KEEP IT COOL
CLIMATE CHANGE EDUCATION

Set 8 for Teachers:
Celebrating your success

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This is a support set for Teachers primarily, but also for Professional Learning Communities (PLCs) and School Leadership Teams (SLTs) - which includes the School Management Team and the School Governing Body - participating in the Keep It Cool: Climate Change Education (KIC:CCE) Project.

The KIC:CCE Project aims to implement innovative, curriculum activated CCE projects, involving learners and communities. The project aims to facilitate collaborative, continuing professional development and improve the teaching and learning of climate change education in the South African education system. Secondary school teachers will implement the change projects, with guidance and support from the school leadership team for the successful implementation of the projects. At the same time, teachers have the opportunity to form Professional Learning Communities (PLCs) to facilitate their professional development collaboratively. Key themes that run through the materials are gender equity, good governance, and social inclusion. The support sets provide stories, examples, tools and processes that can be used within the KIC:CCE Project by PLCs, the school leadership team and teachers.

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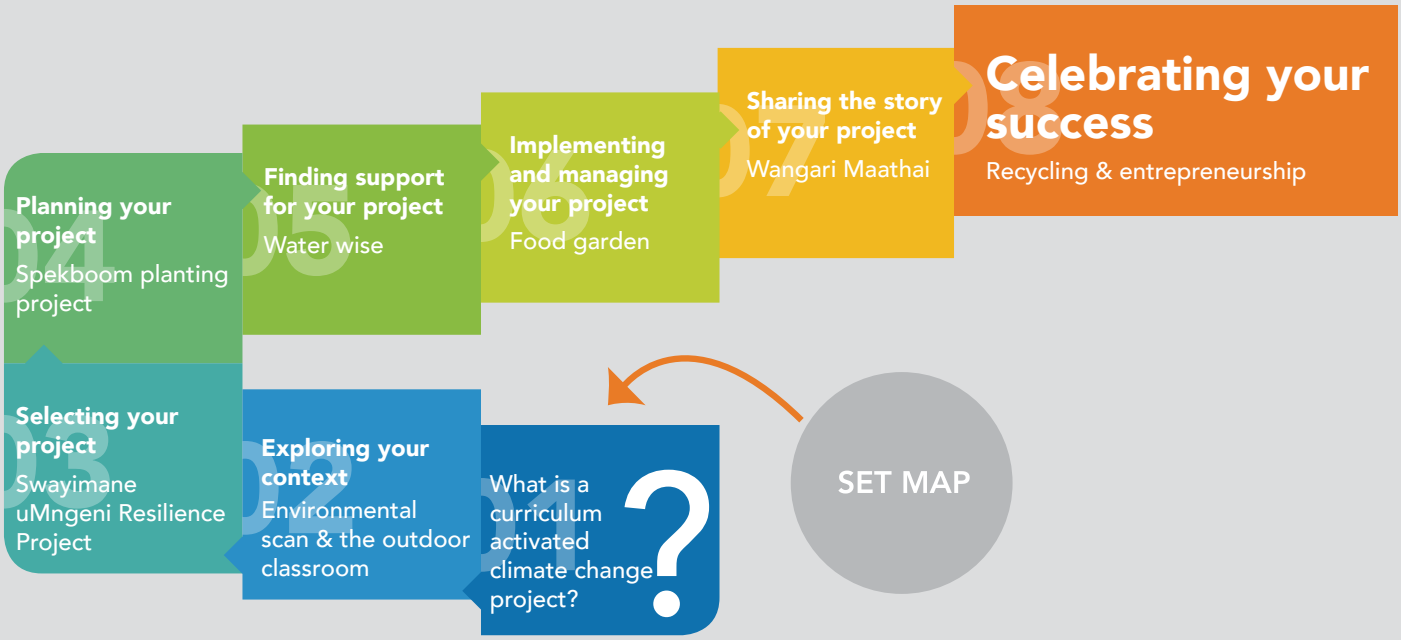
ORIENTING TO THESE TEACHER SUPPORT RESOURCES

Set 8 is about reflecting on what you have achieved in your teaching and learning practice through your curriculum activated climate change project, celebrating your achievements, and looking forward to what could happen next.

ORIENTING TO THE NATIONAL CURRICULUM

There are 8 sets in this Keep It Cool: Climate Change Education (KIC:CCE) project. The first set (What is a curriculum activated climate change project?) provides an overview, from which you can start thinking about your project. Each set shares examples of curriculum activated climate change projects intended to support you to integrate climate change education into your classroom. The inspirational stories provide possibilities that you can explore. What can you find out from the stories about transformative teaching and learning opportunities, possible projects, approaches or partners?



The stories will reference topics and page numbers from CAPS.

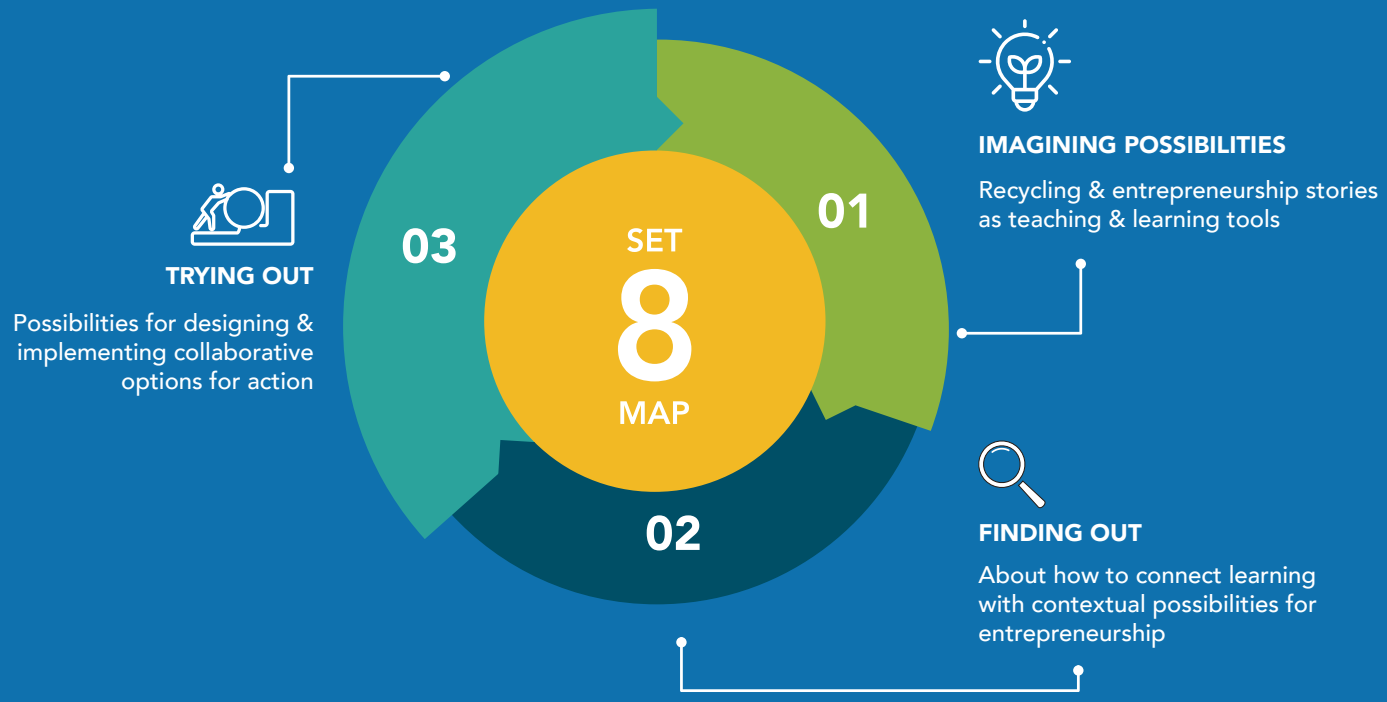
Curriculum links/ Project ideas/ Inspiring stories/ 'How to' guide: choose, plan, implement....

WHAT WILL YOU FIND IN THIS SET?

These sets are arranged into three key activity groups:

The theme of this set is **celebrating your success.** It is about ensuring that the curriculum activated climate change project is sustainable. It is also about thinking how the project could be expanded by adding complementary aspects, or different curriculum activated projects, so that teaching and learning about climate change is continuous, and the projects reach further. Also, what other learning and development opportunities are there for your teaching practice, learners, community members and others in your school?

WHAT WILL YOU FIND IN THIS SET?



IMAGINING POSSIBILITIES

Before you start –

Reflection
You might like to discuss with peers or your PLC:
Where and how the curriculum activated climate change project started. Ask yourself:

1. Were you (as a teacher) an advocate for sustainability, and an agent for meaningful change?
2. What have you learned about yourself as a teacher of Geography / Natural Sciences?
3. Think about your knowledge and skills, insight into the curriculum...what is important to you?
4. How can these insights be incorporated into your further journey of teaching and learning around Climate Change and related sustainability topics?

NOW, BE INSPIRED AND REFLECT ON CELEBRATORY STORIES ABOUT RECYCLING AND ENTREPRENEURSHIP PROJECTS

ENTREPRENEURSHIP
Using recycled material to create something new.

PARTNERSHIPS
With a municipality and a recycling company.

INSPIRED BY AN ENTREPRENEUR

Natural Sciences, Grade 7, term 2, Sorting and recycling materials. CAPS, 2011, p.13.
Khanyiswa Mxenge is a Grade 7 Natural Sciences teacher at a combined school in the Alfred Nzo District (Eastern Cape). While planning her Grade 7, term 2 lessons on 'methods of separation' and 'sorting and recycling materials', she read the story of Thato Kgatlanye's inventive recycling project. Thinking that her learners could also undertake a useful recycling project as part of their lessons, she planned her lesson set as follows:

01 LESSON INTRODUCTION

Reading
Learners read and enjoy the fact sheet on the story of Thato and her bags

Knowledge check
- What is recycling?
- Why do we need to recycle?
- What happens to waste in a landfill?

02 LEARNER TASK

Explore: what can be recycled?
Resource: recycling symbol; either a picture of waste or a tray with different types of waste

Sorting task
(Paper, recyclable plastic, glass, metal, kitchen waste, non-recyclables)

Research
Learners research how different materials are recycled, and discuss it in the context of their school and community

03 SELECT AND IMPLEMENT A PROJECT

Discuss
- The main source of waste in the school & community
- Ideas from the fact sheet
- Possible recycling projects

Choose
- The most appealing/ achievable project
- Outcome of project
- Roles/ tasks

Plan
Recycling project

Implement
The project

Prepare
Presentation

04 ASSESSMENT

Peer assessment – Learner groups present a poster that depicts their project, from inception to conclusion

Fact sheet used by
Khanyiswa Mxenge

Making something from recycled materials

Who?
South African student Thato Kgatlhanye

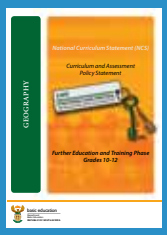
What?
Created a solar-charging school bag out of recycled materials, in 2015. Now - the Rethaka Repurpose Schoolbag

Inspiration
Seeing schoolchildren carrying their schoolbooks in shopping bags as they walked to school, and knowing how they battled to do homework or study, with no electric lights

Benefits
A smart, usable object made of waste material, that powers up a solar light while children walk to school; social change; job creation; minimises waste
From: Youtube, 2018.

For more on the Rethaka Repurpose Schoolbag, watch: https://www.youtube.com/watch?v=yss8Lt6a1oU

BUILDING ON PARTNERSHIPS



Dino Mathiva is a Geography teacher in Sibasa, Thohoyandou District, Limpopo. The local radio station announces that the municipality is looking for schools to partner with a waste recycling project. Dino is about to start a series of lessons with his Grade 11 class – on the sustainable use of resources.

CAPS Geography link – Grade 11, term 4, Sustainability and sustainable use of resources, p.36

Dino's introductory lessons went as follows:

[1] Learners were asked to share their understanding of 'sustainability' and 'sustainable use of resources'. Their contributions were noted.

[2] Groups of learners compared the use of resources:

Nature's example

People's wastefulness

Reusing resources

[3] The groups:

- Researched the impact of the wasteful use of resources
- Presented their findings to the whole class

Some fact sheets used by the class:

FACTS ABOUT PET

Its scientific name is Polyethylene Terephthalate. PET:

- is made from crude oil and natural gas
- is the most recycled packaging product
- can be recycled multiple times
- uses less material
- the weight of PET products has reduced by +30% over 10 years

[4] The presentations were assessed by Dino against previously specified criteria:
Authority of sources used; validity of argument; clarity of ideas presented; clear 'Call to action'.

[5] A representative of the municipal project talked to learners about the recycling project and learners asked questions.

[6] Dino then asked whether learners would:

- Support the project, and
- Assist in gathering support from others in the school

Partnering in a recycling project

Who: Collaboration between schools, municipalities, PETCO and SAFRIPOL
What: Waste separation bins:

PETCO recycles PET plastic bottles

SAFRIPOL is the supplier of the raw materials

The waste is 'sorted at source'.
Where: Northern Limpopo - Thulamela Municipality – in the towns Thohoyandou and Sibasa.

FINDING OUT ABOUT GHG

- Heat absorbing and reflecting gases are known as greenhouse gases (GHGs) and include carbon dioxide, methane, nitrous oxide, and water vapour.
- They act as heat absorbers - keeping the Earth warm. Without GHGs the Earth would be about 35°C colder.
- Many human activities (energy generation, transportation and deforestation) release stored GHGs into the atmosphere.
- These 'extra' gases absorb and retain **more** heat, making the Earth warmer.
- An average temperature rise of 1°C has huge implications for Earth's systems and life on the planet.

Adapted from: Brundrit, p.15.

OTHER RECYCLING PROJECTS THAT COULD BE USED BY TEACHERS AS INSPIRATION FOR THEIR CLASSROOM PRACTICE AND/OR CURRICULUM ACTIVATED CHANGE PROJECTS:

Turning 'waste' into 'wonderful'

Esethu Cenga, Lonwabo Mgoduso and Tshepo Bhengu founded Rewoven in 2017. 'Rewoven' diverts textile waste from landfills, creating jobs; they recycle it into new fabric with the same look and quality as fabric made from virgin fibres. Rewoven's manufacturing process uses 99% less water and generates 50% less CO_2 emissions than normal production processes. Rewoven bagged the Äänit Prize, for social impact, valued at R1.19 million. From: News24

Supporting the school through waste recycling

Schools join Waste Trade Company (TWTC)'s Schools Recycling Project, in the Nelson Mandela Bay Metro. They collect recyclable waste; develop eco clubs; appoint 'green champions'; arrange 'green' clean-up events; set up recycling stations; participate in educational activities led by environmental experts. Colchester Primary School's recycling buyback centre exchanges recyclables for food. The school received a cash prize for collecting an average of 58.87kgs of waste per learner. At: https://www.thewastetradecompany.co.za/

Benefits of these projects:

- Every second, the equivalent of a truckload of clothes is burnt or buried in a landfill – Rewoven lessens this wastage.
- The Schools Recycling Project saved half a million kilogrammes of recyclable material from a landfill!
- The project provides some food, keeps the community cleaner, and generates funds.
- Sustainability.

Finding out:

What could happen with the curriculum activated climate change project now?

Now is the time to celebrate the learning that the project has achieved. You could think about:

A

How to celebrate how your teaching and learning practice has brought about change and action to address a real matter of concern in your local school and community.

B

How you can recognise the participation of learners; the School Leadership Team; teachers; the community; those who helped with time, donations, or funds.

C

Could you celebrate by sharing the story of your curriculum-activated climate change project?

D

How your learners could collaborate in sharing the story of the curriculum activated climate change project.

E

Would the community, the DBE, and nearby businesses enjoy a tour of the project?

People enjoy sharing learnings … and being acknowledged!

CHOOSING WHAT SHOULD HAPPEN IN THE PROJECT NOW

a) **Maintain project momentum – keep on** doing what has been done. Also, think of **different** ways of implementing the project. Are there colleagues, new or old, who could get involved? Could the community assist during holidays? Do you need to look for new **learner leaders** to help carry on with the project?

b) **Expand or improve the project –** make the scope of the project **bigger.** You could expand the vegetable garden, adding to the variety of vegetables grown. Or you could build a retaining wall to shelter the plants better

c) **Develop partnerships – work with** nearby schools to develop collaborative and mutually beneficial projects. A school that is removing alien trees could partner with a school needing a fence, or stakes for plants. ***What other possibilities for collaboration exist – with NGOs, community groups, businesses or local cooperatives?***

d) **Extend the project –** add another **aspect** to the project: A recycling project could use funds raised to add solar power panels! What possibilities are there in your context, that could be implemented? (You could return to the list of choices in Set 2, to confirm further matters of concern. Or, you could revisit the task as circumstances change.)

e) **Teachers working together –** teachers could **work together** in PLCs to **find opportunities** from the curriculum to create possibilities for change through teaching and learning in addressing matters of concern.

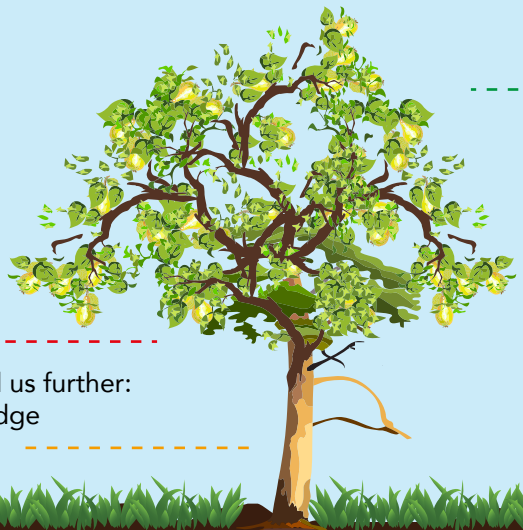
TRYING OUT

HELP LEARNERS TO THINK OF THEIR FUTURE

Perhaps a way to ***celebrate learners' hard work*** and enthusiasm is to ask them to think about the future that they are building for themselves as citizens who care about the environment. ***What can they do after their experience with a curriculum activated climate change project?***

The answer is … the options are endless, limited only by:
Interest Aptitude Application Opportunity

This diagram could be the starting point for a discussion with learners about 'Where to from here?'



3 The **branches** are focus areas

4 The **fruit** is the ultimate achievement in a field

2 The **trunk** is what can lead us further: support, research, knowledge acquisition, partnerships

1 The **roots** are the starting point: application, aptitude, attributes, concerns, effort, interests, skills

SHORT STORIES INTRODUCING POSSIBLE CAREERS, ACTIVISM AND ENTREPRENEURSHIP OPPORTUNITIES LINKED TO CLIMATE CHANGE:

Agriculture

A young man from Bergville, Natal, who helped to start a vegetable garden project at his school, has a small organic vegetable farm

Socio economics

Atlegang Dikgang of North West Province won a prize for his recycling project 'Paper for Bread'. The project raised money for food for his school and community

Sustainability

Esethu Cenga developed a sustainable business that uses fabric offcuts to reweave new fabric - preventing the offcuts from going to landfill

Education

Xola Fuyani is an environmental education coordinator, having been active in school eco projects since her youth

Activism

Courtney Morgan is an eco-feminist working in climate justice activism and food sovereignty. She did a BSc Hons in Human Geography

Arts and culture

The musician Mhlanga (aka Haikuu) sings about climate change. Listen to his conservation song 'Protect our Water' at: https://www.youtube.com/watch?v=8vktDDmHkfA

Government

A learner from Shea O'Connor school, who helped to rehabilitate the wetland, has a master's degree and is now an environmental officer for the eThekwini Municipality

Science

Ndoni Mcunu is a climate scientist and entrepreneur who founded Black Women in Science South Africa (BWIS SA). Interested in environmental sciences; climate change; and women in STEM careers

Entrepreneurship

Thato Kgatlhanye started making the Rethaka Repurpose Schoolbag from recycled plastic bags when she was 15. The bag powers a battery for a solar-powered light, while children walk to school

Law

Amanda Mkhonza lectures Environmental Law at the University of Cape Town (UCT). Interested in the protection of SA's strategic water sources

WHAT IS NEXT FOR YOU?

Thinking about YOUR next actions

How can you choose what knowledge and skills you want to develop further?

Think about your teaching practice:

Imagining possibilities – what interested you the most whilst refining your teaching and learning practice through the curriculum activated climate change project?

A

What interested you the most... was it:

- Transformative teaching methodologies?
- Leadership?
- Project management?
- The science behind climate change?
- Practical skills?
- The change project process?
- Something else?

B

What would you like to be able to do once you have developed your knowledge and skills further?

- Apply your new skills in the classroom?
- Develop your transformative teaching methodologies?
- Undertake further curriculum activated climate change projects?
- Complete a Continuous Professional Development (CPD) course?
- Start or join a PLC, or continue with an established PLC?
- Apply for a promotion?
- Consider a leadership position?

Finding out more and making choices

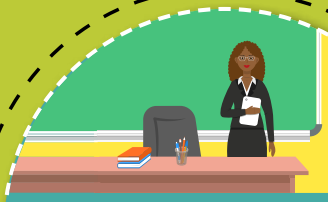
What is available? For example: micro-learning courses, or a course in e-Learning and teaching to support your practice during the ongoing pandemic; or other virtual Open Educational Resource (OER) courses that can build your teaching and learning practice sustainably.

Think about working with a PLC:

Imagining possibilities – what opportunities does a PLC offer?

C

Continue to explore opportunities within a PLC, which could invite experts to share knowledge and experience that could be put into practice.



Could you form a PLC that looks at improving teaching practice, classroom management skills or another area of need?

D

PLC course: https://learn.ecubed-dbe.org/vvob/courses/basic-plc-course/

PLC Extension course 1: https://learn.ecubed-dbe.org/vvob/courses/plc-extension-course-1/

s-cool-links The platform aims to bring secondary school teachers from all over the world together to learn, teach and exchange about climate change.

What has been covered in this set?

This set has focused on stories of curriculum activated projects about recycling and entrepreneurship that can inspire the development of your teaching and learning practice.

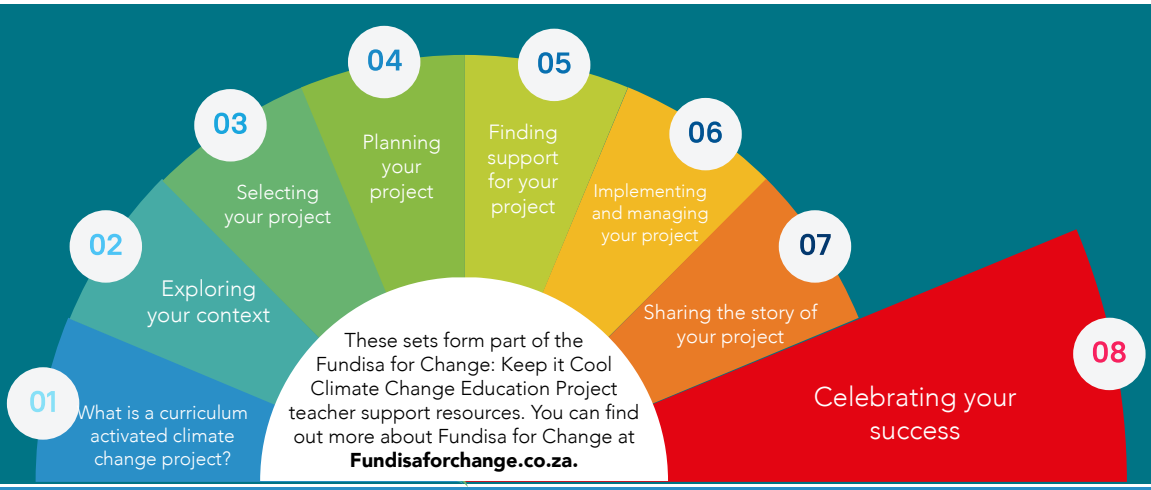
At the end of the 8 sets, and following on from set 7 - where you shared your transformative teaching and learning journey through the story of your curriculum activated climate change project - you can now think about celebrating your project.

The 'IMAGINING POSSIBILITIES' stories shared innovative projects that:

- are activated by CAPS;
- respond to a matter of concern in the context;
- provide a resource for teaching and learning; and
- address entrepreneurship and recycling (the schoolbag and municipal projects).

The 'FINDING OUT' and 'TRYING OUT' sections provide suggestions for:

- celebrating your teaching and learning through your curriculum activated climate change project;
- exploring the next steps for your project;
- suggesting actions to develop your skills further; and
- exploring future possibilities with your learners.



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PLC course: https://learn.ecubed-dbe.org/vvob/courses/basic-plc-course/

PLC Extension course 1: https://learn.ecubed-dbe.org/vvob/courses/plc-extension-course-1/

South African wins R119m for her recycling start-up. At: https://www.news24.com/news24/southafrica/news/feel-good-south-african-wins-r119m-for-her-recycling-start-up-20211026

The Rethaka Repurpose Schoolbag. At: https://www.brightvibes.com/791/en/repurpose-schoolbags-the-upcycled-solar-powered-backpack

The Waste Trade Company. At: https://www.thewastetradecompany.co.za/

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Another resource for you:

The KIC: Climate Change Education Project has developed an extensive digital library of materials for all KIC partners.

What is in the resource? Open Educational Resources (OER's) that focus on teaching and learning about climate change and sustainability

When will you be able to access it? The website is live

How can you access the resource? https://ibali.uct.ac.za/s/ccse/page/welcome

How can the resource be used? Its primary purpose is to provide the teaching community (from primary, through to teacher educators) with relevant text and media resources to enhance their teaching practices and courses. You can do general searches by main categories such as climate change topic, foregrounded approach, or target audience. Each general category is then broken down into subtopics to help you find your areas of interest

You will be able to add interesting materials that you generate or find!

If you would like more information about curriculum focused, transformative learning, and transformative teaching and learning methods, then look at the Fundisa for Change core resources. You can download them from the Fundisa for Change website.
https://fundisaforchange.co.za

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