



# Current State of Play - SSMA and Science Update

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# Agenda

- What are the main issues that we are faced with?
- Measuring the changes in public health and wellbeing
- What the science is suggesting



# Main Issues we are faced with

The government (federal/state) and their agencies are unwilling to accept there is a problem

This is clearly demonstrated by:

- Continued refusal to investigate the issue - no health-based surveillance (We don't know what the true size of the problem is)
- Investigations limited to technical measurement studies - simply shows smart meters are operating at levels that are a fraction of the basic RF restrictions
- Denial of scientific evidence suggesting potential harm
- Authorities are looking for established evidence (proof) of harm - Science is not about proof
- Reciprocal buck passing between health departments, ACMA and ARPANSA
- A lack of ownership - Who has the health regulatory responsibility?

# Victorian Department of Health and Human Services (DHHS)

- Advised concerned members of the public “*radiofrequency matters are considered to be outside the scope of the Victorian Public Health and Wellbeing Act*”
- This despite having a Radiation advisory committee attached to the department
- Suggested the ACMA has the responsibility as per the Radiocommunications Act 1992 obligations
- Recently back flipped when Victorian Ombudsman became involved
  - Now admits advice to public was wrong - it does have responsibility but;
  - The department has determined that the threshold for further action has not been reached (not enough victims to warrant action)



# Australian Communications and Media Authority (ACMA)

- ACMA is the regulator of the RF spectrum in Australia
- ACMA is governed by the Radiocommunications Act 1992 which provides ACMA power to make standards, including requirements for protecting the health and safety of persons, but only as are necessary or convenient
- Part 4.1—Standards and other technical regulation
  - S. 162(3) Standards are to consist only of such requirements as are necessary or convenient for:
    - (f) protecting the health or safety of persons who:
      - (iv) are reasonably likely to be affected by the operation of radiocommunications transmitters or radiocommunications receivers.
- ACMA partially adopted ARPANSA RPS3 RF Standard - excluded the precautionary aspects

# Precautionary Principle Ignored

*“Inclusion of the precautionary principle in the ACMA regulatory instruments would place a regulatory burden on industry which would require strong justification. The ACMA does not discern that justification.”*

Source: Remaking the EME instruments, July 2014

- A case of putting corporate profits ahead of public health & wellbeing



# ACMA is not a health regulator

*“The Australian Communications and Media Authority (ACMA) is not a provider or regulator of health services. As such, the ACMA cannot provide advice about the potential health impacts of radiocommunications devices.”*

Source: Chris Chapman - (CEO ACMA 2013)

- ACMA lacks staff with medical expertise
- Suggests ARPANSA has the “moral” responsibility

# Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

- ARPANSA claims itself to be a health body
- Claims it has required expertise to evaluate the science, but
  - Lacks staff with biological sciences credentials
  - Has no staff with medical expertise
  - Is making statements it is not qualified to make
- Suggests it is using international best practices for radiation protection but;
  - Australia's RF Standard supports levels 100 to 10,000 times higher than other countries
  - More than 40% of the world's population have RF Standards that afford better protection
- Ignores evidence contrary to its opinions
- Ignores or downplays complaints made by the public
- Does not investigate individual cases
- Misrepresents what the RF Standard protects and is not in alignment with ICNIRP's 2002 philosophy statement



# ARPANSA ACT

- 3 Object of Act

The object of this Act is to protect the health and safety of people, and to protect the environment, from the harmful effects of radiation.

Source <https://www.legislation.gov.au/Details/C2016C00977>

# Risk Assessment Deficiencies

- What we have today is public health RISK ASSESSMENT being performed in the absence of medical expert advice
- The announcements of the lack of harm and claim to safety are made by those without the expertise to make such pronouncements
  - For instance, Professor Rodney Croft has been quite vocal in newspapers, radio and TV interviews, but he is a psychologist. We do not believe that this skill-set provides appropriate qualifications to talk about RF biological effects and their implications to health
- An important question asking why the Chief Medical Officer has not given a position statement on the risk to the public remains unanswered
- There are almost 400 people on a register I am maintaining (equates to around 5% of SSMA's website subscription base) who are adversely affected by smart meter RF radiation.
- There needs to be accountability on this issue
- Jurisdiction of this issue requires urgent resolution
- Time is ripe for another Senate inquiry



# Risk Obfuscation

- Reading ARPANSA's literature (Fact Sheets) it appears that ARPANSA is unable to clarify the nature or magnitude of the risks associated with RF exposure
- ARPANSA's description of the risk being minimal is exceptionally vague and unhelpful
- ARPANSA's TR 164 Report investigating the science from 2000 to 2012 is seriously flawed with biological end point data skewed towards no effect

# Australia's RF Standard

- We have an RF standard that is not biologically based
- It is a standard created by engineers and physicists
- It considers only thermal effects as damaging to health
- SAR measurements for measuring near-field exposure uses gels/liquids to approximate human tissue and organs
  - Does not and cannot be used to understand complex biological effects



# RF Standard Limitations

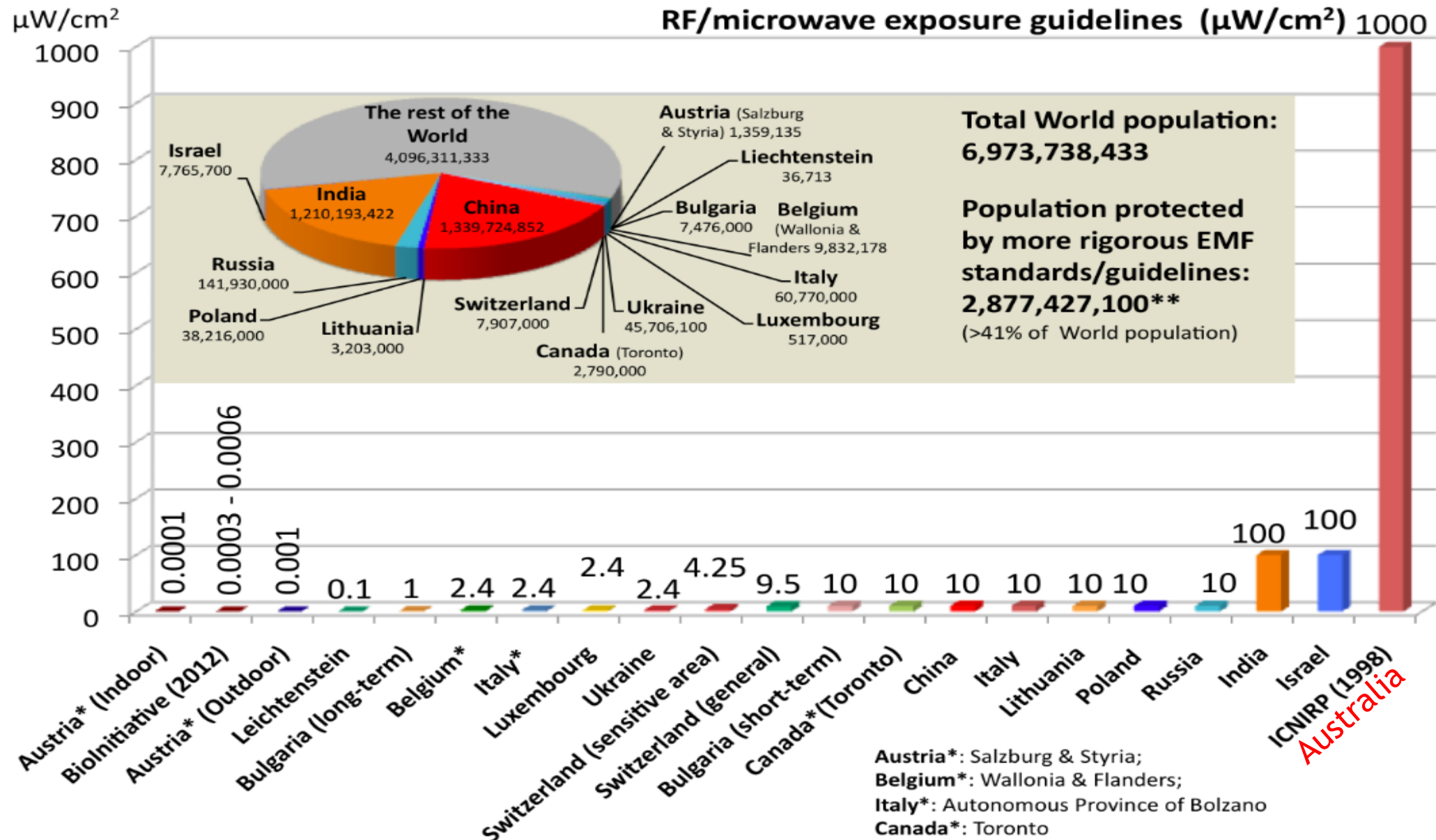
- Limits are only based on heating effects to a large man
- There are no guidelines for non-thermal biological effects, particularly in relation to children or chronic exposure
- Some antennas already exceed thermal guidelines short distances directly in front of the microwave transmitter array
- The space around these antennas may be fenced to protect humans from overexposure but the space in front of the array is not a vacuum
- Birds, bats, bees, butterflies and other insects inhabit these zones



Are Australians being  
afforded the best possible  
protection?



# Clearly the answer is no



\*\*Population data sources: World Bank (2013), ATAZ (2013), Index mundi (2013), Migration Information Source (2013), [http://www.toronto.ca/toronto\\_facts/diversity.htm](http://www.toronto.ca/toronto_facts/diversity.htm).

Source: [http://www.eesc.europa.eu/resources/docs/emf\\_report\\_-provided-by-dr-jamieson.pdf](http://www.eesc.europa.eu/resources/docs/emf_report_-provided-by-dr-jamieson.pdf)

We need to think about the implications policies have on our children





# International Best Practices

- France: ANSES - French Agency for Food, Environmental and Occupational Health & Safety have had a number of workshops, written a comprehensive draft report on EHS and is seeking public comment
- This is something that Australia should be doing too - not privately in a small subcommittee as is currently happening today
- Countries like Sweden recognize EHS as a functional impairment, provide hospital rooms with low EMR
- Adopting RF Standards that apply a precautionary approach (Salzburg)

“

Our assessment of all the  
evidence is in line with  
International best practice ”

ARPANSA Chief Scientist 2016



# TR 164 In-Vivo Findings - Cherry Picking Data?

In-Vivo Animal Studies			ORSAA database for in-vivo studies ALL (n=641)		
<b>ARPANSA TRS 164 (01/01/2000 to 31/08/2012) n ≈ 100</b> <b>(ORSAA database analysis of TRS 164 in-vivo (01/01/2000 to 31/08/2012) n=443)</b>					
Topic	Effect (Y)	No Effect (N)	Effect	No Effect	Uncertain Effect
1.1 Cell physiology, injury, apoptosis	21 (59)	17 (16)	127	23	2
1.2 Neurotransmitters	1 (9)	1 (1)	22	1	0
1.3 Brain Electrical Activity	3 (9)	2 (1)	12	0	1
1.4 Blood-brain barrier and microcirculation	4 (7)	8 (15)	29	17	0
2.1 Spatial memory tasks	7 (13)	4 (8)	30	8	2
3. Endocrine system	3 (22)	5 (4)	40	6	1
5. Genotoxicity and mutagenesis	8 (48)	10 (12)	55	12	0
10. Immune system and haematological system	5 (40)	3 (15)	49	17	2
11. Testicular function	8 (16)	5 (3)	37	4	0
12. Oxidative Stress	Not done (53)	Not done (7)	122	10	2

# TR 164 conclusions are questionable

- Clearly there are some serious problems
  - Demonstrates a lack of seriousness by ARPANSA and its cohorts in doing a proper and thorough scientifically based investigation
  - Serious Methodology Failures
    - Inclusion/exclusion criteria missing from report
    - 5.0 In-Vivo/In-Vitro - Missing references to scientific papers used to create tables
    - 5.0 In-Vivo/In-Vitro - Missing important end points (Oxidative Stress, Cardiovascular and Ocular Effects)
    - 5.0 In-Vivo/In-Vitro - Findings not matching reality
    - 6.0 Human/Provocation Research - Opinion based not backed-up with references to important studies/evidence. Ignores clinical and epidemiological study findings. Missing objective data





# **No confidence in ARPANSA TR 164 reports' accuracy or conclusions**

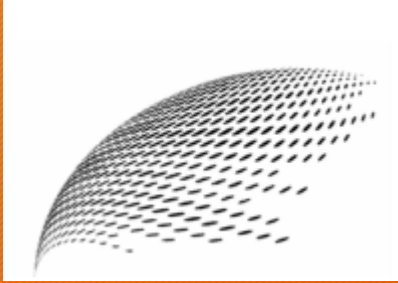
We have a choice - To do the right thing or continue to live with the consequences of poor judgement and bad science

# EMERG Report



# Electromagnetic Energy Reference Group (EMERG) Report

- Meets twice a year
- Committee member (as SSMA's representative) for over two years
- Very slow progress in recognising community concerns
  - Wi-Fi technical review - emission level measurements at schools
  - Community feedback to draft fact sheets largely ignored
  - Establishment of a EHS Subcommittee to investigate EHS - Draft Report developed - a positive step
  - Jurisdiction of health responsibility still not fully determined
  - Precautionary text being drafted with WHO - a positive step
  - Notable absence of Victorian Health department representatives
  - Lack of seriousness in investigating public complaints
  - Community representation - a chance for ARPANSA to tick the box?



# Oceania Radiofrequency Scientific Advisory Association

Providing an independent scientific viewpoint

[www.orsaa.org](http://www.orsaa.org)



# ORSAA Literature Review

- Some scientific literature shows radio frequencies cause oxidative stress, DNA damage (occurs at levels below RF basic restrictions), alters gene expression (down regulation of genes controlling metastasis) and effects endocrine system (hormones)
- Likely impact to health:
  - Cancer/tumour development
  - Neurological disorders (Alzheimer's, dementia, ADHD, depression, anxiety)
  - More recently medically unexplained health problems are on the rise

## Find Search Summary Totals

Peer Reviewed Studies Showing Biological Effects

Number of records used :

836

of

1695

Auditory Dysfunction / Hearing loss / Tinnitus	30	Apoptosis (Programmed Cell Death)	50	Brain Tumours	41
Blood Brain Barrier Permeability Changes	17	Breast Cancer	13	Cellular Stress	17
Brain Development / Neuro Degeneration	35	Biochemical Changes	265	EEG changes / Brain Waves	20
Neuro Behavioural Effect / Cognitive Effects	111	Cell Irregularities/ Damage/ Morphological Changes	113	Effects on Mitochondria	20
Calcium Influx / Efflux	13	Fatigue	37	Altered Enzyme Activity / Protein Levels / Protein Damage	183
Circadian Rhythm Disruption	17	Altered Gene Expression	45	Headaches/Migraines	53
DNA Damage / Mutagenic / Genotoxic	97	Altered Glucose Level / Glucose Metabolism	8	Inflammation	15
Endocrine / Hormone Effects	55	Cardiovascular Effects	44	Hepatic Effects (Liver)	19
Miscarriage / Spontaneous Abortion / Foetus Resorption	5	Immune System Effects	43	Impaired / Reduced Healing/ Bone Density Changes	3
Memory Impairment	56	Oxidative Stress / ROS/ Free Radicals	162	Speech Impairment	3
Sperm / Testicular Effects	57	Sleep Effects	50	Haematological Effects	30
Tumour Promotion	35	Neurotransmitter Effects	29	Synergistic Effects	10
Thyroid Effects	12	Visual Disturbances/ Ocular Effects	32	Autism	3
Leukemia	13	Parotid Gland Malignancy	3	Neoplasia/ Hyperplasia (Abnormal Tissue Growth)	2
Depression	25	Induced Adaptive Response	12	Dizziness / Vertigo / Vestibular Effects	25

Exit



# Evidence of something wrong (Cancer)

- The number of Australians dying from cancer has for the first time surpassed the total number of cardiovascular disease deaths, a national health report card released today reveals (12-Sep 16).  
<http://www.adelaidenow.com.au/lifestyle/health/australian-health-report-for-2016-shows-cancer-deaths-now-our-leading-killer>
- WHO predicts a cancer tidal wave (2014) <http://www.bbc.com/news/health>
- *Brain cancer* kills more *children* than any other disease in Australia  
<https://www.curebraincancer.org.au/page/8/facts-stats>
- A study has just been published in the UK - "Modern Life is Killing our Children: UK Cancer Rate in Young People up 40% in 16 years" Environmental factors, including electromagnetic fields and cell phone radiation, is likely cause <http://www.nzherald.co.nz/lifestyle/news>

# Neurological Diseases

- Scientific literature shows radio frequencies causes oxidative stress
- Likely impact to health: Neurological diseases
- Washington Post reports people are developing dementia a decade earlier compared to 20 years ago (2010 vs. 1990) The disease is now regularly diagnosed in people in their late 40s and death rates from early onset dementia are soaring
- Neurological disease had risen significantly in adults aged 55 to 74 and more than doubled in the over-75 population overall. The problem was particularly acute in the United States, where neurological deaths in men aged over 75 have nearly tripled and in women increased more than fivefold <https://www.washingtonpost.com/world/people-are-developing-dementia-earlier-and-dying-of-it-more-a-study-shows>

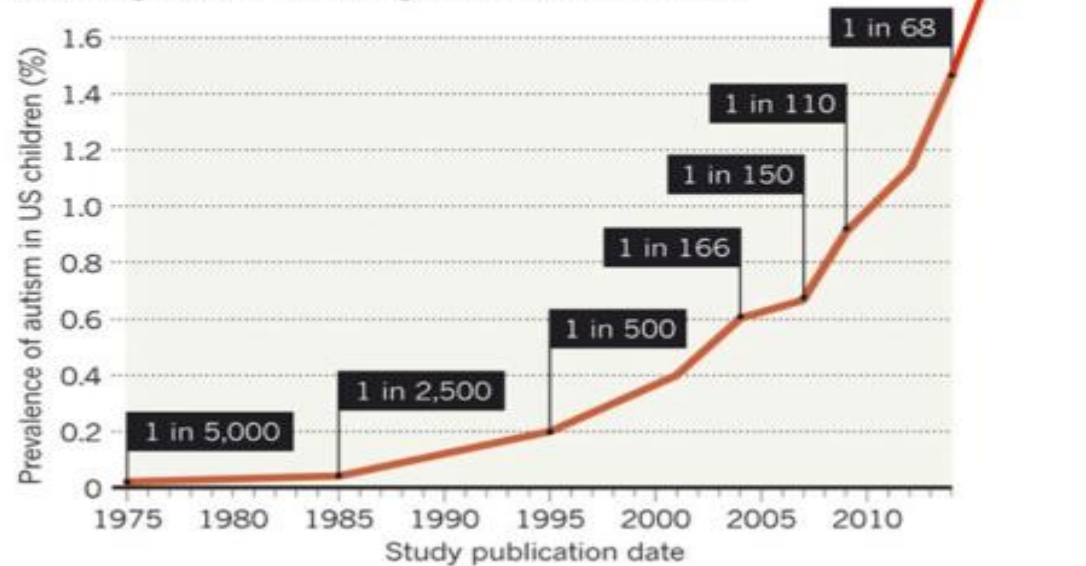


# Autism

## A Frightening Trend\*

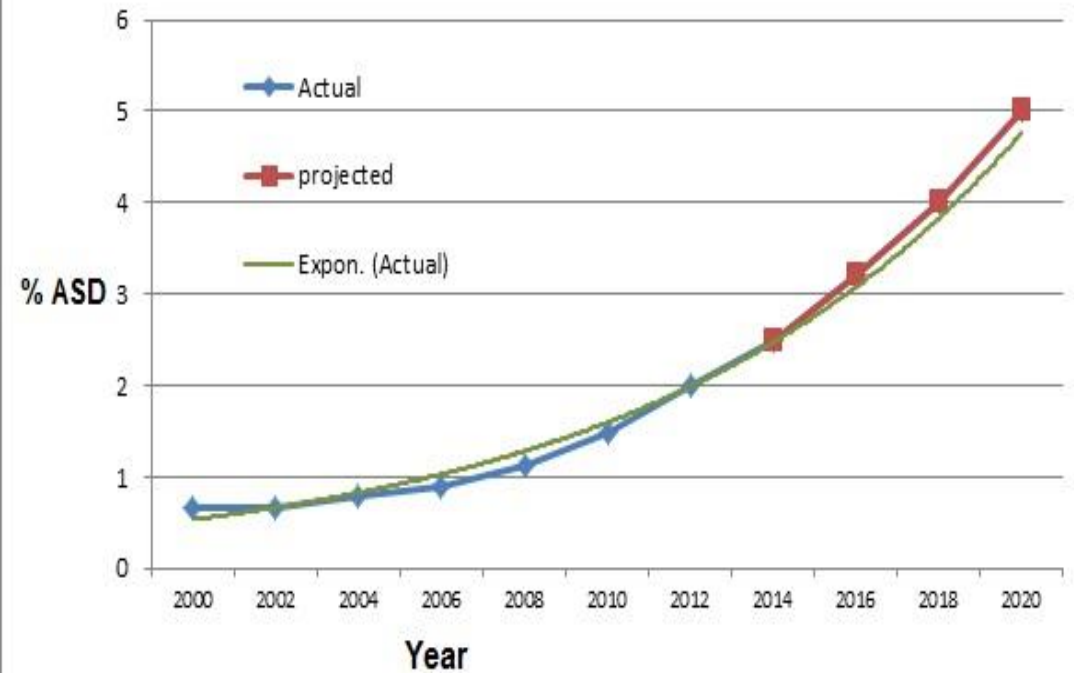
### AUTISM DIAGNOSES RISING

Almost 1.5% of US children are now diagnosed with autism, according to data from 11 regions in the United States.



\*K. Weintraub, Nature 479, Nov. 3 2011, 22-24.

Actual and projected % Prevalence of Autism in the US



# Neurobehavioural Effects

- Scientific literature shows RF is linked to neurobehavioral effects resulting in anxiety, depression and increased intolerance
- Likely impact to health - Mental health problems
- Evidence: Anxiety and depression
- The NIMH (National Institute of Mental Health) reported 25-30% of kids between ages 13-18 will experience an anxiety disorder.
- This is an increase of 20 fold (i.e. 1900%) over the last 30 years  
<http://health.usnews.com/health-news/health-wellness/articles/2013/10/10/how-to-cope-when-school-anxiety-lingers>
- The number of American children and adolescents treated for **bipolar disorder** increased 40-fold [that's 3900%!] from 1994 to 2003 . Bipolar disorder is characterised by extreme mood swings. Dr. Mark Olfson of the New York State Psychiatric Institute at the Columbia University Medical Center, said, *"I have been studying trends in mental health services for some time, and this finding really stands out as one of the most striking increases in this short a time."* The increase makes bipolar disorder more common among children than clinical depression, the authors said. [http://www.nytimes.com/2007/09/04/health/04psych.html?\\_r=1](http://www.nytimes.com/2007/09/04/health/04psych.html?_r=1)



# Moral Dilemma and Ethical Challenges in Science

- There are a large number of independent experts who disagree with international expert bodies' minority scientists' conclusions (more than 220 scientists signed a letter to the WHO and UN on this issue)
- Dissenting views are not being considered, nor are the scientists in question invited to participate in the expert committees' decision making and scientific evaluation processes
- This presents a problem of unbalanced and non-reported differences of opinion thereby giving the public a manufactured/controlled consensus view which is clearly contestable
- Culture of obfuscation - important findings not always included in abstracts (buried in tables or text in the main body of the article) or not included at all
- Pooling data to wash out and hide important findings



When you say it is responsible  
for environmental destruction,  
climate change, and the erosion  
of the middle class, it hurts  
Daddy's corporation's feelings.

