



Mzansi Energy Solutions
and Innovations Pty (Ltd)

ACADEMY OF SCIENCE OF SOUTH AFRICA

Nuclear Energy Safety- Symposium

13 October 2011

**Public Engagement and Perception of Nuclear
Energy & Associated risks**

Dr SA Tsela

CONTENTS

- Introduction: Premise for public engagement
- Public perception of nuclear energy
- Public engagement
- Conclusions



Conceptual Approach

- Whatever the public perception is about nuclear energy & nuclear technology
 - It is based on an IDEA
 - And to change an idea we need another idea that can be PERCEIVED to be more beneficial or even superior



Premise 1

A paradigm shift in structure of power in many countries

- In the past most decisions on new technologies were either made by the private sector or politicians with a small elite group of scientists. Today there are increased activities by public interest groups, media activism; much broader legislative involvement and significant judicial intervention.
 - hence the public can no longer be ignored or wished away.



Premise 2

Dynamism in factors impacting the future of a nuclear

- Because of the dramatic increase in public concerns, it therefore implies that the future of nuclear energy will no longer only depend on standard technical factors, but also on behavioural factors, making public opinion a crucial factor in energy decisions
 - Technical factors: economics, technology, legal, etc



Trends in public acceptance of nuclear energy

What has been the level of public acceptance in last 10yrs

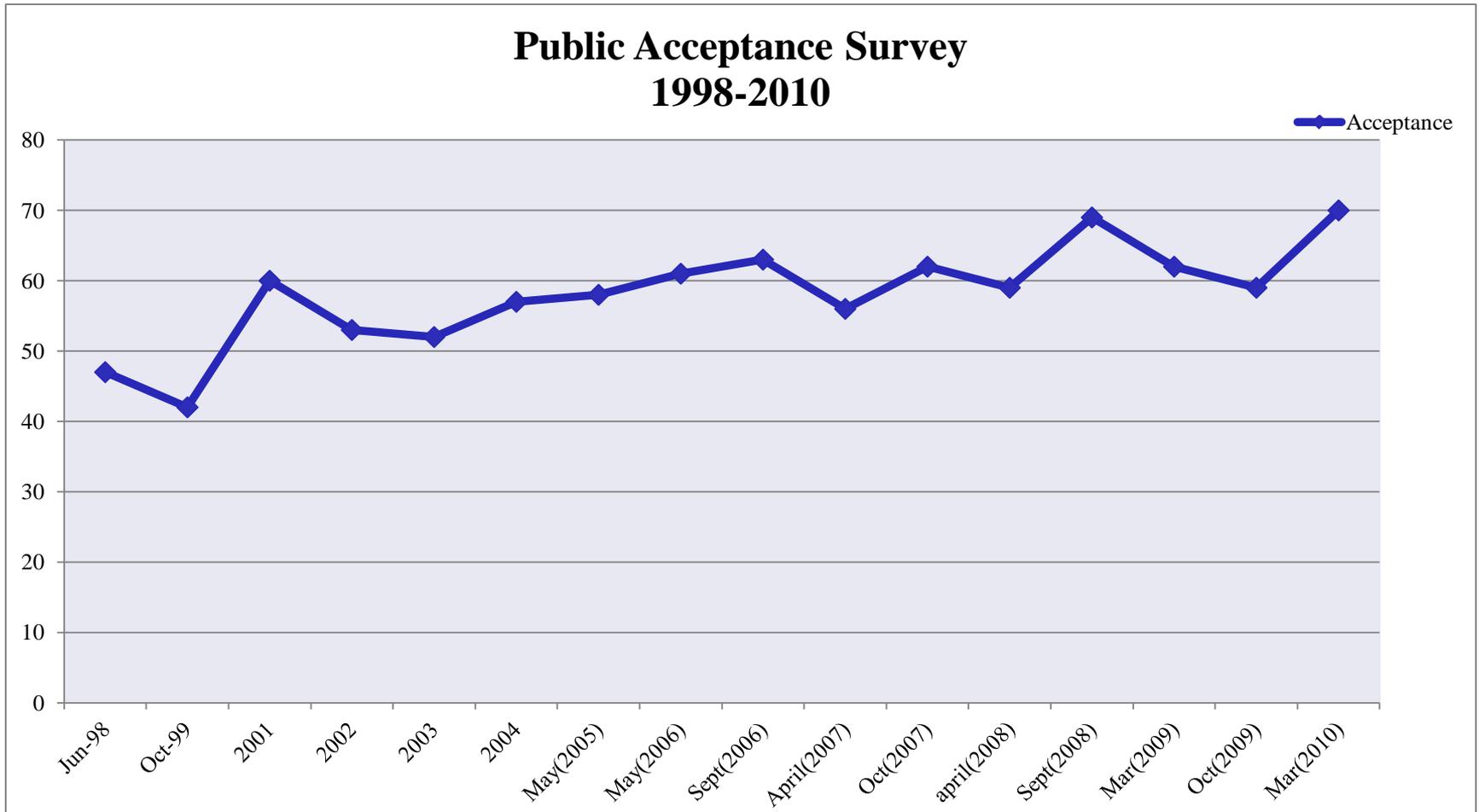
The Nuclear Energy Institute and many other organisations have been doing public acceptance surveys over years



Public Perception by the Nuclear Energy Institute

Acceptance of additional nuclear reactors

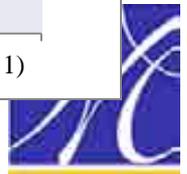
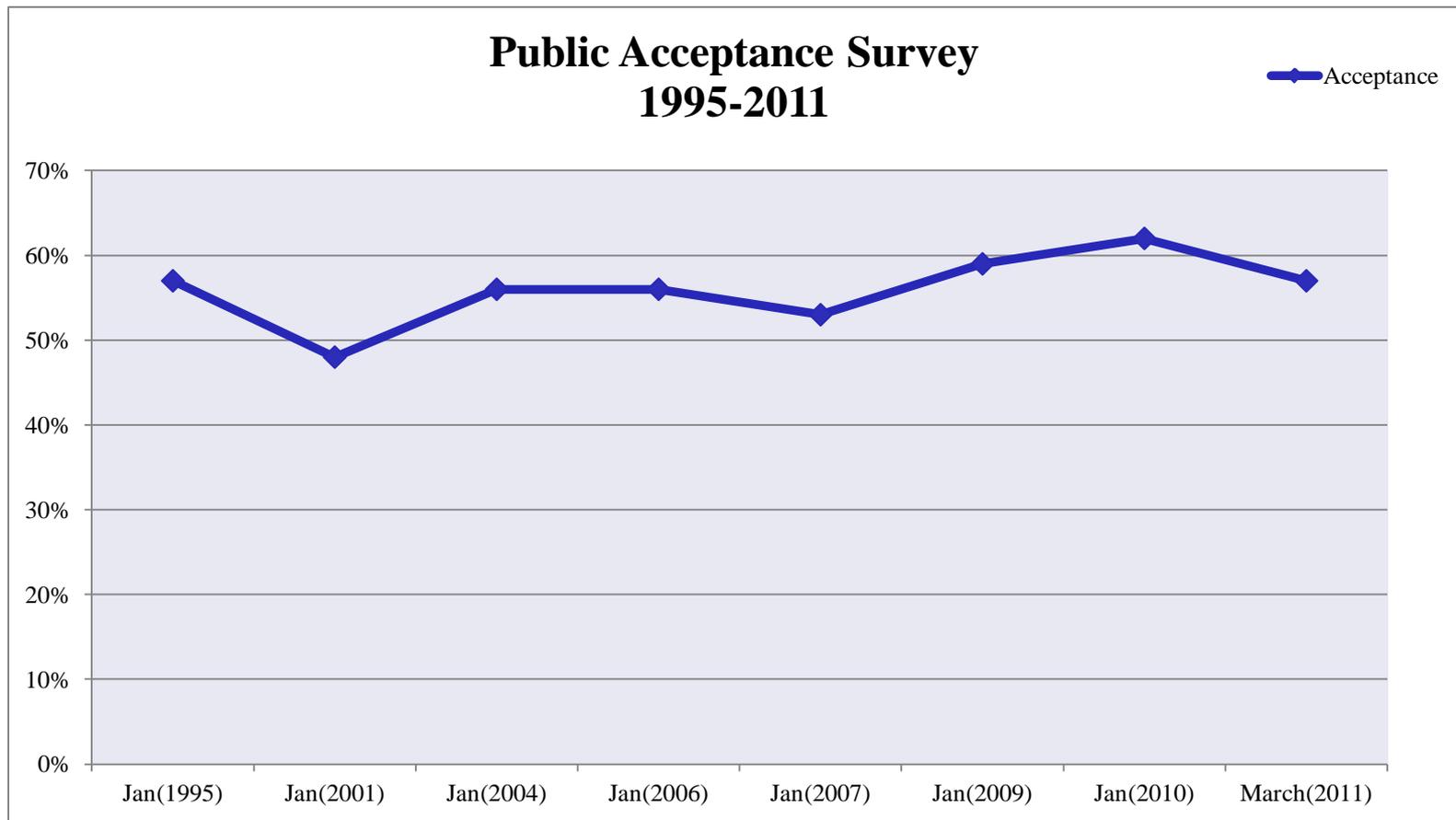
Highest in 2010 around 70%



Public Perception by the Gallup Poll

Acceptance of additional nuclear reactors

Highest in 2010 around 62%, decline after Fukushima



Thoughts about public Perception & Acceptance

- What level of public acceptance is needed for decision makers to go ahead or stop a nuclear program
- It is foreseeable that any technology can achieve a 100% public acceptance in any country
- Whether a country goes ahead with a nuclear program is thus a matter of
 - a **POLITICAL WILL**, based on political interpretation of public perception & acceptance;
 - Management of activism, through *inter alia*, legislative processes, openness, empowerment, education, etc.



PUBLIC ENGAGEMENT

Managing activism implies that we have to carry people with us in this process through diverse ways, for several reasons

Rational for public engagement

- Normative: To ensure democratic legitimacy of decision
 - It's the right thing to do in a democratic society; policies must be acceptable to public
- Instrumental: To facilitate ease of decisions & implementation
- Substantive: To ensure the right choices are made
- Educational: To demystify nuclear energy & technology



PUBLIC ENGAGEMENT

There is compelling reason for public engagement, however, the challenge lies in the PROCESS of doing it.

Key Process Issues include

- What to engage on: Every idea is changed through another idea which is superior and more compelling
 - We need to understand the IDEA upon which the public opinion is based- hence determine what to engage about.
- Who: Issue here is firstly- who must engage; secondly who must be engaged.
- Mechanisms: How to engage meaningfully and fair, this also relates to the timing of the engagement.



WHAT TO ENGAGE ON...

The challenge with engaging public opinion on nuclear technology stems from the basic debates in moral philosophy:

- Debate: balancing the respect for individual rights with furthering collective interest
 - This means public opinion is not DEFINITE, but it changes in line with the moral philosophy at a particular time!
- Strategically: Depending on who is being engaged & the purpose for the engagement: One has to think more in terms of collective BENEFIT versus technology strength or scientific advances.



WHO TO ENGAGE & WHEN...

An approach along the ICRP principles

The ICRP principles for radiation protection provides a framework for determining who and when to engage in the public:

- **Justification**: At this level of engagement the issue is about **BENEFIT** of nuclear energy- it is at the level of **DIALOGUE**
 - The engaging party is the **POLICY** maker. (just like DoE did for IRP2010)
- **Optimisation** : At this level the engagement is about the **PERFORMANCE** of a particular nuclear energy technology/system wrt to factors like safety etc. The policy decision regarding **BENEFIT** would have been taken, & targets identified.



PUBLIC ENGAGEMENT...

Around IRP2010 anticipated nuclear program

- Regarding public Dialogue with respect to the benefit of nuclear energy within the energy mix
 - I believe the Department of Energy did engage the public around the country, which led to the approval of IRP 2010
 - There will always be a debate about whether the dialogue was enough...
- Regarding public engagement at the level of performance of particular technology system wrt to factors like safety
 - This will be performed as per legislation through relevant State agencies like NNR, Department of Environment, etc
- Public engagement with respect to the educational rational
 - This level still requires more work, innovatively to demystify nuclear energy & nuclear technology in general



A380 arrives in JBH

- Indulge in a deluxe spa experience while flying through the clouds
 - Refresh mid-flight in the Emirates A380 signature shower spa
- Enjoy conversation and hors d'oeuvres in the Emirates A380 onboard Lounges



A380 arrives in JHB

- Retreat into your own world inside the Emirates A380 First Class Private Suite



- Emirates A380 now flies to more than 15 destinations around the world



Public Engagement and Perception of Nuclear Energy & Associated risks: **Conclusions**

- The public is rational..it has an opinion..hence a perception
 - The opinion & perception is not fixed, it is dynamic
 - The opinion borders more around collective BENEFIT
- The public acceptance of nuclear energy was highest in 2010, Fukushima has shaken it...but it is recoverable
 - There is no definite measure of how much public opinion is enough for a decision, except probably political elections.
- Public engagement has to be based on a framework which addresses as a minimum:
 - What to engage on, with whom to engage on what, who must engage, what are the mechanisms of engagement
- Nuclear scientists & industry should carry most of the blame for not developing innovative public engagement techniques
 - Using consumer concepts to demystify nuclear, not only technical jargon



Thank You www.mzesi.com