

7223

Heart of the matter: NUCLEAR ATTITUDES in South Africa

Nuclear power and its associated risks remain a public concern. In the 1988 White Paper on Energy Policy the government signalled its intent to investigate nuclear as a source of energy. To develop a better understanding of the views of civil society on nuclear technologies Jaré Struwig and Ben Roberts present select findings from one of the first detailed studies of public attitudes towards nuclear technology and energy in the country.

HOW MUCH DO WE KNOW?

South Africans exhibit particularly low levels of knowledge about nuclear energy and technology. Only a selected few claim to be very knowledgeable (3%) or somewhat knowledgeable (15%), with greater shares reporting that they were 'not very' (18%) or 'not at all' knowledgeable (34%).

Almost a third (30%) of respondents were unable to express an opinion, instead opting to provide a 'do not know' response. Comparing the knowledge levels of South Africans with those in Canada and Europe, we found that more than half of the populations profess to be either 'very' or 'somewhat' knowledgeable.

When analysing the 'don't know' responses it was found that coloured and black Africans were respectively 2.7 and 1.6 times more likely than whites to not express an opinion on the matter. Our analysis showed that among those

that expressed an opinion on nuclear energy, the following groups were significantly more likely to express a favourable view of nuclear energy:

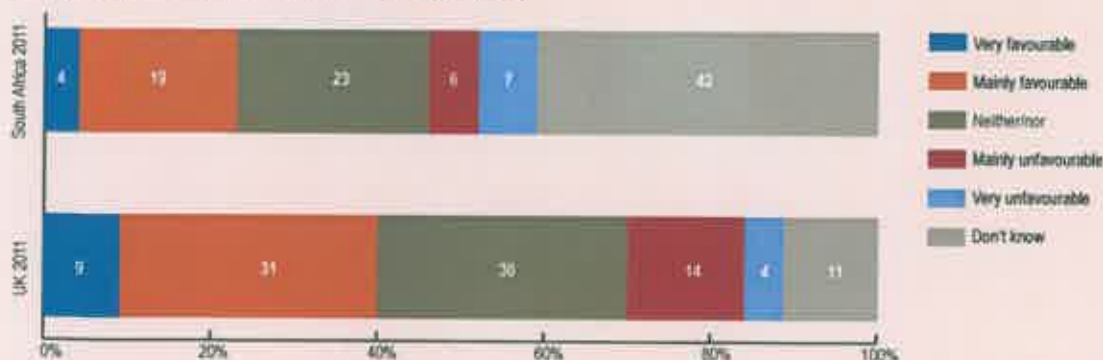
- Black Africans relative to coloured and whites;
- those with a tertiary, Matric or incomplete secondary education relative to those with no schooling;
- those in formal urban areas and informal urban settlements compared to those living in rural, traditional authority areas; and
- those in the Western Cape, Northern Cape, KwaZulu-Natal, Gauteng, Free State, North West, Limpopo and Mpumalanga relative to those in the Eastern Cape.

NUCLEAR AS A SOURCE OF ENERGY

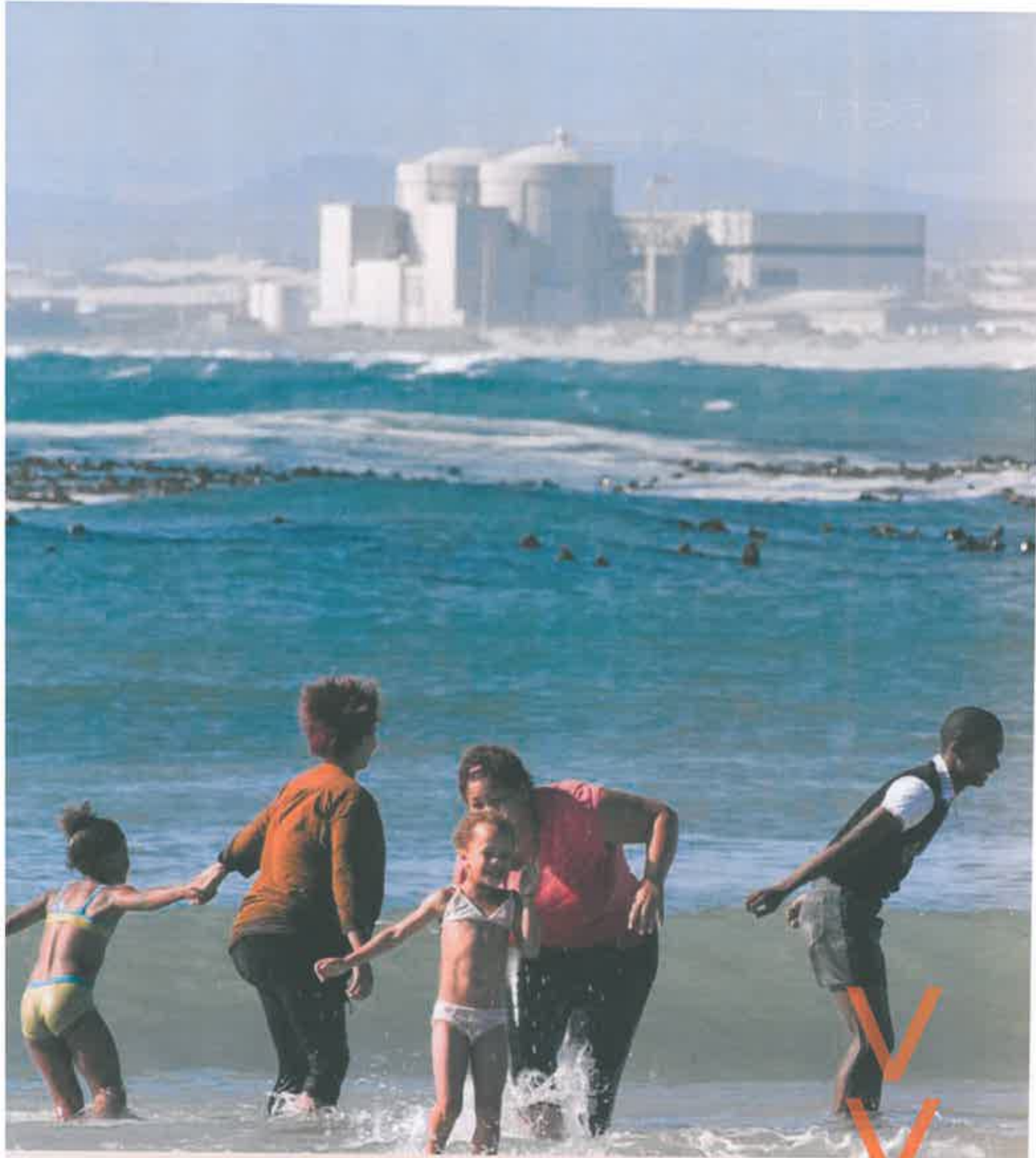
When asked specifically about nuclear energy, it again surfaced that a substantial proportion (two-fifths) of respondents were unable to offer an opinion on whether they favour or disapprove of nuclear as a source of energy. A sizeable 23% were in favour of nuclear energy while an equivalent percentage was ambivalent. Barely more than a tenth held negative views (Figure 1).

Comparing South African opinions with those of Europeans our analysis showed that the level of non-response was nearly four times higher in South Africa. This finding reinforces the importance of science communication and awareness-raising initiatives to address the lack of information that persists around nuclear energy issues.

Figure 1: People that favour or disfavour nuclear energy (percent)



Source: HSRC SASAS 2011, module on nuclear technology and energy attitudes



Acknowledgement: The research presented in this article was commissioned and financed by the South African Nuclear Energy Corporation (Necsa) under the leadership of Chantal Jannet, Group Executive: Marketing & Communication. The views expressed in this article are the authors' own and do not, in any way, represent those of Necsa.

It is imperative that the government, the nuclear industry and non-governmental stakeholders alike invest in imparting to the general public sufficient basic information about the nuclear options for the country.

ADVANTAGES AND DISADVANTAGES

The respondents were asked to identify the benefits and disadvantages of nuclear energy as a source of electricity in the country. As a benefit, the survey showed that most South Africans were inclined to perceive nuclear energy as a means of ensuring a reliable supply of electricity and as an energy source that will assist in combating climate change (cited by 23% and 16% respectively). A smaller share (14%) perceived nuclear to be competitive in terms of costs and also proclaimed that it offered an unlimited supply of power.

Table 1: Benefits of nuclear energy as a source of energy (percent)

It ensures a reliable supply of electricity	23%
Helps to combat climate change	16%
Nuclear energy is not more expensive than other fuels (costs are competitive)	14%
It offers an unlimited supply of power	14%
It is a proven technology that already exists	13%
It is a cleaner source of energy with less impact on the environment	11%
Only a small amount of waste is produced; it uses fewer fossil fuels or natural resources; there are no benefits to nuclear energy	<10%
Don't know	50%

Source: IPSOS MORI, 2011; HSRC SASAS 2011, module on nuclear technology and energy attitudes

Safety risks, nuclear waste disposal and risk of radiation were seen as the predominant disadvantages of nuclear. A third (34%) of the respondents believed that nuclear accidents were a risk, while the long-term disposal of nuclear waste and the risk of radiation or contamination were issues cited by a fifth of South Africans.

Table 2: Disadvantages of nuclear as a source of energy (percent)

Risk of accidents	34%
The long-term disposal of nuclear waste	20%
Risk of radiation or contamination	19%
General impact on the environment	17%
Cost is too high; nuclear power stations are unsightly; there are no disadvantages	<10%
Don't know	49%

Source: HSRC SASAS 2011, module on nuclear technology and energy attitudes

CONCERNS ABOUT NUCLEAR SAFETY

Conducted six months after the nuclear incident at the Fukushima I Power Plant in Japan, the survey unequivocally demonstrates the importance that the South African public attaches to issues of safety when referring to nuclear technology and energy.

Risk features prominently in the minds of South Africans when they think about the issue from a personal point of view. More than a third (35%) believes nuclear power plants pose either 'some risk' or 'a big risk' to them or their families, while less than a fifth believed nuclear energy was not much of a risk. Half of the respondents could not answer the question about personal risk (Figure 2).

Consistent with this finding, the respondents were almost four times more likely to agree that there is a possibility of a nuclear accident occurring in the country (27% agreed versus 7% disagreed), with approximately a fifth ambivalent and half providing 'don't know' responses.

Among those able to express an opinion there was a greater tendency for respondents to exhibit concern than reassurance about the management of radioactive waste from nuclear reactors. More than a quarter (26%) of South Africans felt that more needed to be done to address the challenge posed by nuclear waste.

FUTURE ENERGY PREFERENCES

Despite some safety concerns, two-fifths (40%) of South Africans agree or strongly agree that the nuclear reactors at Koeberg should continue to operate (44% do not know). Thirty-eight percent think that South Africa should construct new nuclear reactors to generate more electricity in the country (42% do not know).

Table 3: Agreement with future energy preference statements (percent)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know	Total
SA should continue to operate its existing nuclear reactors at Koeberg, Western Cape	14	26	9	6	2	44	100
SA should build new nuclear reactors to generate more electricity in SA	15	23	11	6	3	42	100

Source: HSRC SASAS 2011, module on nuclear technology and energy attitudes

Those that are most supportive of Koeberg continuing its operations were the same proportion of people who favoured the continuance of the nuclear energy programme.

CONCLUDING REMARKS

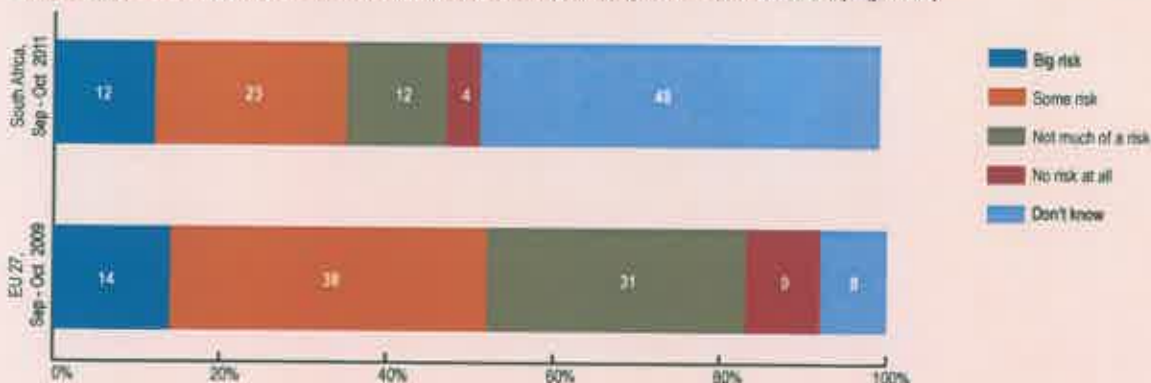
The high share of the adult population that offers no opinion ('don't know' responses) to the questions on knowledge of nuclear technology and nuclear energy is alarming and could be understood in the light of the poor mathematics and scientific literacy levels in the country in general. However, given the emphasis being placed on nuclear energy in the IRP 2010 and

the importance this decision will have on the lives of ordinary citizens, it is imperative that the government, the nuclear industry and non-governmental stakeholders alike invest in imparting to the general public sufficient basic information about the nuclear options for the country. This is critical for deliberative democracy and for ensuring that the energy decisions that are made are discussed and debated publicly.

In line with the emphasis in the 2008 Nuclear Energy Policy on raising public awareness about the country's nuclear energy programme, including the associated risks and benefits, the survey results suggest that a sustained, differentiated and targeted science communication is required.

Authors: Jari Strang and Ben Roberts are SASAS co-ordinators, Democracy, Governance and Service Delivery research programme, HSRC.

Figure 2: Perceived level of risk of nuclear power plants to you and your family in South Africa and Europe (percent)



Source: Special Eurobarometer 324 (2010); HSRC SASAS 2011, module on nuclear technology and energy attitudes



HSRC
Human Sciences
Research Council

review
VOLUME 10 NUMBER **TWO** JUNE 2012



**NUCLEAR
ATTITUDES**

page 8

**PERCEPTIONS
OF CORRUPTION**

page 12

**COMMUNITY WORK
PROGRAMME**

page 22