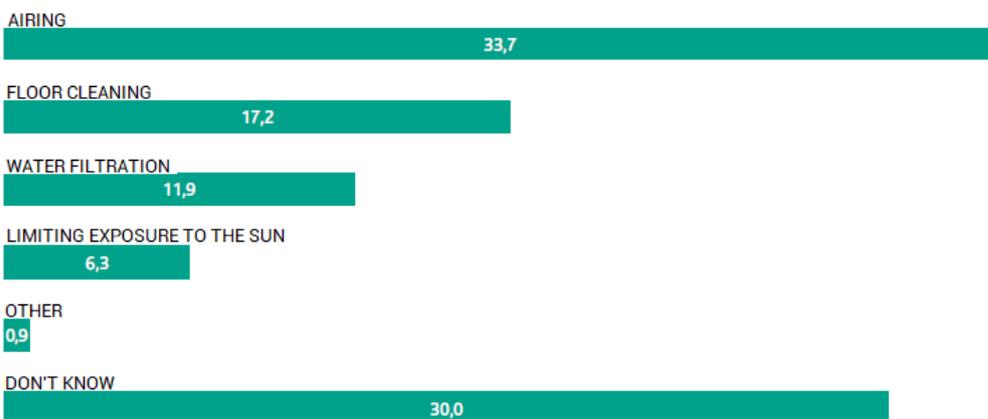
In terms of **perceived level of risk**, the top three situations remain as last year: terrorism (65 % judge the risk "high"), cancer (64 %) and pesticides (55 %). We observe a sharp increase for "floods" and "heat waves": between 2017 and 2019, "heat wave" rose from 28th to 15th position; "floods" rose from 24th to 14th. "Nuclear power plants" (44 %) and "radioactive waste" (44 %) stay in the middle. "Medical X-rays" (18 %), "radon" (21 %) and "radiation therapy accidents" (22 %) have, as is customary, the lowest level of perceived risk.

Part 3 - Question 4 : "What kind of risk do you think radon exposes you to?"



The trust level the French have in the **authorities** to protect them from risk situations increases overall. It is the highest for handling "forest fires" (61 %). At the opposite, it is the lowest for "pesticides" (32 %). Regarding nuclear power plants, the trust level (responses "yes") exceeds the mistrust level (responses "no") for the first time in 13 years, with 45 % versus 31 %. As for radioactive waste, its position remains stable but the level of mistrust has never been so low and settles at the same level as the trust score (36 %).

Part 3 - Question 5 : "What do you think is the best way to reduce the risk of radon?"



This year, the Barometer took a closer look at the French people's knowledge of **radon-related risk**. Two questions have been added to assess the knowledge level of the type of risk involved and of the means of prevention. A cross-tabulation indicates that only two out of ten French people have a complete knowledge of this risk.

Among the various energy sources available, solar and wind power have the most favorable image. Nuclear energy is viewed positively by a third of the French people, leaving only oil behind. The two strongest **arguments in favor** of nuclear power are "energy independence" and "the low cost of electricity". The top two **arguments against** are "the production of radioactive waste" and "the risk of an accident".

For the first time this year, the Barometer asked the French an open-ended question. The respondents each gave the investigators **the first three words** that the term "nuclear" evoked to them. The results show (see the word cloud on p. 45 of the Barometer) that the French primarily associate the word "nuclear" with its function of energy source : terms "NPP", "energy" and "electricity". In a second phase, more fearful terms are cited, with the words "danger", "explosion" and "risk".

Questioned about **catastrophic events** they view as most significant, the French continue to be marked by the nuclear

accidents of Chernobyl and Fukushima (tied at 23 %), ahead of the Japanese earthquake and tsunami of March 2011 (12 %) and the explosion of the AZF chemical plant in Toulouse, France, in 2001 (12 %).

The requirement for a high level of **nuclear safety** is confirmed by 86 % of French people who state that "nuclear site operators must protect their facilities from all risks, even those considered very unlikely" and 82 % who consider it a priority to "strengthen inspections of facilities by the competent authorities".

Finally, regarding the **competence and credibility of the actors of the nuclear field**, we observe a more positive perception of players overall. **For the first time this year, the French nuclear safety authority (ASN), CNRS and IRSN are viewed as the most competent and most credible actors of the field.** The actors perceived as the least credible and competent remain trade unions, journalists, but above all political actors, at both local and national levels.

Part 4 - Question 16 : "In the nuclear industry and energy field, do you think the following actors are technically competent?"
Question 17 : "In the nuclear industry and energy field, do you think the following actors are a trustworthy source of information?"

