



Towards a Sustainable Society

Rich Hurst
Education Development Advisor –
Durham County Council

26th January 2016

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Agenda

Time	Activity
9.15-9.30	➤ Arrival and refreshments
9.30-10.45	Session 1: ➤ Confirm agreed outcomes for the CPD sessions ➤ Icebreaker ➤ What is Sustainable Development and Education for Sustainable Development? – Explore skills, knowledge and values ➤ Whole school approaches
10.45 -11am	Refreshment break
11am- 12pm	Session 2 <u>Global Goal 6 – Clean Water and sanitation</u> ➤ What are the different issues and challenges globally ➤ Investigate opportunities ➤ Undertake short activities applicable to use in school
12pm- 12.45pm	Lunch
12.45- 2pm	Session 3 <u>Global Goal 7 – Renewable Energy</u> ➤ How is renewable energy production changing access to energy around the world ➤ Undertake practical activities and share teaching resources
2pm-2.30pm	Plenary and review of the day

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Proposed Learning Outcomes

- ❖ Greater understanding of education for sustainable development approaches, methodologies and values
- ❖ Enhanced understanding of Global Goals 6 & 7 (Clean water and renewable energy) and practical teaching and learning opportunities
- ❖ Opportunity for all delegates to discuss issues and share ideas

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Icebreaker



When you catch the inflatable globe, find one country that you are connected to and explain why

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Icebreaker 2 (5 minutes, if time)

Please write down

- Why you have come on this study visit?
- One activity/ lesson you teach in your school that includes sustainability issues/ topics

(and then be willing to share your answers)

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“Every young person should enter adulthood with the confidence, the ability and the desire to make the world a better place”



Dr Brian Male –
The Curriculum Foundation, UK.

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1990

SO, THIS CLIMATE CHANGE THING COULD BE A PROBLEM...



1995

CLIMATE CHANGE: DEFINITELY A PROBLEM.



2001

YEP, WE SHOULD REALLY BE GETTING ON WITH SORTING THIS OUT PRETTY SOON...



2007

LOOK, SORRY TO SOUND LIKE A BROKEN RECORD HERE...



2013

WE REALLY HAVE CHECKED AND WE'RE NOT MAKING THIS UP.



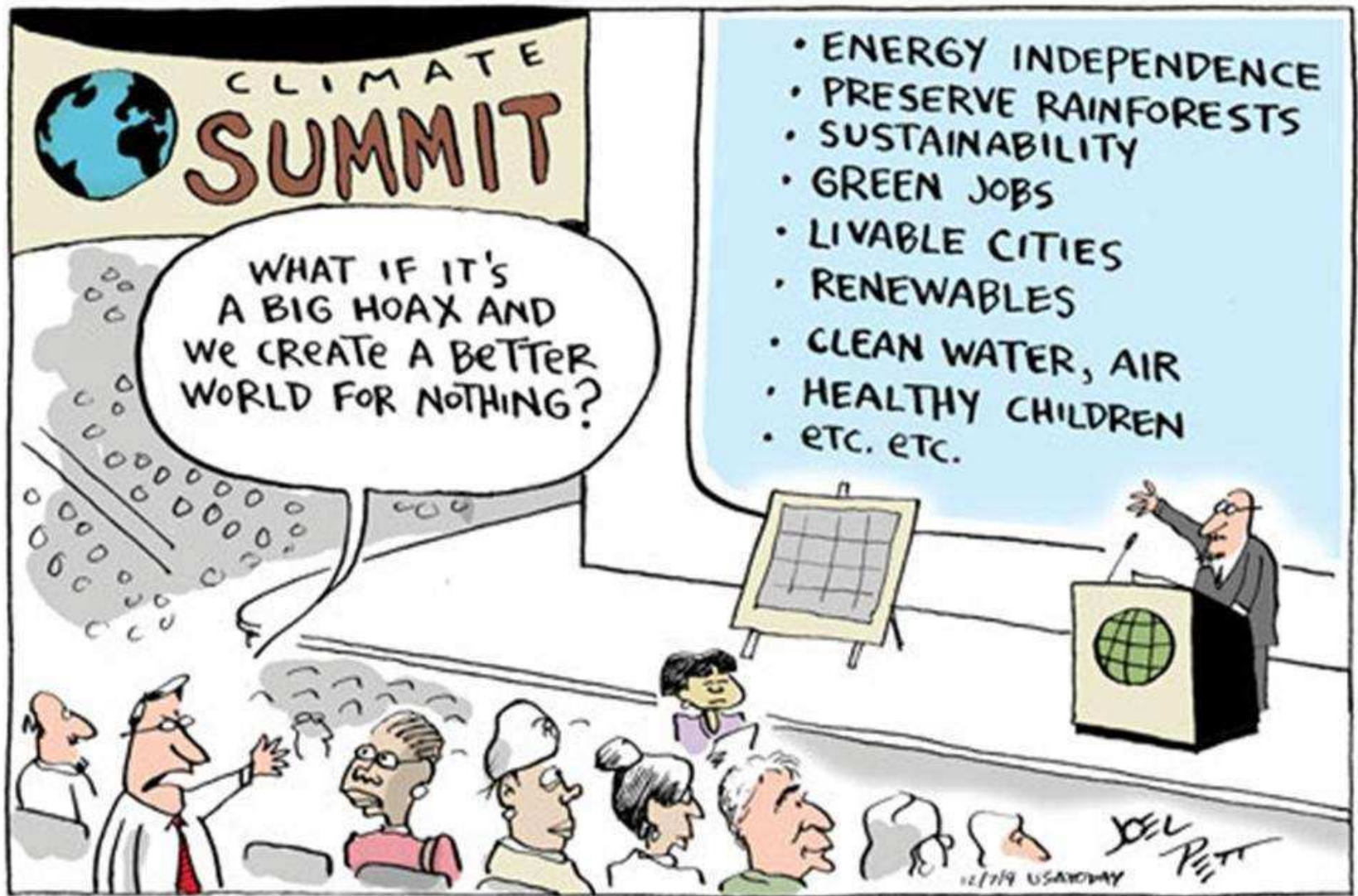
2019

IS THIS THING ON?



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Current Global Challenges (www.worldometers.info/)

Data as of January 25, 2016 at 12:07:45 PM [pause](#)

WORLD POPULATION

7,397,263,511	Current World Population	[+]
9,609,211	Births this year	[+]
198,177	Births today	[+]
4,024,075	Deaths this year	
82,991	Deaths today	
5,585,135	Net population growth this year	[+]
115,186	Net population growth today	

ENVIRONMENT

349,150	Forest loss this year (hectares)	[+]
470,050	Land lost to soil erosion this year (ha)	[+]
2,465,349,856	CO2 emissions this year (tons)	[+]
805,649	Desertification this year (hectares)	[+]
657,435	Toxic chemicals released in the environment this year (tons)	[+]

FOOD

779,779,105	Undernourished people in the world	[+]
1,620,108,747	Overweight people in the world	[+]
540,036,249	Obese people in the world	[+]
15,511	People who died of hunger today	[+]
\$ 249,683,131	Money spent for obesity related diseases in the USA today	[+]
\$ 95,884,474	Money spent on weight loss programs in the USA today	[+]

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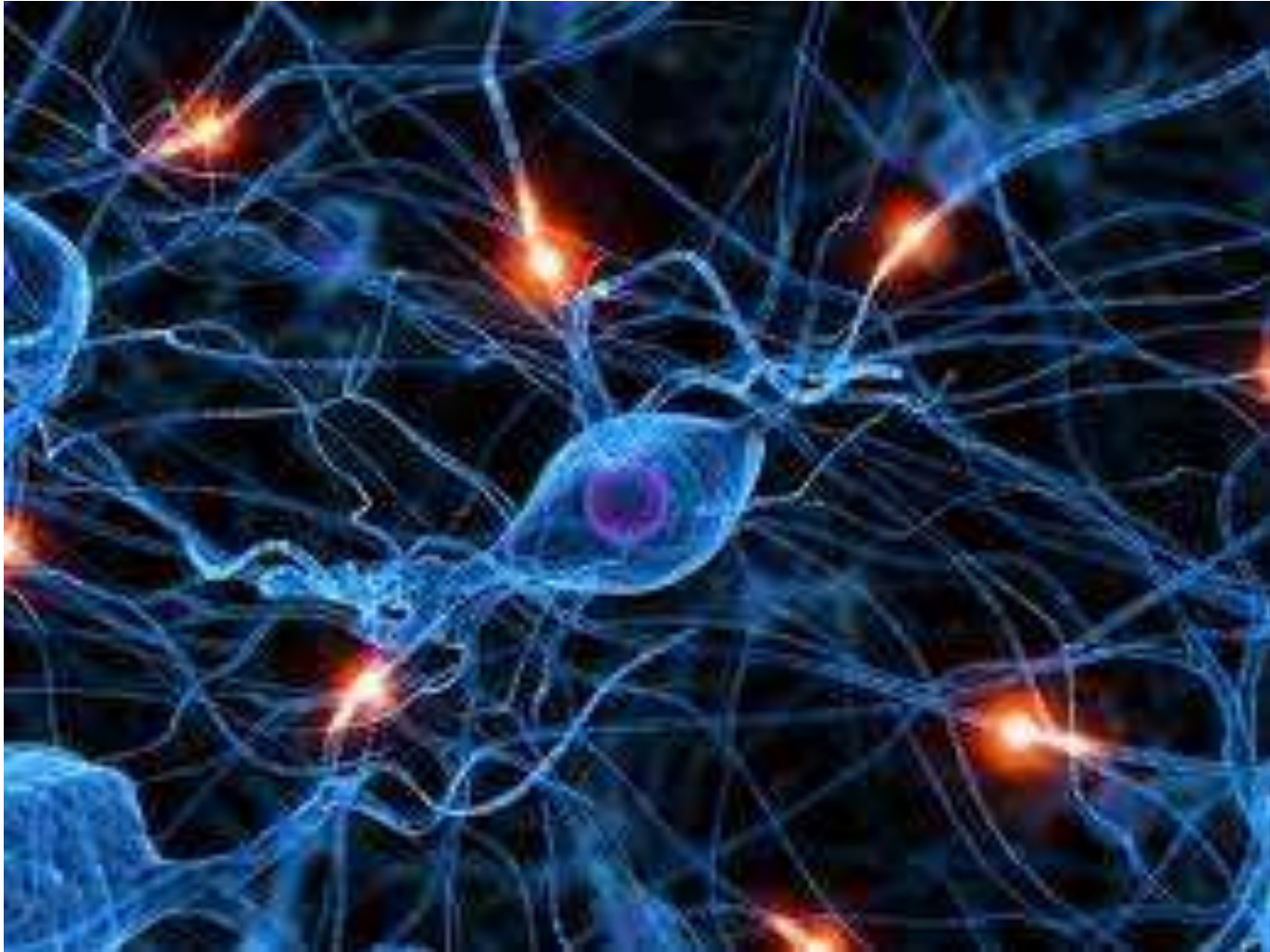
SUSTAINABLE DEVELOPMENT GOALS



www.un.org/sustainabledevelopment/sustainable-development-goals/

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Demo Version, <http://www.verydoc.com> and <http://www.verypdf.com>

What is Sustainable Development?

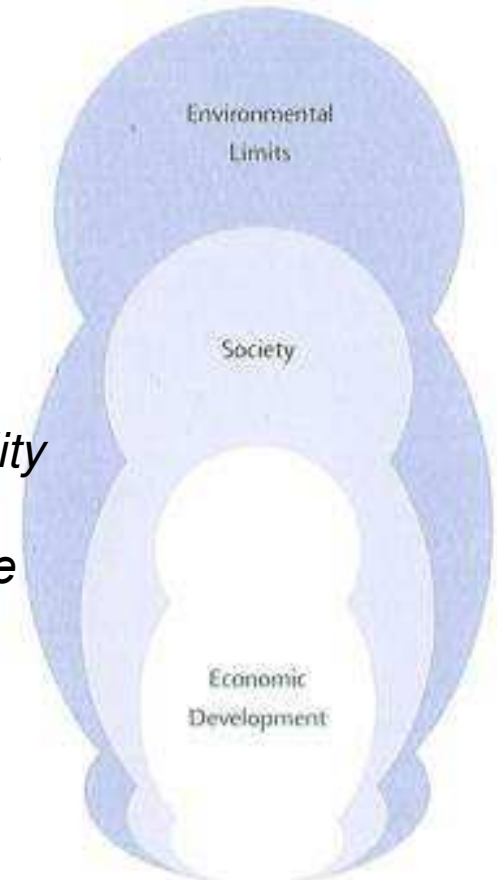
I like this description:

Sustainable development is a way of thinking about how we organise our lives and work – including our education system – so that we don't destroy our most precious resource, the planet.

Sustainable development means inspiring people in all parts of the world to find solutions that improve their quality of life without storing up problems for the future, or impacting unfairly on other people's lives. It must be more than recycling bottles or giving money to charity.

It is about thinking and working in a profoundly different way

Was on Teachernet.gov.uk/sustainableschools



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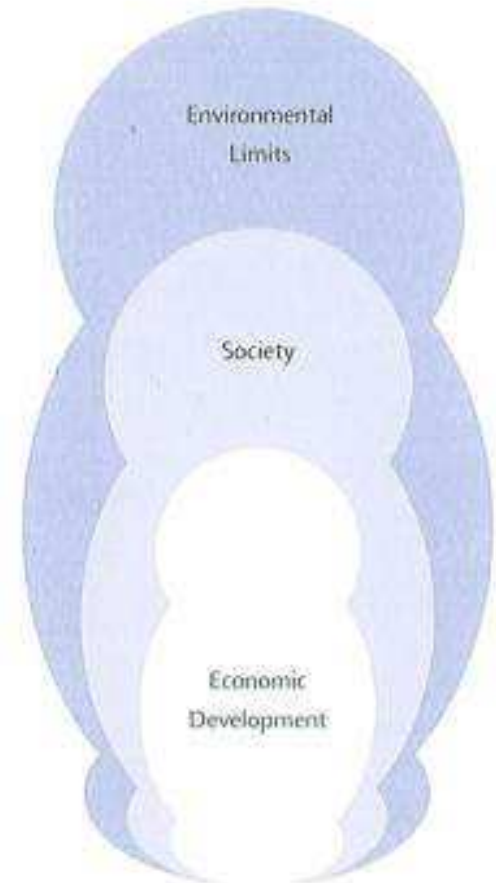
Securing the Future

Simple definition

'Enough, for all, forever'

"When people say save the planet, I think they are wrong: the planet will survive us, of course it will, life will survive us. What we are trying to save is humanity"

Yann Arthus-Bertrand (Earth from the Air / Home)



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Personal View

Sustainability is based on:

- ✓ *Hope*
- ✓ *Fairness*
- ✓ *Creativity*



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Global Wombat



<http://www.global-mindshift.org/memes/wombat.swf>

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Demo Version, <http://www.verydoc.com> and <http://www.verypdf.com>

Group Activity (10 mins)

- The Sustainable Development Goals are a plan for the next 15 years.
- Do you think our education systems are adequate to help meet these goals by 2030? If not, how could they change? Discuss.



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Ofsted, England

– Schools & Sustainability May 2008

“Schools should give all pupils the opportunity to put their understanding of local issues into a global context, so that they see how their decisions can have an impact on others now and in the future”



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Education for Sustainable Development Skills

The types of skills pupils will need as adults. Skills fall into one or more of the three realms of SD- environmental, economic, and social.

- The ability to communicate effectively (both orally and in writing).
- The ability to think about systems (both natural and social sciences).
- The ability to think in time - to forecast, to think ahead, and to plan.
- The ability to think critically about value issues.
- The ability to separate number, quantity, quality, and value.
- The capacity to move from awareness to knowledge to action.
- The ability to work cooperatively with other people.
- The capacity to use these processes: knowing, inquiring, acting, judging, imagining, connecting, valuing, and choosing.
- The capacity to develop an aesthetic response to the environment

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Ref: www.esdtoolkit.org



ESD Approaches

In relation to ESD, we (Bath University) argue that it is helpful to think of two inter-related and complementary approaches which we term, ESD 1 and ESD 2.

ESD 1

- *promoting / facilitating changes in what we do*
- *promoting (informed, skilled) behaviours and ways of thinking,*
- *where the need for this is clearly identified and agreed*
- ***learning for sustainable development***

ESD 2

- *Building capacity to think critically about [and beyond] what experts say and to test sustainable development ideas*
- *exploring the contradictions inherent in sustainable living*
- ***learning as sustainable development***

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ESD 2 not only complements ESD 1, it makes it meaningful, because our long term future will depend less on our compliance in being trained to do the 'right' thing now, and more on our capability to analyse, to question alternatives and negotiate our decisions.

ESD 2 involves the development of learners' abilities to make sound choices in the face of the inherent complexity and uncertainty of the future. As Scott and Gough note:

"By learning throughout our lives we equip ourselves to choose most advantageously as the future unfolds. This would not bring about sustainable development. Rather, it would be evidence that sustainable development was happening."

Excerpt from: *Learning for a Change: exploring the relationship between education and sustainable development*, by Paul Vare and William Scott

For the full paper, see:

http://www.unece.org/env/esd/inf.meeting.docs/EGonInd/5meet/Learning_Change_Vare_Scott.pdf

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Teacher Competencies

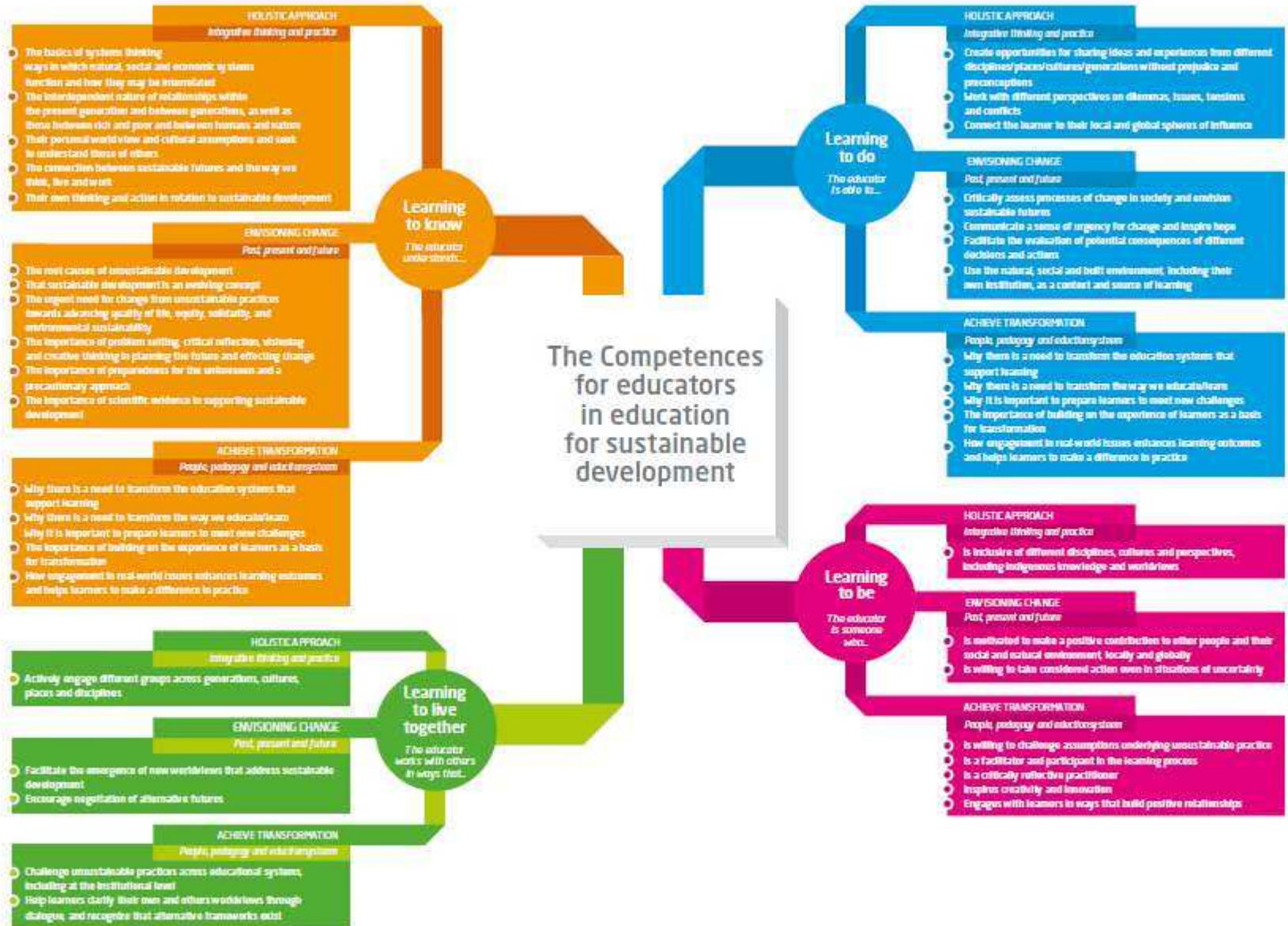
To effectively support our learners we (as Educators) need to consider our own knowledge, skills and values. A report 'Learning for the Future', produced for the United Nations Economic Commission for Europe (2011) was developed an expert group from across Europe.

At its core it divides the competencies educators engaged in education for sustainable development should possess:

- Learning to know – the educator understands.....
- Learning to live together – the educator works with others to...
- Learning to do – the educator is able to.....
- Learning to be – the educator is someone who.....

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Group Task

Working in four groups: (10 Mins)

Group A – Learning to know

Group B – Learning to live together

Group C – Learning to do

Group D - Learning to be



Task: Do staff in your schools display these knowledge; skills and attributes?

How could you create support systems in your schools/ this partnership?

Be prepared to share your thoughts with other groups.

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Whole School Opportunities to Integrate Education for Sustainable Development?



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Sustainable Schools Ethos

Not everyone is familiar with the language of sustainable development, but we do understand about **care**:

- **care** for oneself (own well-being)
- **care** for one another (near, far & future generations)
- **care** for the environment (locally & globally)

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Integrated Approach

Curriculum

- Teaching and learning
- Pupil achievement
- Pupil wellbeing

Campus

- Operating and capital budgets
- Pupil involvement
- Staff morale
- Built and natural environment

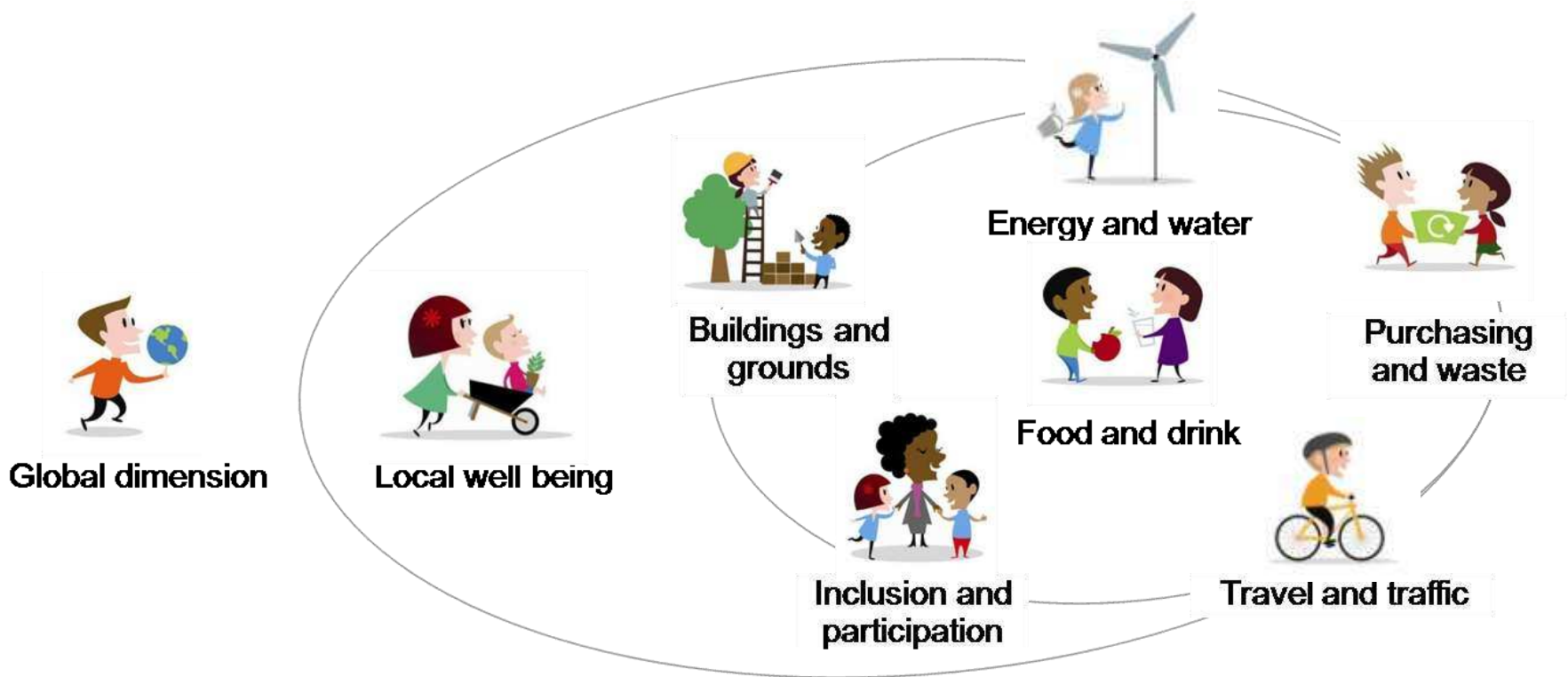
Community

- Trust
- Parental involvement
- Local influence
- Global dimension

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Eight Doorways



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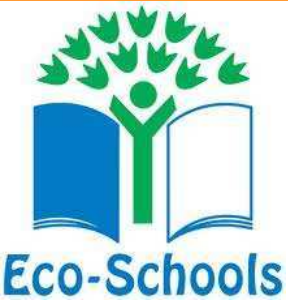
The Sustainable Schools Framework is fundamentally about school improvement:

- *Improved pupil achievement and personal development & wellbeing*
- *Increased efficiency and sustainable operational management*

Ref: <http://sustainable-schools-alliance.org.uk/>

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What is Eco-Schools?

- ❖ Environmental award scheme for schools
- ❖ Foundation for Environmental Education (FEE)
- ❖ 55 countries currently subscribe
 - over 40,000 schools

- ❖ Keep Britain Tidy run the franchise in England
- ❖ Three levels of award in England–



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Aim of Eco-Schools

"Ensure young people have power to be the change for sustainability that our world needs by engaging them in fun, action-orientated and socially responsible learning."



Outcome?

The programme's greatest achievement is arguably the fact that it produces generation after generation of sustainably minded, environmentally conscious people. These individuals will carry the behavioural patterns they uptake under the auspices of Eco-Schools with them through life, in turn teaching the next generation the habits to make a difference.

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The Eco-Schools Process



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Eco-Schools Themes



- ❖ Litter
- ❖ Waste Minimisation
- ❖ Energy
- ❖ Water
- ❖ Transport
- ❖ Healthy Living
- ❖ School Grounds
- ❖ Biodiversity
- ❖ Global Perspective/ Dimension
- ❖ Climate Change (Not in UK)

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Any questions?



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Outdoor
And
Sustainability
Education
Specialists



Break Time



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The Worlds Largest Lesson Film



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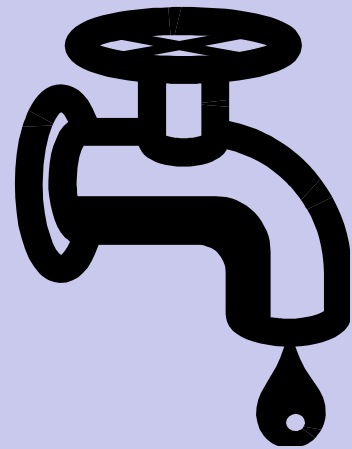
Demo Version, <http://www.verydoc.com> and <http://www.verypdf.com>



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**Of all the water on earth
97% is salty, 2% is locked in
the icecaps and glaciers
and only 1% is fresh water
available to drink**



Sustainable Development Goals



Goal 6: Ensure access to water and sanitation for all

Issues:

- Between 1990 and 2015, the proportion of the global population using an improved drinking water source has increased from 76 per cent to 91 per cent
- But water scarcity affects more than 40 per cent of the global population and is projected to rise. Over 1.7 billion people are currently living in river basins where water use exceeds recharge
- 2.4 billion people lack access to basic sanitation services, such as toilets or latrines
- More than 80 per cent of wastewater resulting from human activities is discharged into rivers or sea without any pollution removal
- Each day, nearly 1,000 children die due to preventable water and sanitation-related diarrhoeal diseases
- Hydropower is the most important and widely-used renewable source of energy and as of 2011, represented 16 per cent of total electricity production worldwide
- Approx. 70 per cent of all water taken from rivers, lakes and aquifers is used for irrigation
- Floods and other water-related disasters account for 70 per cent of all deaths related to natural disasters

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Ref: <http://www.un.org/sustainabledevelopment/water-and-sanitation/>



Goal 6: Ensure access to water and sanitation for all

Targets

- By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- Support and strengthen the participation of local communities in improving water and sanitation management

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Ref: <http://www.un.org/sustainabledevelopment/water-and-sanitation/>





GOAL 6: CLEAN WATER AND SANITATION

BY: MARGREET DE HEER

6 CLEAN WATER AND SANITATION



WE MUST PROVIDE EVERYONE WITH:



HYGIENE

EDUCATION

CLEAN SAFE WATER

GOOD SANITATION



MORE WAYS TO REUSE WATER

FILTER

MORE AWARENESS IN COMMUNITIES ABOUT IMPROVING WATER MANAGEMENT

BE RESPONSIBLE WITH WATER

WELL-MONITORED WATER QUALITY

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Opportunities for Learning

Curriculum Grid

Age Range	Opportunities	Subject Links
9-11	<ul style="list-style-type: none"> How is water cleaned for human consumption? If humans drink dirty water, what can happen? 	Science Geography PSHE
11-14	<ul style="list-style-type: none"> Audit how much water you use over the course of a typical school day for eating; drinking and washing as a homework activity. 	Maths
14-16	<ul style="list-style-type: none"> Research conflicts over access to water. Present a report detailing your findings. 	Geography
16-18	<ul style="list-style-type: none"> Is the problem in Africa physical water scarcity or economic water scarcity? Research and identify strategies that have been put in place to increase access to safe water and sanitation sustainably. Assess the success of these strategies. 	Geography ICT Economics

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Water Filter TED Talk



https://www.ted.com/talks/michael_pritchard_invents_a_water_filter#t-214758

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Demo Version, <http://www.verydoc.com> and <http://www.verypdf.com>

Group Activity (15 mins)

- Agree on a target age group
- How could this talk be used as stimulus for a lesson or a series of lessons on the importance of clean water?
- Produce a short curriculum plan or map
- Share your ideas



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LUNCH



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Sustainable Development Goals

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.

Issues:

- One in five people still lacks access to modern electricity
- 3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating
- Energy is the dominant contributor to climate change, accounting for around 60 per cent of total global greenhouse gas emissions
- Reducing the carbon intensity of energy is a key objective in long-term climate goals.

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Ref:

<http://www.un.org/sustainabledevelopment/energy/>



Goal 7- Affordable, reliable and modern energy

Targets

- By 2030, ensure universal access to affordable, reliable and modern energy services
- By 2030, increase substantially the share of renewable energy in the global energy mix
- By 2030, double the global rate of improvement in energy efficiency
- By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support

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Opportunities for Learning

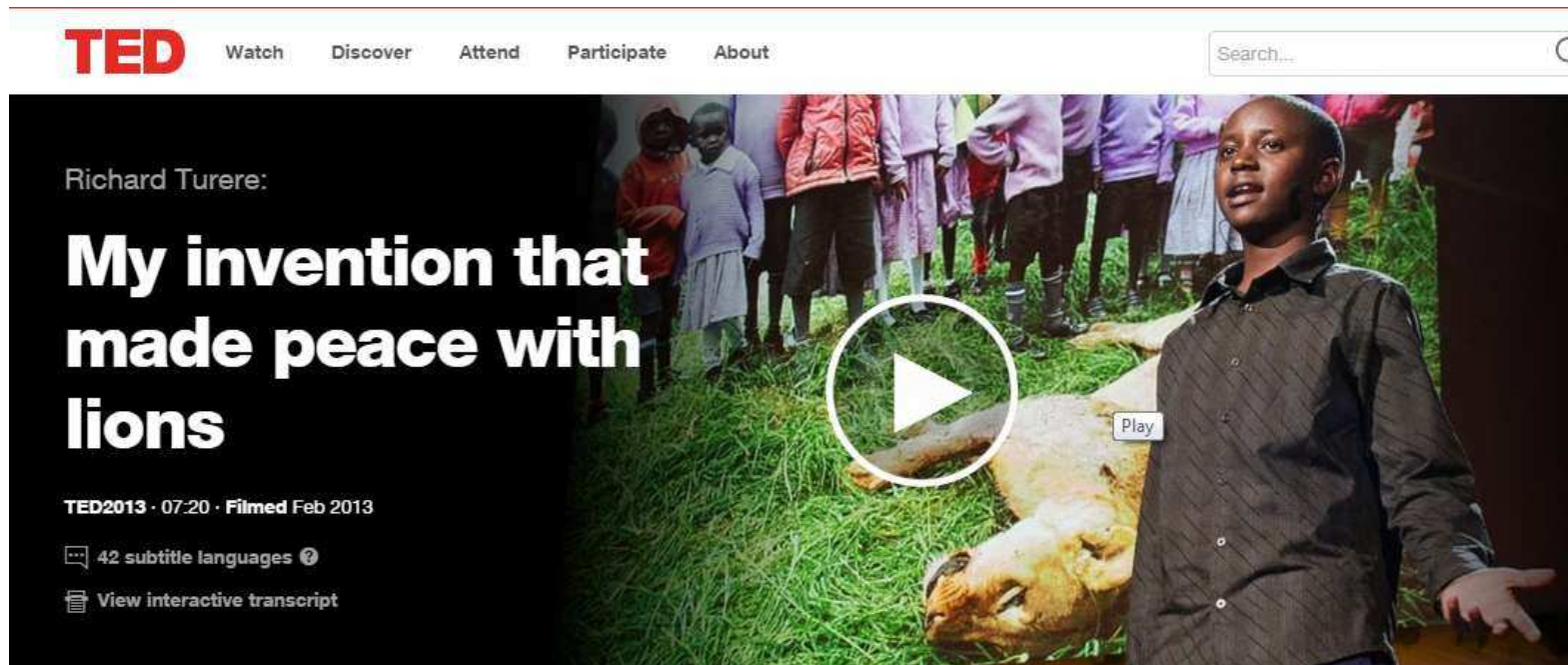
Curriculum Grid

Age	Opportunities	Subject Links
9-11	<ul style="list-style-type: none"> • What is renewable energy? • How does it differ from fossil fuel produced energy? • Make your own wind turbine and test it. 	Science STEM PSHE
11-14	<ul style="list-style-type: none"> • Is renewable energy the answer to our long term energy needs? • What are likely to be the next big improvements in renewable technology? 	STEM Science
14-16	<ul style="list-style-type: none"> • Identify career opportunities within the renewable energy sector across the world • Map investment in renewable energy around the world 	Careers education Geography
16-18	<ul style="list-style-type: none"> • Can the industrialisation of Africa be achieved through renewable energy sources? Discuss. • What are the opportunities for European countries to collaborate and join together their supplies of electricity? What benefits could this achieve? Present your ideas. 	Science STEM Geography

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An Unusual Use for Renewable Electricity



https://www.ted.com/talks/richard_turere_a_peace_treaty_with_the_lions#

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Demo Version, <http://www.verydoc.com> and <http://www.verypdf.com>

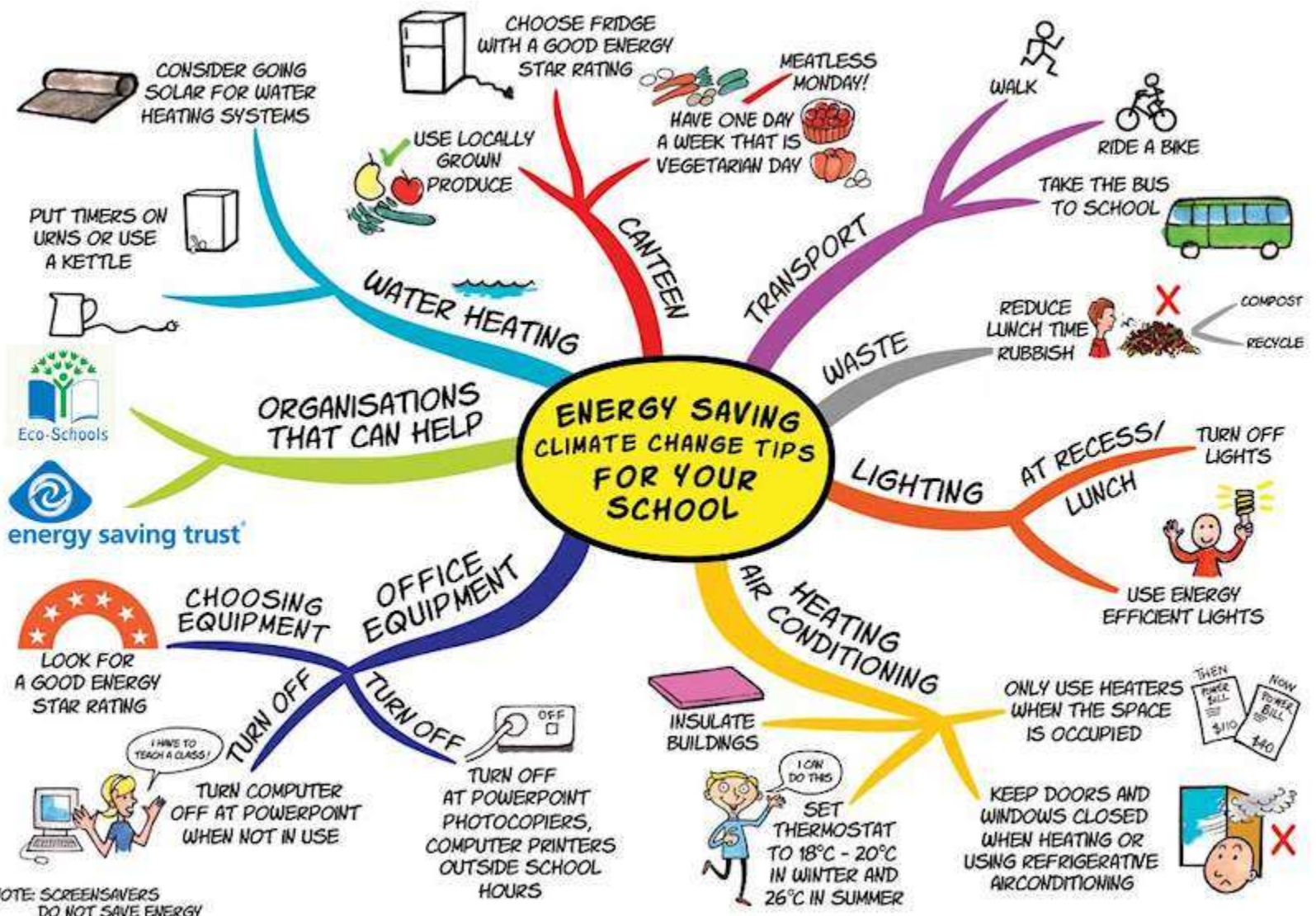
Group Activity (20 mins)

- Would this talk be appropriate as part of an energy topic?
- How else could it be used?
- What stimulus could you use instead/ as well?
- Agree on a target age group
- Produce a short curriculum plan or map of your ideas
- Share your ideas



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NOTE: SCREENSAVERS DO NOT SAVE ENERGY

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Plenary – so what have we learnt so far?

Proposed Outcomes for the session

- ❖ Greater understanding of education for sustainable development approaches, methodologies and values
- ❖ Enhanced understanding of Global Goals 6 & 7 (Clean water and renewable energy) and practical teaching and learning opportunities
- ❖ Opportunity for all delegates to discuss issues and share ideas



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Plenary

– so what have we learnt so far?

- What are the next steps for this work?
- Plans for tomorrow and Thursday

Tweet, tweet!



Write a 140 character tweet about what you have learnt.

Status update...



Write a Facebook status update about what you have learnt.

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