

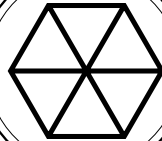
Paris 17 November 2016

# **WORKFORCE DEVELOPMENT**



**ACI's Nuclear Power Plant Life  
Management & Extension Summit**

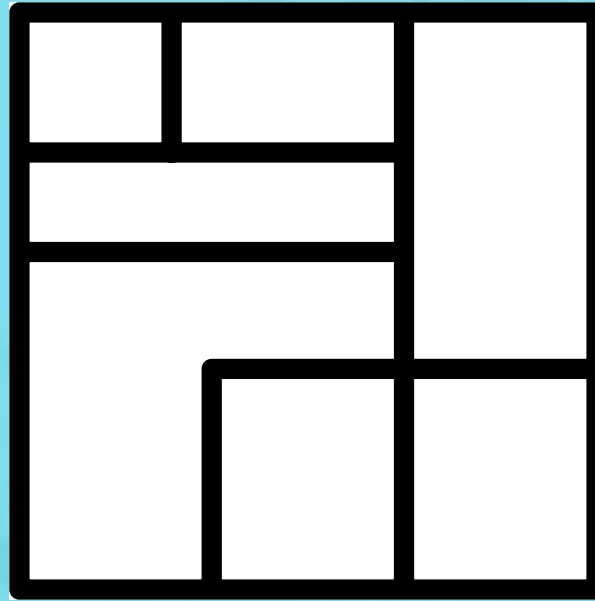
**Claudine Robson  
Partner**



**WELCOME**



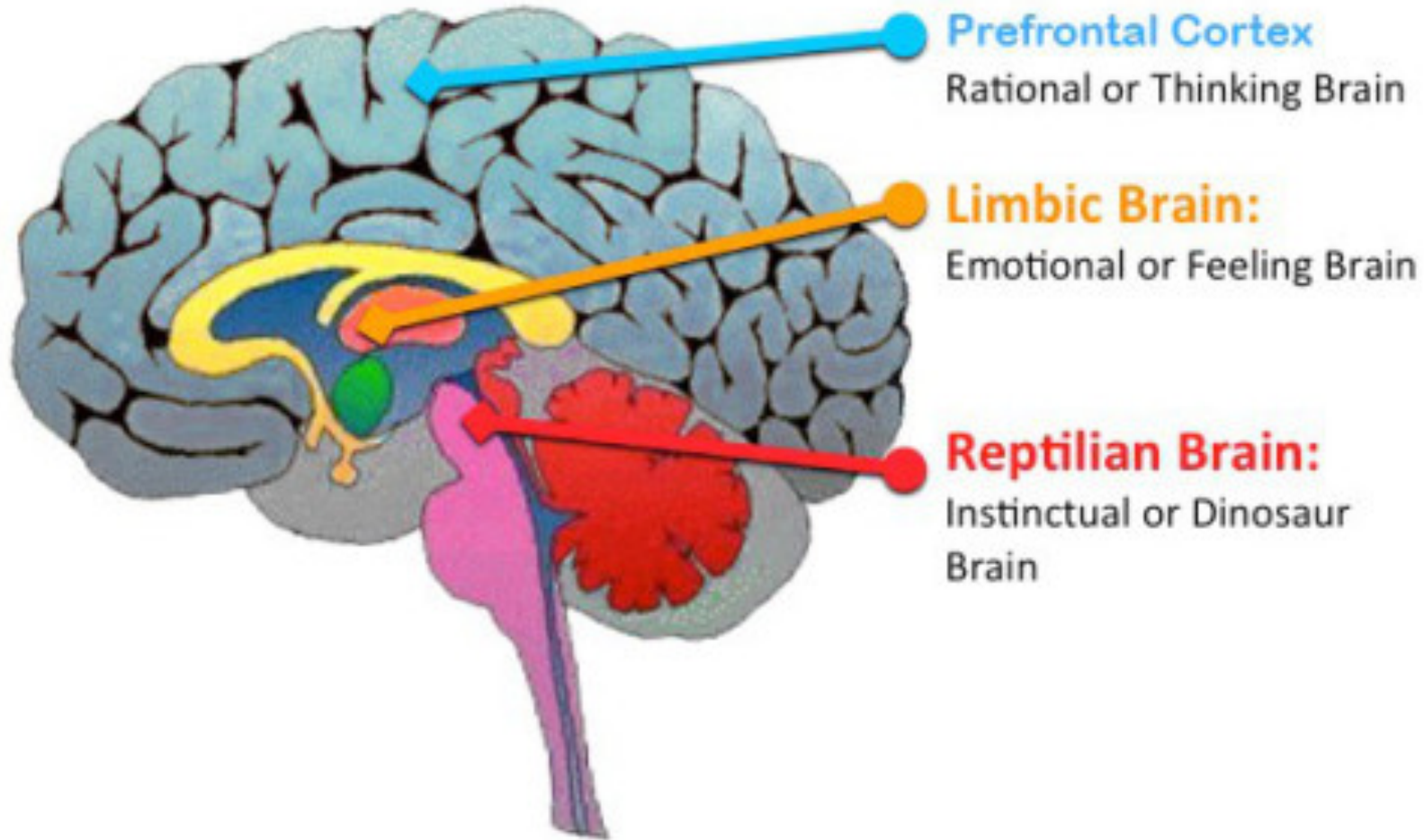




**ONE SIZE DOES NOT FIT ALL...**



# EVOLUTION OF YOUR BRAIN





## SELFISH



**ENDORPHINS**

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**ASPIRIN**



**DOPAMINE**

---

**ACHIEVEMENT**

## SOCIAL



**SEROTONIN**

---

**APPRECIATION**



**OXYTOCIN**

---

**AMOUR!!!**

## SURVIVAL



**CORTISOL**

---

**ALARM**



**ADRENALINE**

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**ACTION**

# SELFISH CHEMICALS

## ENDORPHINS

Masks pain

Released at times of stress

Gives us energy

Highly addictive!

## DOPAMINE

Sense of accomplishment and reward

Released on retweet or like

Helps us find, build and do things

Highly addictive!



# SOCIAL CHEMICALS

## SEROTONIN

Affirms when liked – pride

Aces Dopamine – we know we're great, we don't need to keep checking

Helps us work for those we feel responsible for

Is THE leadership chemical!

## OXYTOCIN

Enables us to feel friendship, love or deep trust

Binds us in groups, teams or families

Drives empathy and generosity

Makes us crave to be in a circle of safety

# SURVIVAL CHEMICALS

## CORTISOL

Our early warning system,  
it puts us on high alert

Primitive, our body still responds to  
threat as if it were life threatening

Inhibits the release of Oxytocin

Is lethal.

## ADRENALINE

Fight or Flight

Shuts down rational thought  
and problem solving

Re-directs energy from the  
brain to the muscles

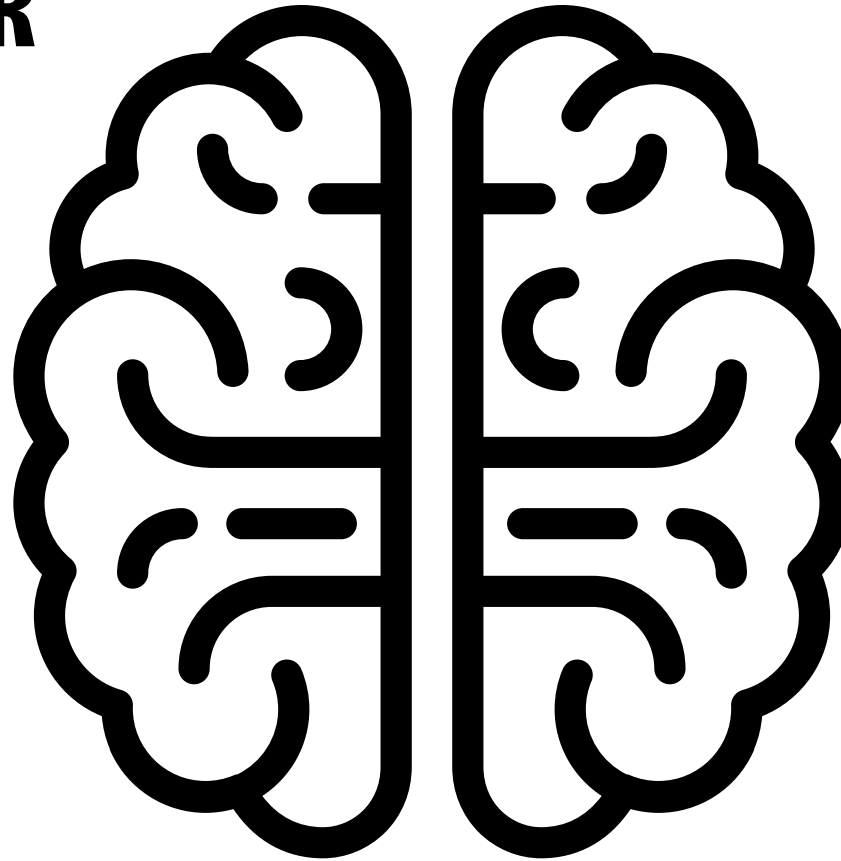
When frequently and regularly  
released into the body without real  
danger, can cause heart damage,  
insomnia and anxiety

**THREAT / DANGER**

**DISENGAGED**



**AWAY**



**REWARD**

**ENGAGED**



**TOWARDS**

To get the best out of any person or situation, reduce threat (cortisol and adrenaline)

Increase trust, collectivism, share a common purpose

Introduce recognition and non-financial reward.

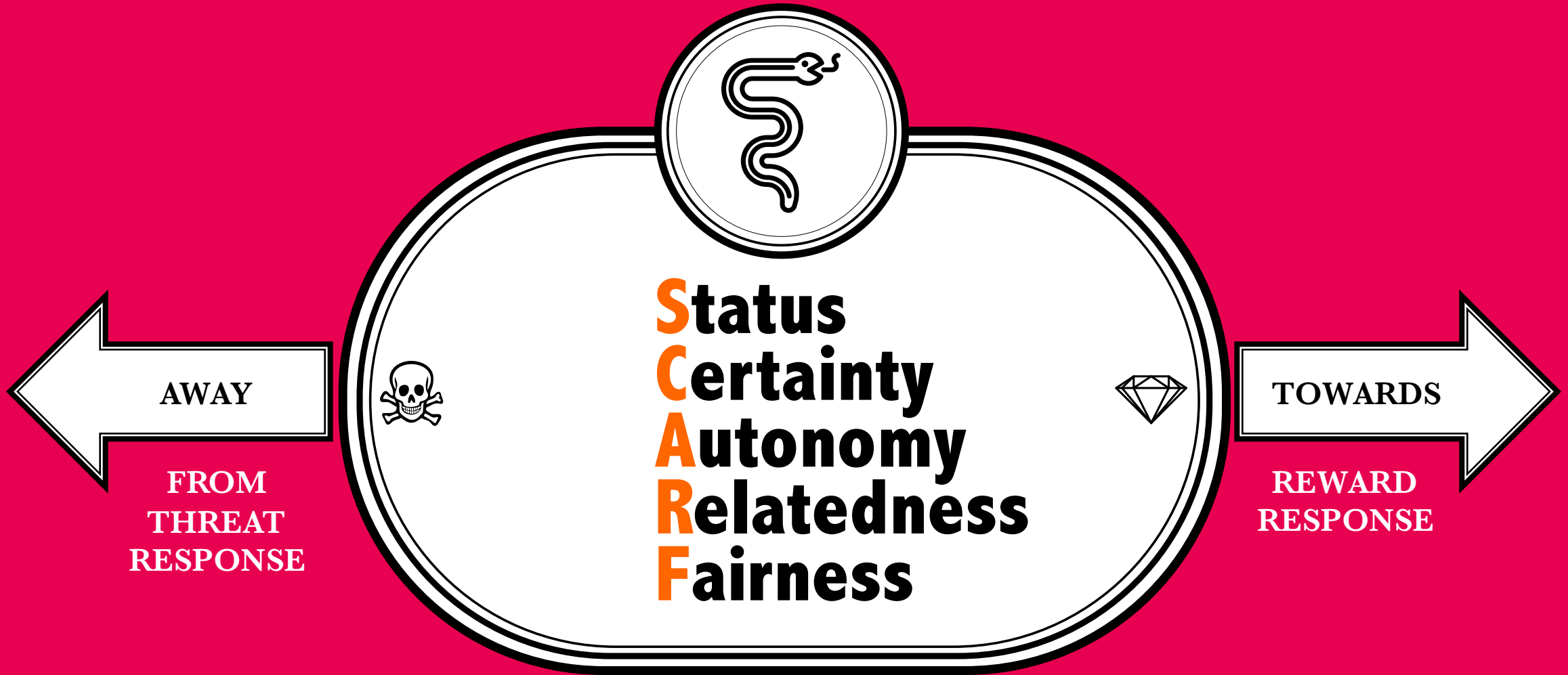


# **THE SCARF<sup>®</sup> MODEL**

Courtesy of Dr. David Rock



# SOCIAL THREATS AND REWARDS



# SCARF – STATUS

Status is about relative importance, 'pecking order' and seniority

Status is the most significant determinant of human longevity and health, even when accounting for education and income

A threat response can be easily triggered by such conventional workplace practices as performance reviews and "feedback" conversations

Threat and reward responses related to changes in status can be triggered "even when the stakes are meaningless"

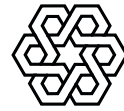
# SCARF – CERTAINTY



The brain's seeks to conserve energy, because of the limited capacity of the prefrontal cortex



We resist mental effort because we're preserving resources in case we need them urgently



When we're acting with sufficient certainty, our brain senses patterns, successfully predicts next steps and operates much more efficiently



When perceived uncertainty gets out of hand, people panic and make bad decisions

# **SCARF – AUTONOMY – CONTROL**

**Our perception of our ability to exert control over our environment has a substantial effect on our response to stress factors in our lives**

**When we feel more in control we're much more resistant to stress**

**Control and certainty are intertwined - more control yields a greater sense of certainty about the future**

**Even where control is substantially limited by organisational constraints, meaningful perceptions of control can be generated by small gestures by leaders**



# SCARF – RELATEDNESS

The ability to feel trust and empathy about others depends on whether we feel they are part of the same group

Once people begin to make a stronger social connection, their brains begin to secrete a hormone that permit us to perceive someone as “just like us”

When a new person is regarded as different, the information travels along neural pathways that are associated with uncomfortable feelings

So it's important to interact in ways that will surface points of similarity, strengthen social connections and increase a sense of relatedness

# **SCARF – FAIRNESS**

**The perception that an event has been unfair generates a strong response in the brain, stirring hostility and undermining trust**

**In organisations, the perception of unfairness creates an environment in which trust and collaboration cannot flourish**

**People who perceive others as unfair don't feel empathy for their pain, and in some instances, will feel rewarded when such individuals are punished**

**Like status, perceptions of fairness are relative**

Workforce Development  
in Nuclear Industry!

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**SO WHAT?!**

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New generation of workers – Generation X, Y, Z

Investing in the right skills

Impact of closures on people – Magnox learnings



# NEW GENERATION – GENERATION X, Y, Z

## EXTERNAL INFLUENCES

Delete  
Distort  
Generalise



## OUR SENSES

Sight  
Touch  
Taste  
Smell  
Hear

## OUR FILTERS

State  
Experience  
Values







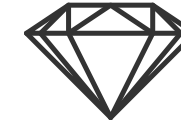
# GENERATION XYZ



CHARACTERISTICS	GENERATION X 1964 – 80	GENERATION Y 1980 – 1994	GENERATION Z 1994 TO 2010'ISH
<b>Traits / Values</b>	<ul style="list-style-type: none"><li>• Fear of rejection</li><li>• Subjective</li><li>• Creative</li><li>• Struggle with rules</li><li>• Work to live</li><li>• Family orientated.</li></ul>	<ul style="list-style-type: none"><li>• Like to be loved</li><li>• Family-orientated</li><li>• Team players</li><li>• Ambitious</li><li>• Communicators</li><li>• Tech/web savvy.</li></ul>	<ul style="list-style-type: none"><li>• Cynical</li><li>• Private</li><li>• Entrepreneurial</li><li>• Multi-tasking</li><li>• Hyper-aware</li><li>• Technologically reliant</li></ul>
<b>View on their careers</b>	Most are experienced as service and knowledge workers. Focus more on their 'professional ladder' of employability rather than the 'corporate ladder'.	Likely to only be experienced as service and knowledge workers. They do not see their career in the form of a ladder – more of a 'scramble net'.	Too early to tell. Largely dismissive of formal education/knowledge in favour of self-directed learning and 'Googling' Independent self-starters.



# GENERATION XYZ



David Rock's SCARF Model	Generation X 1964 – 80	Generation Y 1980 – 1994	Generation Z 1994 to 2010'ish
<b>S TATUS</b>	Symbols, titles, visible 'badges' of honour. Want tangible reward linked to effort.	Responsibility and peer recognition. Opportunity to improve and grow. Need fulfilment.	Freedom and trust.
<b>C ERTAINTY</b>	Very important – need to know they are safe.	Entitled. High self-esteem would take any uncertainty as a personal criticism.	Don't expect any guarantees or promises, wouldn't believe them if they were offered.
<b>A UTONOMY</b>	Like to be left alone to get on with minimal interference. Cynical of rules for the sake of rules.	Like process and choice. The choices can be restricted and there is always the choice to leave.	Crave it. If it's not offered it will be taken and / or created / found. Short concentration spans.
<b>R ELATEDNESS</b>	Closely linked to Status. Need to be seen with the high and the mighty. Susceptible to Group Think.	Like to be liked so will tend to go with the flow. Any exclusions will be taken very personally.	Geek chic – it's OK to be different. It's their right to be heard even when being outspoken
<b>F AIRNESS</b>	Acknowledge that 'Life's not Fair', maybe they won't always play fair either.	Can be delusional. Believe they are super special and what is fair might be perceived as unfair. Will litigate.	Very skeptical of organised business and authority figures, expect unfairness.

# EUROPE-WIDE JOBS MAP

Civil nuclear industry supports 780,000 jobs in Europe

8,110 13,563 20,367  
BELGIUM

4,773 8,852 15,000  
BULGARIA

3,750 8,550 14,500  
CZECH REPUBLIC

3,300 6,300 10,700  
FINLAND

125,000 240,000 410,000  
FRANCE

19,000 35,000 59,500  
GERMANY

3,865 5,000 8,500  
HUNGARY

3,542 6,730 11,440  
ROMANIA



1,500 2,850 4,850  
THE NETHERLANDS

2,627 7,000 12,000  
SLOVAKIA

750 950 1,600  
SLOVENIA

8,472 16,000 27,466  
SPAIN

4,200 8,000 13,500  
SWEDEN

2,000 4,000 6,500  
SWITZERLAND

33,413 63,484 107,923  
UNITED KINGDOM

35,000 66,500 113,000  
UKRAINE

## EUROPE

240,000 460,000 780,000

The figures only include the number of jobs in countries that operate nuclear reactors.

- Direct jobs
- Estimates
- Direct and indirect jobs
- Estimates
- Direct, indirect and induced jobs
- Estimates

### Direct jobs

Jobs that are directly created by the nuclear sector: people working for nuclear operators, utilities, specialized nuclear services suppliers, specialized administrative services etc.

### Indirect jobs

The nuclear sector buys goods and services from external producers, which results in the creation of additional jobs.

### Induced jobs

Direct and indirect employees consume goods and services, which results in the creation of additional jobs.

Source: PricewaterhouseCoopers

Disclaimer: The figures indicated on the jobs map were provided by FORATOM members. This map is designed to give an overview of the number of jobs in and supported by the European civil nuclear industry, which encompasses a diverse and wide range of companies and activities. The estimates are based on the multiplication factors used by PwC in its study entitled "Le poids socio-économique de l'électronucléaire en France, 2011."

April 2016

www.foratom.org

**FORATOM**  
THE VOICE OF THE EUROPEAN NUCLEAR INDUSTRY

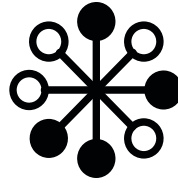
129  
Operational  
nuclear reactors

27%  
of EU's total  
electricity production

+50%  
of low-carbon  
electricity

€ 70  
billion/year





# GRADUATE, MSc AND CPD COURSES

**NTEC**  
Nuclear Technology Education Consortium

The National  
Skills Academy  
**NUCLEAR**

**NI**  
Nuclear Industry Association

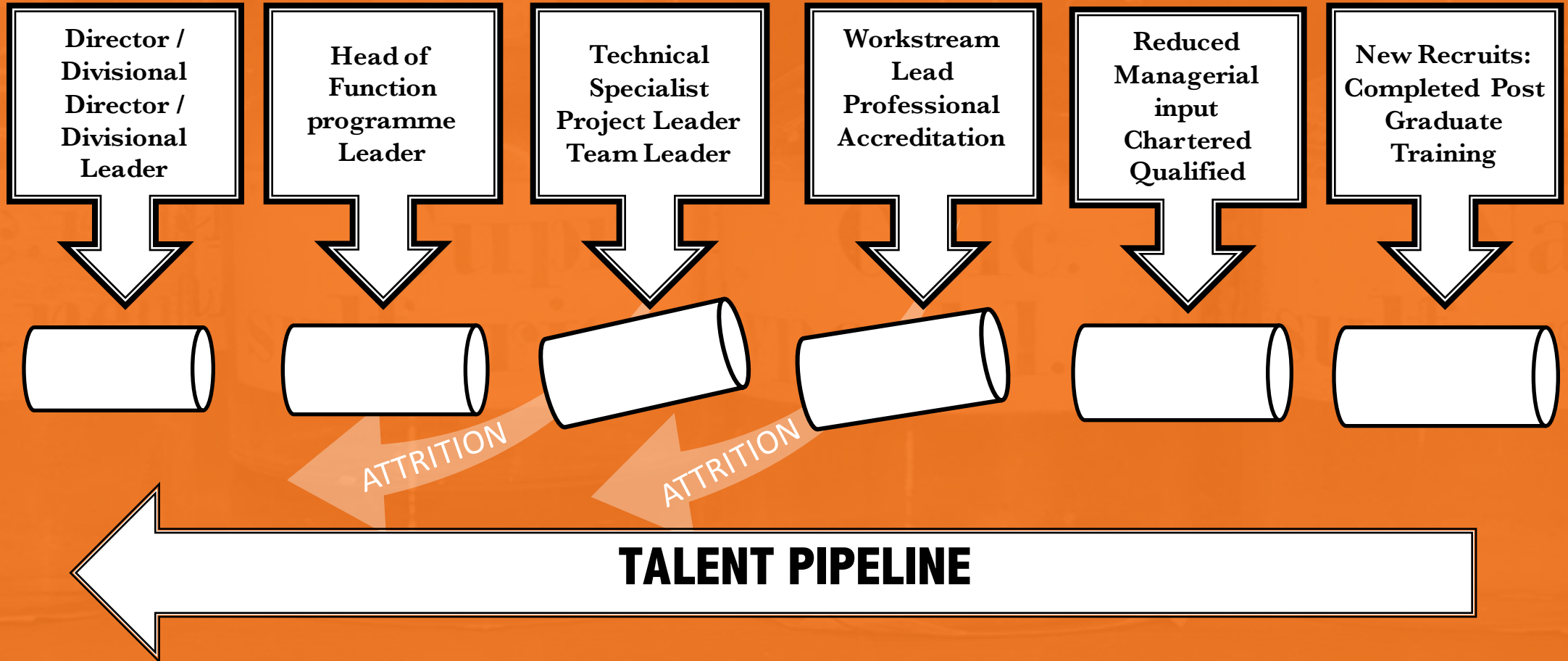
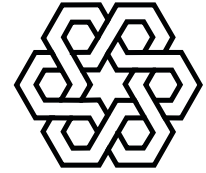


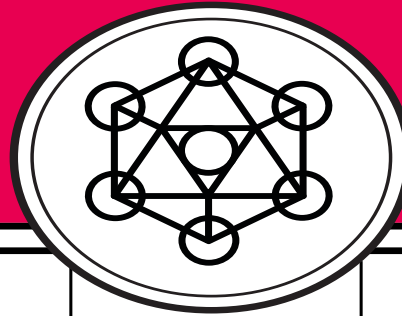
**+ 50 Universities, Colleges and  
Independent Training Providers  
Offering in the region of 425  
programmes of Nuclear specific  
education**





# THE CHINK IN OUR NUCLEAR ARMOR



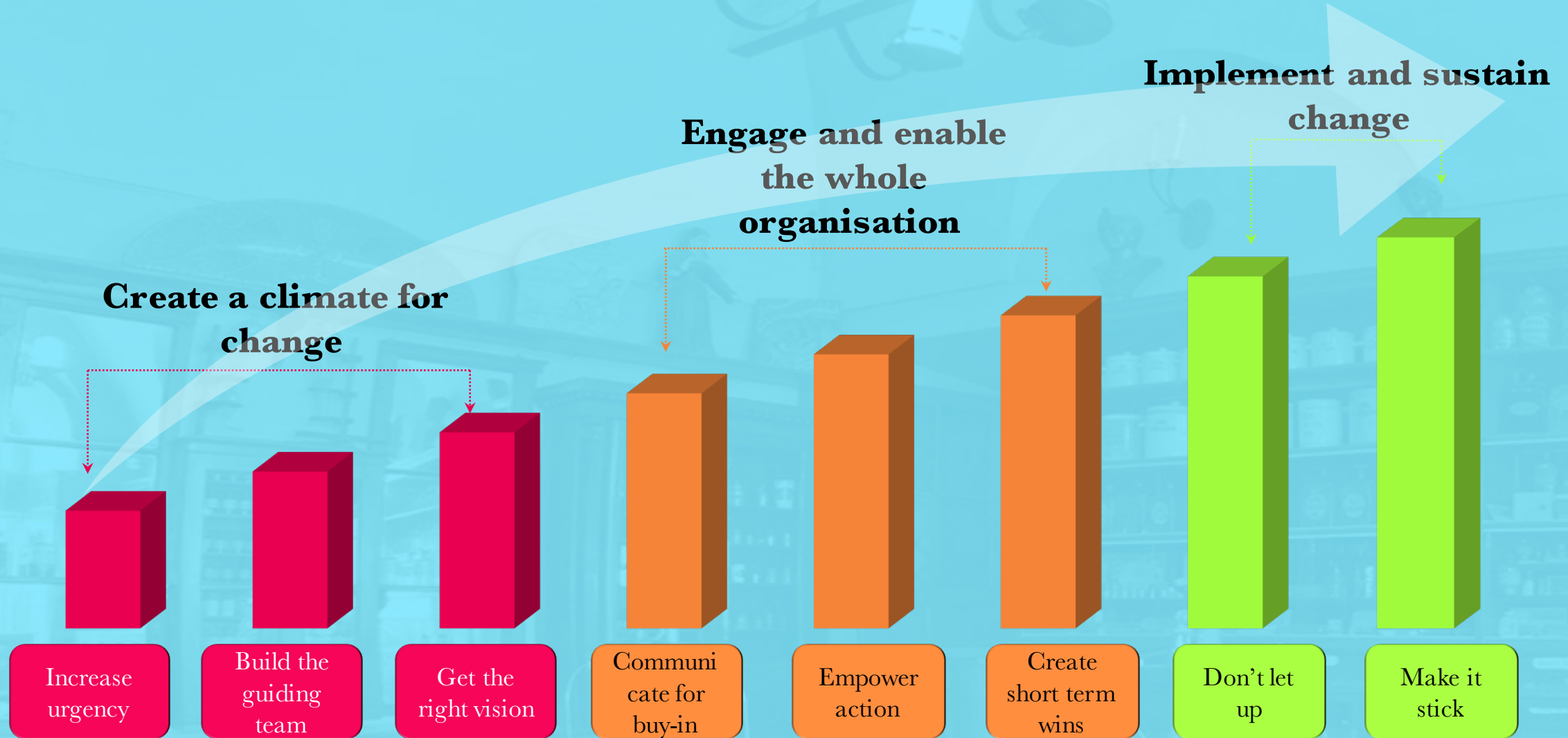


Magnox Learnings

# **IMPACT OF CLOSURES ON PEOPLE**



# CONVENTIONAL KOTTER CHANGE



# CLOSURE CHANGE

UNFREEZE

- Determine what needs to change
- Ensure there is **STRONG** support
- Create the need for change
- Manage and understand the doubts and concerns

CHANGE

- Communicate often
- Dispel rumors
- Empower action
- Involve people in the process

RE-FREEZE

- Anchor the changes into the organisation
- Develop ways to sustain the change
- Provide support and training
- Celebrate success

# THE PUZZLE

**STATUS** – reinforce how important every single person is to the successful and safe closure of the plant. Communicate in a generationally sensitive manner

**AUTONOMY** – lay out the choices people have, give them some control over what becomes of them and when. Let them have control over their future

**CERTAINTY** – Plan, plan and plan some more. Share those plans with the people they affect. Show them that you've thought of every eventuality and have catered for their well being.

**RELATEDNESS** – Create a single unitedness.  
“we're all in this together”  
“one team”  
Eliminate any unsettlors

**FAIRNESS** – Publicise every decision possible. Manage the inevitable dramas by referencing back to the terms of the agreement

People will inevitably feel threatened.  
Reduce threat - increase trust, collectivism, share a common purpose  
Introduce recognition and non-financial reward.

**FINAL NOTE:**  
Manage your stakeholders – all of them!  
UK Government Enterprise Bill 2015