



DVV International

Education for Everyone. Worldwide.  
Lifelong.



# Fuelling our future

Global learning in the ELT Classroom

## Dear colleagues,

why introduce Global Education to ELT?

English as a global language is intertwined with globalisation – in fact, many VHS learners need English because their lives and work are growing more and more global. Globalisation and climate change are not new to the ELT classroom, but Global Education takes these topics a step further. The approach “opens people’s eyes and minds to the realities of the globalised world and awakens them to bring about a world of greater justice, equity and human rights for all“ (Maastricht Global Education Declaration, 2002).

Far from constituting a fixed curriculum, the GE approach is an open concept of education, making us as educators aware that many topics we discuss in educational contexts have far-reaching implications concerning human rights, global (in)justices and matters of sustainability. Global Education thus is nothing less than the educational answer to the challenges of globalisation and to the necessity of developing the globalised world into a sustainable global society.

Fossil fuels are the very foundation of industrialised economies and lifestyles. There is overwhelming scientific consensus that human activity is warming the planet. The countries of the so-called global south are especially affected by climate change and mostly ill-prepared to cope with its social, environmental and political effects. The reduction of CO<sub>2</sub> emissions worldwide is imperative, which requires us to reshape economies, cities and lifestyles. Such concrete issues relate to students’ everyday lives and show how our day-to-day activities are closely reliant upon global structures.

This brochure is the second in a series of modules for ELT at various levels. It is organised into:

- an introductory chapter giving you the background of the topic,
- a detailed teaching guide which includes methodological tips and information on language points and content details,
- student pages and
- material for group and pair activities.

The material covers a minimum of 4x90 minutes. The focus is on the subject matter, but you may wish to include more language work. It is suitable for conversation classes or for supplementing standard or business courses at B2+/C1 level.

We hope that these materials will inspire you and your learners and look forward to your feedback.

Sincerely

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# 1. Fuelling our future

## Overview and background



## Introducing global perspectives to the English language classroom at VHS

### Global Education

In ELT, global perspectives always play a significant role because English is a global language, spoken by more non-native speakers than native speakers around the world. Mostly, what is referred to as global perspectives in the ELT classroom is varieties of English and the use of English in global (business) relations.

In Global Education, the focus is a slightly different one. Global Education zooms in on global interdependencies that manifest themselves in environmental issues, unjust trade relations, the unequal distribution and control of resources or matters of human rights to name but a few.

More information on the issue of Global Education can be found on various websites such as:

<http://www.globaleslernen.de/de>

<http://www.bne-portal.de/>

This module is set at B2+ level, confronting learners with complex issues, authentic or semi-authentic texts and fairly complex language. The topic chosen is fossil fuels: How do the extraction, transport and consumption of fossil fuels affect our daily lives and our environment? Are we really as dependent on oil and gas as many people think? How can we restructure our traffic system to reduce emissions? How can we make our cities regenerative? Will we need to rethink our very relationship to our natural environment? Based on a look at a variety of facts and concepts, learners are asked to develop their own ideas and to consider whether small changes to their habits may make their lives more sustainable and less carbon-based.

## ELT curriculum

At the end of level B2 or beginning of level C1, learners should have a high proficiency in understanding authentic or near-authentic texts and fairly complex language. In this module, they will be confronted with concepts that may be new to them, and thus with new vocabulary. Vocabulary ranges from environmental to business to legal to pastimes and health.

Some of the texts were written for this material. Authentic texts have been shortened but only very slightly simplified. Please check them against the level of your group! The focus of these materials is on the topic rather than the language. The skills practised are mainly reading, presenting, discussing, public speaking and to some extent negotiating. Some language material is included at the back and cross-referenced, but you may wish to use additional material for language and structures. The material does not focus on specific language points.

## Time frame and course format

The material and activities are meant for a minimum of four 90-minute sessions. In a compact seminar format, which allows for more project work, allow 12 to 16 teaching hours. In such settings, activities where students develop their own sustainable projects should be given more time. This applies especially if facilities for in-class internet research or the creation of materials (powerpoint presentations, posters, leaflets, product models) in class are available.

### In a nutshell

Given that the burning of fossil fuels is one of the main causes for climate change, which is threatening people's lives and livelihoods, working towards reducing carbon emissions is a critical aspect in fighting hunger and poverty around the world and to maintaining a viable environment for generations to come. However, our economy is largely based on fossil fuels like coal, petroleum and natural gas in production, transport and consumption. Equally, transport systems, the way our cities are laid out and our very lifestyle depend to a large extent on fossil fuels. This module looks at a number of ideas for a carbon-reduced future. Students encounter ideas like *buen vivir*, cyclical economies, regenerative cities or a cradle-to-cradle approach to product design. They create their own projects in sustainable town-planning and product design.

The material lends itself to being incorporated into longer classes that touch upon related topics as much as into business English classes. The activities on creating a mobility concept for a new town development or developing and presenting an innovative product figure well in a business English class or Bildungsurlaub.

The time frame can easily be expanded (or may have to) by taking more time discussing the issues, by allowing more time for activity formats like the chat show or by introducing more detailed research activities and project work. You will find some suggestions in the teaching guide, but you are encouraged to use and adapt the material according to your and your students' interests and needs.

## Pollution and climate change due to fossil fuels

The extraction and refining of crude oil constitutes the very basis of our economy and lifestyle: Crude oil serves the production of electricity and as fuel for almost all means of transportation. It is part of plastic materials, colours, medicine and cosmetics.

The petroleum industry appears to be influential, influencing governments and international regulations. Yet the environmental destruction caused at all stages of extraction, transport, processing and consumption is often immense. The explosion on the offshore oil drilling rig Deepwater Horizon in the Gulf of Mexico in 2010 might serve as an example.

Certain parts of Nigeria suffer major environmental damage from the extraction of the resource, which is largely refined and consumed by industrialised countries or emerging economies. A major oil company was expected to strike a deal (beginning of 2015) to pay millions in compensation for two oil spills in Nigeria in 2008 after agreeing on a settlement with the affected community.

## Renewable energy, Green Economy

Renewable energy can replace fossil fuels as an energy source in many fields (e.g. electricity, heating), with the transport and storage of energy derived from renewable sources remaining a challenge. Energy efficiency reduces the need for energy, thus contributing to a solution. However, many Green Economy approaches stay within the framework of a growth-oriented economy while trying to replace carbon-based technologies with clean(er) technologies.

## Mimicking nature: Circular economy

Approaches that rethink the economy in terms of life cycles – of humans, of resources, of community – take a different approach. Modelled on the organic life cycle of nature, an organic view of the economy encompasses all production, consumption, transport, social life, the natural environment and artefacts. “Cradle to cradle” originates in product design and requires all components of a product to be reusable and fed back into the production cycle. Similarly, waste in a regenerative city becomes a resource, e.g. for agriculture, and trees are re-planted. Such perspectives on processes hitherto thought of as a linear input-output-model can lead to new ideas in all fields.

## Living in harmony with Mother Nature: Buen vivir

Ecuador has incorporated into its recent constitution (2008) the principle of “good living”, which has similarities to the above ideas. An organic view of life implies viewing society and the use of energy and resources in terms of life cycles. “Buen vivir” is not only based on economic and political thinking, however, but is rooted in an Andean view of life and of humans’ relationship to Mother Nature – a nature that cannot be owned or subjected to economic interests.

## Making it real: Sustainable projects

Organic views on society and the economy translate into concrete examples that are emerging all over. They can be applied to small issues like developing a product or service that contributes to regenerative waste management. Or they can be applied to contributing ideas for transport and mobility to a town planning project. Students will encounter examples from around the world and are invited to plan and present their own projects. In doing so, they are possibly preparing to take a step towards living more sustainably on a day-to-day basis, if they so wish.

## Further reading

There are a number of NGOs who work on the issues discussed here. You will find more information on their websites. The chapter on the Deepwater Horizon disaster and oil production in the United States is inspired by the EPIZ publication “Erdöl – ein umstrittener Energielieferant”. EPIZ (Entwicklungspolitisches Bildungs- und Informationszentrum – EPIZ e.V. Berlin) promotes Global Education. It offers teacher training and publishes teaching materials on a range of subjects, most of which are available for download ([www.epiz-berlin.de](http://www.epiz-berlin.de)). Epiz also offers an e-learning centre. It is worth exploring the website for background research and for ready-to-use teaching materials, some of which are available in English.

Much of the information on Nigeria comes from the report on the environmental situation in the Niger Delta which Friends of the Earth International (in Germany: BUND) and amnesty international published in 2014. It quotes and reviews the 2011 report by the UN Environmental Programme (<http://www.foei.org/>, <http://eraction.org/>, <https://www.amnesty.org/en/>, <http://unep.org/>). Human Rights Watch reported in detail on conflict over oil in the Niger delta in a Briefing Paper from February 2005 (<http://www.hrw.org/>). Reports from the Nigerian press were sourced from <http://allafrica.com/>

The International Panel on Climate Change is a collaboration of thousands of scientists and 195 governments (<http://ipcc.ch/>). Altenergy.org gives an overview of alternative/renewable energy sources. The GAIN index provides useful figures on climate change in individual countries (<http://index.gain.org/>). The idea of the Regenerative City is promoted by the World Future Council (WFC). It consists of up to 50 personalities from all five continents who represent governments, parliaments, the arts, civil society, academia and the business world (<http://www.worldfuturecouncil.org/english.html?lang=1>). Author of the concept is Professor Herbert Girardet, with whose kind permission we are using diagrams from his publication “Towards the regenerative city”. For more detailed information go to: <http://www.routledge.com/books/details/9780415724463/>

The Guardian and the BBC regularly report on sustainable business (<http://www.theguardian.com/uk>, <http://www.bbc.com/>) and provided information on most of the issues covered here. Most internet searches also come up with YouTube or other videos, which you may wish to use in the classroom.

You may want to search for additional information regarding topics such as global equity, de-growth and post-growth, sharing economy or green urban planning. For a comprehensive look at the various implications of climate change and a wealth of sources, you may want to check out Naomi Klein’s book “This changes everything”. The accompanying website might also be of interest, especially the section on “Beautiful Solutions”:  
<https://solutions.thischangeseverything.org/>



## 2. Fuelling our future

# Teaching guide



## Oil: Black gold or black death?

### The downsides of fossil fuels

Coal and oil, two of the major fossil fuels our current economic system essentially is based on, for a long time were considered black gold. With pollution and climate change becoming increasingly apparent, a large part of the global community has come to realise that these are technologies contributing to pollution and global warming. This chapter presents two examples for pollution through oil: The explosion of the Deepwater Horizon oil rig in the Gulf of Mexico in 2010 with its economic and environmental repercussions in the United States of America. The pollution of the Niger Delta in Nigeria by the petroleum industry, which for decades has been having a dramatic impact on the environment and thus on the livelihood, water and food supply (agriculture, fishing and drinking water) of many people. In a chat show, students enact victims of the respective disaster talking about their experiences as well as the opportunities and limitations of alternative

energy. Alternatively, students take on the role of human rights advocates putting forward their ideas and demands. In this activity they encounter the question of corporate accountability, learn about alternative energy and put themselves into the shoes of the victims of environmental disasters. They might conclude that company profit is often given priority over environmental, social or human rights issues.

### ELT curriculum

- Tasks include talking about developments, sequences of events, cause and effect; comparing and contrasting
- Vocabulary: environmental issues and pollution
- Skills and functions: reading, summarising, presenting, discussing

## Suggested time frame



Phase		topic	Additional material
Warm-up	10 min	Oil all around us	Brainstorming in pairs and competition or as a class
Reading	20 min	Oil production in the United States of America and in Nigeria	
Chat show – preparation	20 min	Deepwater Horizon and Niger Delta environmental disasters	Texts p. 29 Language aid p. 41 and 43
Chat show	20 min	Pollution and alternative routes: Low-carbon technologies	Arrange classroom as “panel” and “audience”
Line-up	10 min	Taking a stand on the five most controversial statements	Space for students to line up
Wrap-up: writing and sharing ideas	10 min	Reflection on the topic and on possible action	

**It makes sense to hand out the student material after the warm-up!**

### Warm-up: Oil all around us

To warm students to the topic, have a short brainstorming session. You either do this by noting on the board all the ideas and associations students shout out (often difficult to include everything because very fast), or by turning it into a competitive game: Ask students to brainstorm in pairs for two minutes as many items containing oil and products derived from it as they can. Pairs then give their scores. Afterwards, ask them to share the five most important items with the class.

To sum up the result, ask students whether any part of their existence is oil-free.

Ask groups/pairs to decide which of the points they have found they consider the most important ones. Pool ideas. The imbalance between the accumulation of wealth in the USA and oil conflict and poverty in Nigeria should become visible, as well as the difference between the two countries regarding their oil consumption.

Introduce the chat show activity, which focuses on pollution, environmental issues and the repercussions of these.

### Reading: Oily economies

The texts on the United States and Nigeria give a brief overview of the development of the petroleum industry in the respective country. In combination with the statistics provided, the significance of the oil industry on the one hand and the discrepancy between Nigeria's oil production and consumption on the other hand become apparent.

First allocate texts A and B respectively to students. Ask them to read their text and make notes based on the questions given. Then put them in A+B pairs to exchange information and discuss the questions with their partner. Alternatively, you can put students in thematic groups first to read and discuss their text and then create A+B pairs or mixed groups.

**Students are bound to come up with the issue of climate change. Although not the focus of attention here, you may wish to point out to students the GAIN index, which shows that the countries producing the least CO<sub>2</sub> emissions (developing countries) are the hardest hit by climate change and the least prepared. See page 23. Also, you might want to point out the carbon footprint calculator to students.**

## A chat show

The explosion of the Deepwater Horizon oil rig in the Gulf of Mexico in 2010 led to arguably the worst environmental disaster in US history, with major economic repercussions in agriculture, fishing, tourism and the oil industry itself. The scope of the damage done still is unclear – the environmental impact is unfolding even years after the disaster, and economic repercussions are still to be felt.

The petroleum industry has been polluting the Niger delta for more than 50 years, which has passed largely unnoticed by the global community, particularly by those consuming the oil. The Ogoni people's struggle has achieved international attention resulting in a report by the United Nations Environmental Programme (UNEP).

The examples show that the US managed to hold the petroleum company in question responsible. The Nigerians, in spite of long-lasting protests and a UNEP report which demands major clean-up activities, compensation for the victims and emergency measures to be implemented by the petroleum company and the Nigerian authorities, are so far left without compensation payment.

Students will look at the issues from the vantage point of victims, scientists, experts in renewable energy and of a NGO. These perspectives come together in the “chat show”. Through the “journalists”, the chat show introduces the German perspective to the issues and invites students to consider their personal involvement.

The announcement of the chat show in the student pages is no more than a teaser. Invite a few ideas about possible guests. Then explain that students will prepare the role of a guest to the show. Announce the roles and ask students to give their preferences, but try to get students for each of the roles. You could also spontaneously decide to use one of the guests suggested by the students instead. Students prepare the chat show in groups (ideally of three).

Explain that from each group, one student will be in the show, and the rest of the students will make up the audience. The audience can join in the discussion after a first round of statements from the panellists. The “journalists” need to be particularly inquisitive and capable of improvising – take this into account when allocating roles.

**In a small class, put students in pairs instead – the activity only works if there is someone for each role.**

Arrange the room like a chat show, with the audience sitting in a semi-circle around the panellists. The “journalists” should then take over and structure the debate. Make sure there is a round of statements from all the panellists before the audience is asked to join in.

### METHOD

#### *Keeping a record of the debate's results*

Appoint two or three “note takers” from the audience and ask them to present five one-sentence statements at the end, summing up the most controversial issues. They should put them to the class in the format “To what extent would you agree that...?”

## Line-up: Taking a stand

Ask the note-takers to put their five statements to the class. Then ask students to take a stand.

### METHOD

#### *Line-up*

A line-up activity asks people to express their attitude/opinion by physically showing where they position themselves, related to the question asked. In this activity, create a sort of scale. This can be “agree” in one corner versus “disagree” in the opposite corner, with a “don't know” spot in the middle of the room. Ask someone to read out a statement and give students half a minute to find their respective position. You can ask a few of them to give details, which may result in a discussion. Or you simply use the activity as a quick survey.

The line-up can also be used to take a vote on something. A related activity is a sort of landscaping, where certain spots in the room are assigned specific meanings, and students assemble around their topic/preference/question etc. Most well-known is the application in picturing family constellations or relationships within groups.



## Something to write home about?

The writing task encourages students to personally and emotionally react to what they have encountered. It gives students time to reflect for themselves and draw their own conclusions. You can give this as homework.

### Wrap-up

**Ask students to note down what they found interesting, surprising or touching, using the prompts in the speech bubbles (p. 19). Ask students to share ideas with the class. These “note pads” throughout the material will allow students to look back at their own learning process.**

# Getting around

## Mobility – policies, infrastructure and individual choice

Whether people walk, cycle, drive or use public transport depends on a variety of factors, such as personal preference, comfort, (lack of) infrastructure, cost and last but not least habit. For some people, that decision is also informed by environmental or political considerations, while other aspects may impose constraints. A number of cities around the world are moving towards green policies – for example Vancouver, Canada. Having considered their own habits and the action plan of the city of Vancouver, students develop a mobility concept for a new urban development. Going beyond issues of traffic, they consider the idea of *buen vivir*.

### ELT curriculum

- Vocabulary: oil industry, travelling habits and transport, urban planning, project plan
- Skills and functions: presenting, small talk, reading
- Situations: socialising at a pre-conference event, public speaking

**It makes sense to hand out the student material after the warm-up!**

### Suggested time frame



Phase		topic	Additional material
Warm-up	5 min	Oil and its uses: Estimating	Brainstorming in pairs and competition or as a class
Speaking: Cocktail party	10 min	Transport: Habits and preferences	
Reading	10 min	Vancouver: Greenest City 2020	Texts and instructions p. 33 Language aid p. 40, 42–43
A mobility concept – group work	20 min		Pens, flip chart paper, infrastructure for poster exhibition and council meeting
Open council meeting	20 min	Building green infrastructure and green habits (poster exhibition and group presentations)	
Sustainability: Definition	15 min	Beyond green technology	
Internet activity (optional)		Ecological footprint	Computers, internet connection required
Wrap-up: Writing and sharing ideas	10 min	Reflection on the topic and on possible action	

## Warm-up: Oil and its uses

Ask students to guess what percentage of oil is used for transport, heating and the chemical industry in Germany. Pool results before you disclose the correct answers. What surprises many people is that the share of the chemical industry is quite small (18%), compared to heating (29%) and transport (49% excluding logistics companies). Elicit conclusions from the students – it is fair to say that private households and individuals can contribute a relevant share to reducing CO<sub>2</sub> emissions, saving money at the same time?

*Figures taken from "Erdöl – ein umstrittener Energielieferant" (EPIZ)*

## How do you get around? Cocktail party

Ask students to think of five statements on ways of travelling, for example "I usually take the car when it rains." Imitating the setting of a cocktail party, they then walk around the room and find someone to chat to. After a minute, signal them that they should go to someone else.

### METHOD

#### Cocktail party

The activity is like a party if you bring some glasses and something to drink. What also adds to the atmosphere and at the same time structures students' timing is to ask students to walk around while you play some music, and talk to the person nearest to them as soon as the music stops. When the music recommences, they move on.

Ask "what have you found out about (topic, see below) and transport?" to pool students' ideas. Cluster ideas, structuring the following activities at the same time.

#### Possible topics:

- ▶ daily habits
- ▶ holidays
- ▶ transporting items or other people
- ▶ commuting
- ▶ going out
- ▶ exceptions and special occasions
- ▶ work
- ▶ free time
- ▶ sport

## Reading: Vancouver – Greenest City 2020

Vancouver, Canada is implementing a programme including aspects of waste management, town planning, reforestation, and urban transport to become carbon-neutral. Most of the text was taken from the official town

website. The call for green transport projects to be presented at an open council meeting is fictional.

After reading the website, ask students to brainstorm with a partner what their city might look like. Elicit ideas and make a list of choices on the basis of which you form groups. Explain that students will have 20-30 minutes time to develop their ideas in some details. Provide groups with a space, flipchart paper and pens. Refer students to the presentation language on page 40.

Point out to them that part of their project presentation can be a talk, but encourage them to use visuals, role play, narratives and figurative language to win over the audience.

Circulate to follow up on the progress of groups. Set out the room for the council meeting. You chair and open the meeting. Groups present their products in turn, and councillors can ask questions.

At the end, have a discussion which of the projects should be implemented and why.

## Defining sustainability

Sustainability is the umbrella topic and yard stick for ideas discussed throughout this module. At the same time, sustainability is such a buzz word that it makes sense to look at its core meaning and origin. Read the Brundtland definition together. What do the students make of it? How is it applied to concrete issues? The words in the box refer to different ideas around sustainability. A few of the ideas have been mentioned in the material or come up in the sections to follow, others point beyond it. You can use them to review the discussion so far, to elicit ideas and foreknowledge from the students and/or for further research. You can also ask students to do some research and present their results to the class in the next session. Who knows – maybe there is an expert in your class? The wrap-up task itself addresses students' feelings and reactions more – don't leave it out.

The text refers to Vancouver's ecological footprint. You may wish to introduce the footprint idea at this stage (see below).

### Wrap-up

Ask students to note down what they found interesting, surprising or touching, using the prompts in the speech bubbles (p. 21). Ask students to share ideas with the class. These "note pads" throughout the material will allow students to look back at their own learning process.

# Climate justice?

## The consequences of climate change


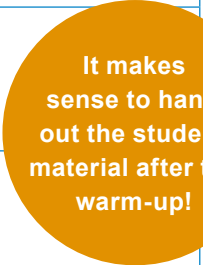
Greenhouse gas emissions contribute to climate change – this is widely agreed upon. The effects of climate change do not affect countries according to the extent of their emissions. Countries of the global south tend to be more strongly affected by climate change and less well equipped to deal with its environmental and social impacts (drought, desertification, soil depletion, rising ocean levels...). For efforts to reduce emissions to be effective, they need to be implemented globally. A difficult enterprise, as exemplified in UN climate summits. Or new extractive technologies such as oil from deepwater drilling, gas from fracking, bitumen from tar sands, keeping resources allegedly "cheap", excluding social and ecological costs from the calculation. The complex issue of climate change is touched upon in the material, but you are invited to dig deeper. You will find suggestions for internet research further on.

A possible contribution to mitigating climate change is greening the economy – office life as well as products, service and processes. Students learn about practical ideas and simulating a board meeting, they experience possible objections or resistance against green ideas, exploring ways to overcome these. Buen vivir, rooted in Andean indigenous tradition, takes an approach which is in contrast to European thinking and the scientific analysis that has convinced European policy makers to take action to reduce CO<sub>2</sub> emissions. Instead, a holistic view of the world and of humanity's relationship to their natural environment informs sustainable economic and social concepts based on small-scale, locally oriented business and agriculture. This opens up an intercultural perspective. It gives students an impulse to possibly rethink their attitude and expectations.

## ELT curriculum

- Vocabulary: political and economic relations, environmental and science, business
- Skills and functions: presenting, arguing, writing proposals and leaflets, summarising
- Situations: small talk (weather), pitching an idea in a meeting, presenting verbally and non-verbally

## Suggested time frame

Phase		topic	Additional material
Warm-up	5 min	Small talk: The weather	language tip p. 41
Reading and class discussion	20 min	The IPCC report on climate change and the GAIN index, relating the text to the diagram (optional: further research, role play)	
Summarising and writing a leaflet	10 min	Identifying main points, urgency and importance	
Discussing and presenting	25 min	Green Economy: The board meeting, dealing with objections	Language aid p. 40 and 42
Optional: Writing a proposal	20 min	"Greening" your company	Use writing guidelines from business or CAE preparation textbooks
Reading and performing	20 min	Buen vivir and pursuit of happiness: Comparing and contrasting the ideas through pantomime/role play	Texts and instructions p. 35/36
Wrap-up: Writing and sharing ideas	10 min	Reflection on the topic and on possible action	

## Warm-up: Talking about the weather

Small talk plays an important role in building relationships, but it can be difficult in a foreign language. The weather is a safe topic and one that the British like. The idea of a small talk ping pong is for students to try to keep the conversation going for as long as possible without talking nonsense and without embarking on profound issues. Students can play in groups of three, taking turns. In each round, a different person is the referee, so students play three rounds. Which pair manages the longest exchange in the group?

### Ping pong rules:

- React to what the other person has said.
- Do not repeat what the other person said.
- Say 2-3 sentences at each turn.
- Try to signal to your partner non-verbally if you want to interrupt. Try to react to non-verbal signals.

## Reading: Climate change

The text is complemented by a diagram. It is fairly complex and abstract, so you should give students time. The questions in the material draw students' attention to the imbalance between developing and developed countries and to the urgency of the issue. At the same time, prioritising is a skill which in a business class you may wish to discuss further.

**The summarising task (identifying the main statements) can be done by individual students, as suggested, or by pairs. You can expand the writing task to students expanding their statements to a text (for the leaflet or company magazine). This could also be homework.**

## Green Economy

One possible method for mitigating climate change is greening the economy – an idea by which different people understand different things. There are a number of different definitions or sets of principles around. Some of them are primarily technology-oriented, while others encompass issues of global fairness and justice. Yet others maintain that we need a paradigm shift, away from being growth-oriented (de-growth, post growth), as – simply speaking – there can't be infinite growth in a world with finite resources. You could ask students to do an internet search and compare their findings before the next task.

Ask students to think of a measure they would like to suggest to the board in groups of three. The prompts indicate the possible range – this could relate to small changes in office life or to major changes. They then present their idea to the other group (= board). There are two sets of role cards for board members. Some of the board member roles ask students to be critical and sceptical, so students will practise dealing with objections.

The material suggests you combine a writing task (proposal) and a presentation. It may make sense to ask students to draft their proposal as a group, leaving the actual writing of the proposal for later. In the group work phase preparing the board meeting, they should focus on the content and on preparing a presentation.

If time permits, give students 20 minutes in class to write their texts after the board meeting. That way, the written proposal can take into account the objections that have been raised at the board meeting. Students write their proposals individually and compare their results in their groups. Alternatively, the writing could be homework, and students compare results in the next session.

**The language tips on the elevator pitch and presenting should be helpful for students. See pp. 40 and 42.**

**Guidelines and language support for writing proposals are available in many business textbooks as well as in CAE preparation books.**

## Buen vivir – a good life

The concept of buen vivir roots in Andean indigenous cultures. Essentially, it is about living in harmony with nature. In contrast to the Cartesian dichotomy between human culture and nature, indigenous traditions see humans as part of nature. Natural resources are not to be exploited and subjugated to human needs and principles of economy and ownership but respected as living organisms which during human's lifetime nurture humans. All resources and nutrients taken from nature need to be replenished, a basic example being composting.

Although the “pursuit of happiness” and the “good life” sound like similar ideas, the individualism and competitiveness of Lockean ideas, which informed the American Declaration of Independence, are in stark contrast with the community-oriented approach of buen vivir. The activity explores these differences.

Put students in groups of four. Hand out texts and instructions. One group reads a text about the buen vivir

approach, the other one a text about the idea of pursuit of happiness. The activity asks students to prepare a pantomime or role play, which will only work if they transform the abstract ideas to a concrete situation or an analogy which can be enacted. That is quite a challenge but at the same time it shows them the relevance of the ideas to their daily lives and gives them a clearer idea of the concepts.

### Wrap-up

**Ask students to note down what they found interesting, surprising or touching, using the prompts in the speech bubbles. Ask students to share ideas with the class. These “note pads” throughout the material will allow students to look back at their own learning process.**

# Regenerative cities, life cycles

## Sustainability in practice

Around the world, urbanisation is continuing. The layout of most cities does not make them a suitable habitat for humans in many respects. For fresh air, plants, lakes and rivers many city dwellers need to go into the country. Cities are often dominated by traffic and noise. Reliable, comprehensive transport systems, cycle ways and pedestrian areas don't exist or are very limited in many cities, priority tends to be given to cars.

The concept of the regenerative city encompasses all aspects of urban planning, and many ideas have already been put into practice. Essentially, this is about a city's metabolism. Students learn about the idea of a regenerative city. They discuss whether their own town is regenerative and look at some examples from around the world. They read about zero waste grocery stores, do a research on zero waste on the internet and discuss their own zero waste ideas. They develop a project plan to make their household, their company or their childrens' school a zero waste place. At the end, they review the ideas covered in this module as a whole and draw their conclusions from it with a view to possible steps they could take personally.

## ELT curriculum

- Vocabulary: urban planning, waste management, recycling, project plan
- Skills and functions: letter writing, small talk, arguing, making recommendations
- Situations: small talk, pitching an idea in a meeting, presenting verbally and non-verbally



## Suggested time frame



Phase		topic	Additional material
Warm-up	5 min	Game: A tree reborn	Ball
Reading and class discussion	15 min	Regenerative cities	
Mingling activity	10 min	Sustainability projects in cities around the world, small talk practice	Texts p. 37, language tip p. 41
Writing a proposal (letter) or a presentation	15 min	Suggesting a sustainability project to the mayor	
Discussing and presenting, understanding and creating diagrams	20 min	The city's metabolism Group work, then pair work	Hand outs p. 38–39
Reading and discussion	15 min	Zero waste	
Wrap-up: Writing and sharing ideas	10 min	Reflection on the topic and on possible action	

It makes sense to hand out the student material after the warm-up!

## A tree reborn

Stand in a circle. Explain that you will start with a word, for example “tree”, and the next student says a “tree product”. The following student needs to find something that can be made of the “tree product”. E.g. tree – wood – dinner table – fire wood. Instead of firewood, you could say “a box” or anything that realistically could be made of a table that is no longer used.

The idea is not to throw things away but to reuse them. Someone may come up with “give the table to charity”. That is where this chain would end, and the next student comes up with a new idea.

### METHOD

This game can be played as a ball game – you throw the ball to someone who then comes up with the next item. That way, it is an energiser at the same time.

local service providers, products and raw materials.

Ask students to read the text. Being an interview, it would be suitable for reading aloud. Ask students to think about products, processes or activities that would make a city regenerative. Students should then formulate questions about the processes and products they came up with. They then walk around the classroom and interview three students about their ideas.

By getting students to find specific products, processes or activities, questions become more specific. A question like “Is your city regenerative?” is far too vague and abstract. It may well be the case that some of the ideas have been put into practice, but only very few cities can claim that they have put the idea into practice in all respects.

Ask students to share their most interesting results with the class and note down some key words on the board. Then explain that students will look at examples from all over the world in the next activity.

A related idea is “cradle to cradle”, which looks at product design. Cradle-to-cradle products are designed in such a way that all components can be reused and fed back into the production cycle when the product goes out of use.

## The political book

This fictional interview reviews the book “Towards a regenerative city” by Herbert Girardet, who has been working with urban planners to make cities regenerative. The text conveys some basic principles of the regenerative city like prioritising pedestrians, cyclists and public transport, using renewable energy, composting, using

## Doing things differently

The examples presented here range from renewable energy to urban farming to energy efficiency to zero waste and composting. There are five short texts. Hand out texts to students. Explain that they are at a pre-conference event and that they will meet people from other cities that run sustainable projects. They will make small talk but also want to network so they tell other people about their own project and ask them about theirs. If possible, create a cocktail party atmosphere (see method, page 10). Ask students to talk to 3 people from different places.

After a while, ask students to get together with the other people from “their” town. In their groups, they discuss what projects they heard about and which one they would like to adopt for their own town. Students write an email to the mayor, presenting one of the sustainability ideas and suggesting a way it could be put into practice.

Alternatively, students prepare a presentation at a council meeting, presenting one of the sustainability ideas and suggesting a way this could be implemented. Afterwards, all groups deliver their presentations to the class.

### Alternative: Group work

Use colour-coded photocopies to form mixed groups. Hand out texts and explain that students read their texts and tell the other students about it.

In their groups, students share information and then discuss the following questions:

- Which of the ideas do you like best? Why?
- Which of these have you come across in practice? Where?
- Would you like your town to adopt any of these ideas? Which one(s)?

## Mimicking nature: The city’s metabolism

The metabolism analogy clarifies the thinking behind “regenerative”. In the first phase of this activity, students look at the circular metabolism of a regenerative city as opposed to the input-output model that puts resources into the system and produces waste that goes to landfills. The circular model is explained (text), and the input-output-model shown by a diagram, and vice versa. In groups, students discuss the models and answer the questions provided.

In the second phase, pairs of students with complementary hand-outs come together and present their findings to each other. You can also have mixed groups in the second phase. Ask students to present their results to each other and to compare the original diagrams with the ones they have come up with.

This activity draws students’ attention to the way a diagram helps understand ideas. By creating a diagram themselves they need to find the essence of the text, which focuses their attention.

## Zero waste

The example of Oakland in the last activity is an example of zero waste. In this text, zero waste is taken from the level of town planning to the household level, showing students that it is possible to take steps toward a more sustainable lifestyle on a day-to-day basis. After reading, ask students if they know a zero waste grocery store or have come across other zero waste ideas. What ideas do they come up with?

An internet search on zero waste will produce a number of ideas, e.g. using soap bars instead of shampoo or shower gel, making your own jam, cosmetics or other things. Brainstorm more ideas in class and ask students which ones they like and whether they would consider taking up any of these.

This is about discussing little things everyone can do, many of which are great fun and/or save money. However, it is important to leave room to those who decide that this is not for them. Be careful about the danger of group pressure!

### Wrap-up

**Ask students to note down what they found interesting, surprising or touching, using the prompts in the speech bubbles (p.25). Ask students to share ideas with the class. You might want to discuss if/how students consider changing their habits towards the end of the module.**

# 3. Fuelling our future

## Student pages



## Oil – Black gold or black death?

### Oily economies

#### The United States of America: Fuelled by oil

Long before the mid-19th century, Indians had known of the oil in western Pennsylvania, and had made some use of it for many years.

” *One finds heavy and thick water, which ignites like brandy, and boils up in bubbles of flame when fire is applied to it. It is, moreover, so oily, that all our Savages use it to anoint and grease their heads and their bodies.* “  
(Jesuit Relations of 1657)

For a long time, oil and gas were by-products of salt production. In a number of locations, oil and natural gas came up the wells along with the water the salt was extracted from (brine). The oil was mostly a nuisance, but some salt producers saved it and sold it as illuminating oil or medicine. The first time a well was drilled especially to produce oil was in August 1859 near Titusville, Pennsylvania. It attracted the first great wave of investment in oil drilling, refining, and marketing.

This success quickly led to oil drilling in other locations in the western Appalachian Mountains. During the American Civil War, the oil-producing region spread over much of western Pennsylvania, up into western New York State, and down the Ohio River valley into the states of Ohio, Kentucky, and the western part of Virginia (now West Virginia). The Appalachian Basin continued to be the leading oil-producing region in the United States through 1904.

### Oil all around us

Which of our activities require petroleum? What things we use in our daily lives contain or are made of petroleum? Don't forget: Plastic is generally made from petroleum!

## Oil production

rank	Country	barrels per day
1	Saudi Arabia	10,520,000
2	Russia	10,270,000
3	United States of America	9,688,000
4	Iran	4,252,000
5	China	4,073,000
6	Canada	3,483,000
7	Mexico	2,983,000
8	United Arab Emirates	2,813,000
9	Iraq	2,642,000
10	Nigeria	2,458,000

The top ten oil producing countries (2010) produced about 62% of the world's production.

*United States Energy Information Administration, indexmundi.com*

## Oil Consumption

rank	Country	barrels per day
1	United States	18,462,000
2	China	8,522,000
3	Japan	4,357,000
4	India	3,259,000
5	Saudi Arabia	2,661,000
6	Russian Federation	2,636,000
7	Germany	2,458,000
8	Brazil	2,415,000
9	South Korea	2,343,000
10	Canada	2,165,000
46	Nigeria	279,000

The top ten oil consuming countries (2010) consumed about 58% of the world's oil consumption.

*United States Energy Information Administration, indexmundi.com*

Oil extraction activities spread to many regions of the United States, with the largest oil field in the lower 48 states, the East Texas oil field, being discovered in 1930. The Standard Oil Company, which controlled more than 85% of the oil production in the older oil regions in 1899, was slow to appreciate the economic potential of the Gulf Coast, where oil giants like Texaco and Gulf Oil emerged.

According to the US Energy Information Administration, Texas is by far the most important oil-producing US state with 35% of the US oil production in 2013. The second-largest state producer in 2013 was North Dakota with 12% of US crude oil production, followed by California and Alaska at close to 7% each and Oklahoma at 4%. The federal offshore Gulf of Mexico produced 17%.

The US-American Petroleum industry is not restricted to extraction, but there are almost 150 oil refineries in the United States, many of them in the south (e.g. in Texas or Louisiana).

*Information based on "Erdöl – ein umstrittener Energielieferant" (EPIZ), Wikipedia, The US Energy Information Agency, indexmundi.com*

## Nigeria's oil: Riches and conflict

Did you know Nigeria was the tenth largest oil producing country in the world? The colonial powers started to extract crude oil from the Niger Delta region in the late 1950s. Today, Nigeria produces 2,458,000 barrels per day. Nigeria consumes 302,000 barrels per day (2013).

**Abundance in natural resources is considered an asset for a country's economy. Yet a lack of good governance combined with international business interests, among others, can prevent that profits "trickle down" to the population.**

The petroleum industry is the largest industry and main generator of GDP in the country. In 2000, oil and gas exports accounted for more than 98% of export earnings, about 83% of federal government revenue and 95% of foreign exchange earnings, and about 65% of government budget. In spite of its enormous wealth in oil, Nigeria has to import 60% of its own fuel because of a lack of domestic refining capacity, and power blackouts are common. Considering that definitions of the poverty line do vary considerably among nations, up to 70% of Nigerians live below the poverty line. The country has been ranked among the more corrupt ones by international observers.

*Figures based on information offered by Human Rights Watch, amnesty international, sourcewatch.org*

### Oil imports

rank	Country	barrels per day
1	United States	10,270,000
2	China	5,080,000
3	Japan	4,394,000
4	India	3,060,000
5	Germany	2,671,000
6	Netherlands	2,577,000
7	Korea, South	2,500,000
8	France	2,220,000
9	Singapore	2,052,000
10	Italy	1,800,000
48	Nigeria	187,700

United States Energy Information Administration, indexmundi.com

The discovery of oil has also brought about conflict and a marked an increase in violence and corruption. According to the non-governmental organisation (NGO) Human Rights Watch, in 2003/2004 alone, hundreds of civilians were killed in violence between rival groups, and thousands fled. Various armed groups were fighting for a greater share of oil revenue and protesting over environmental damage caused by oil extraction. The government, according to the same reports, did little to protect the population from violence.

“When our oil resources dry up and/or the world finds an adequate alternative, we will have to rely on our environment for survival”.  
 (Jonathan Goodman, President of Nigeria)



According to the Nigerian press, the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA) claimed in February 2013 that the oil sector of the country was “killing the economy”. NACCIMA's Director General Dr John Isemeye said that the oil sector was affecting businesses in the country negatively by failing to add real value to them. He added that the oil sector had contributed to a substantial decline in agricultural exports, which began in the mid-1960s and continued to date.  
 (allafrica.com; nigeriasun.com)

Throughout the early 1990s, where various ethnic groups in the Niger Delta region began demanding compensation for years of ecological damage as well as control over their land's oil resources. One group declared that the Ogoni people, living in Rivers State of Nigeria, were slowly being annihilated as the arable terrain of their homeland (known as Ogoniland) was degraded by pollution from oil production.



**Work with a partner. Partner A reads the text about Nigeria, partner B reads the text about the US. Who initiated oil production? How important is it to the economy of the country? How important is it to people's wealth and lifestyles? What other effects does the oil industry have?**

**Present your information to each other, based on the guiding questions. Then discuss the similarities and differences between the two countries, also taking into account the statistics given. What other factors should be considered in your opinion? What are the three most important points you have found?**



## A chat show

### 09 Our Daily Chat

p.m. hosted by *Diane Thompson and Trevor Davis*

**TIPP**

As we all know, the environmental impact of the oil industry presents a major problem. In today's show, various experts and individuals affected will share their experiences and views.



In your group, you will prepare the role of one of the chat show guests. As a class, enact the show. Those of you not on the panel are invited to join the discussion after the first round of expert statements.



#### Something to write home about?

After attending the chat show, you write an email to a friend about it. How did you like the discussion? Was your friend sceptical, or did he/she really want to come and could not? This will influence what you write and how you express your ideas.

Whom would you invite to a chat show on this topic? Would you watch it?

## Wrap-up

Look back at this section. How do you feel about it? Note down your reactions, using the phrases suggested.



**Ideas I take home:**

Five horizontal lines for writing down ideas.

# Getting around

**How do you get around?**

**What means of transport do you use?**

**Write down five statements how people travel (e.g. to work, on holiday, when they are in a hurry, in summer, in their free time, as a sports activity). For each of your statements, find someone to whom it applies and someone to whom it doesn't apply.**

**WWW**

**What size are you?**  
**We all know what size of shoes we take, but do you know your ecological footprint? Find out more on [www.footprintnetwork.org](http://www.footprintnetwork.org).**

## Vancouver – Greenest City 2020

We want to live in a city that is vibrant, affordable, and sustainable. We value the beauty of our natural setting, and rely on the prosperity that has been created from our abundant natural resources. We want an environment that is healthy, and jobs that are rewarding and secure.

But, while we live in what is widely recognized as the most liveable city in the world, our environmental footprint is currently three times larger than the earth can sustain. The decisions we make every day about how we move around the city, what we buy, and how we deal with our waste means that we currently use far more than our share of the Earth's resources.

Greenest City 2020 is a bold initiative that will address Vancouver's environmental challenges. Through a set of measurable and attainable targets, we will put the city on the path to sustainability, and make us the greenest city in the world by 2020.

One of our targets is to make our inner-city traffic carbon-neutral by 2020. The City of Vancouver invites all citizens to submit project ideas related to this goal. Presentations and a decision on the five projects to be adopted will take place at the next citizen council meeting. Please submit an outline of your project by June 15.

*Based on [www.vancouver.ca](http://www.vancouver.ca).*

**Land footprint:** the real area of land used, wherever in the world

**Water footprint:** the total volume of water used, whether freshwater, rainwater or water polluted by the activity

**Material footprint:** the tonnage of materials used, including the ore mined in order to extract metals

**Carbon footprint:** the total amount of climate changing gas released



**Look at the website. Carbon-neutral traffic – is that possible? How can you contribute? Your project can be an all-encompassing mobility concept or a product or service that contributes to carbon-neutral traffic.**

# The Open Council meeting



What project are you going to present at the council meeting? Discuss your project in your group and prepare your presentation. The meeting will decide what projects will be implemented.

## Regenerative Cities

**Negawatt**      Renewable energy

Sustainable Development Goals (SDG)

Green Economy      Cradle to Cradle

**Zero Waste**      **Buen Vivir**

Environmental Footprint

## Local food

*Have you come across any of these ideas before? How do they relate to sustainability?*

## Sustainability: Thinking in life cycles, acting in harmony with nature

The Brundtland Commission (or the World Commission on Environment and Development, WCED), was established in 1983 by the UN General Assembly. It officially dissolved in December 1987 after releasing "Our Common Future", also known as the Brundtland Report, in October 1987, a document which coined, and defined the meaning of the term "Sustainable Development": "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This means enabling people, now and in the future, to achieve a satisfactory level of social, economic, human and cultural development, at the same time making reasonable use of the earth's resources and preserving the natural species and habitats.

Originally, sustainability was conceptually divided into three components: environmental sustainability, economic sustainability and social sustainability, while a the fourth component – political sustainability – has recently been added.

*The Brundtland Report can be found on [www.un-documents.net](http://www.un-documents.net).*

## Wrap-up

Look back at this section. How do you feel about it? Note down your reactions, using the phrases suggested.

I didn't know...

What surprised me was...

The idea I liked best is...

It's a shame that...

What needs to be done is...

**Ideas I take home:**

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# Climate justice?

## Talking about the weather



Do you like small talk? Small talk oils (excuse the pun!) conversations and human relationships. Find a partner. Have a conversational ping pong about the weather for two minutes.

### Climate change threatens irreversible and dangerous impacts, but options exist to limit its effects

November 2014

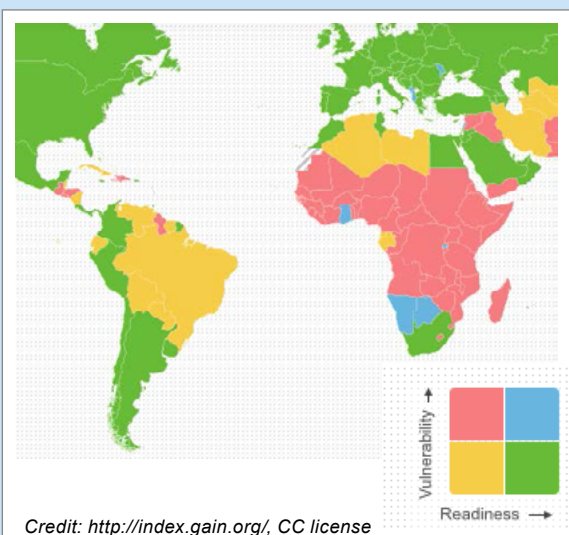
According to a report released by the Intergovernmental Panel on Climate Change (IPCC) in November 2014, human influence on the climate system is clear and growing, with impacts observed on all continents. If it is left unchecked, climate change will increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. However, there are ways in which human society can adapt to climate change. Implementing stringent mitigation activities can ensure that the impacts of climate change remain within a manageable range,

creating a brighter and more sustainable future.

The report makes a clear case that many risks are particularly problematic for the least developed countries and vulnerable communities because of their limited ability to cope. People who are socially, economically, culturally, politically, institutionally, or otherwise marginalised are especially vulnerable to climate change. The issue of climate change raises questions about justice and fairness. Limiting the effects is necessary to achieve

sustainable development and to eradicate poverty.

***“Substantial and sustained reductions of greenhouse gas emissions are the key to limiting the risks of climate change.”  
(IPCC Report 2014)***



The University of Notre Dame Global Adaptation Index (ND-GAIN) summarises how vulnerable a country is to climate change and other global challenges and how well prepared it is to deal with these challenges.

“The longer we wait to take action, the more it will cost to adapt to and mitigate climate change.”  
 (Youba Sokona, Co-Chair of IPCC Working Group III)

“The scientific case for prioritizing action on climate change is clearer than ever. We have little time before the window of opportunity to stay within 2°C of warming closes. To keep a good chance of staying below 2°C, and at manageable costs, our emissions should drop by 40 to 70 percent globally between 2010 and 2050, falling to zero or below by 2100. We have that opportunity, and the choice is in our hands.”  
 (R. K. Pachauri, Chair of the IPCC)

“Should the global community not immediately embark on wide-ranging actions to narrow the greenhouse gas emissions gap, the chance of remaining on the least-cost path to keeping global temperature rise below 2°C this century will swiftly diminish and open the door to insurmountable challenges.”  
 (United Nations’ Environmental Programme Jacqueline McGlade, UNEP Chief Scientist)

**What does the GAIN index show?  
 Does the text make the same statement?**

### What is the Intergovernmental Panel on Climate Change (IPCC)?

The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP), to prepare, based on available scientific information, assessments on all aspects of climate change and its impacts, with a view of formulating realistic response strategies.

The reports of the IPCC assess the thousands of scientific papers published each year and inform policymakers about the impacts and future risks, and options for adaptation and mitigation:  
[www.ipcc.ch](http://www.ipcc.ch)

- ▶ mitigation = reduction, making the impact less severe
- ▶ pervasive = to be seen/felt everywhere and all the time

**Prioritising:**  
 What is most important?  
 What is most urgent?  
 Can you tell the difference?

You would like to bring the IPCC report to the attention of your colleagues. Summarise the main ideas of the text in five statements that you could put on a poster or leaflet. Then compare your statements with those of your partner. Can you agree on the most important ones? What is most urgent?





# Green Growth – Green Economy?



**What makes an economy “green”? Is “Green Growth” possible or a contradiction in and of itself? Do you know (of) any examples? Pool the group’s wisdom. What have you found? How green is your company?**

A so-called green economy is one in which policies and innovations enable society to generate more of value each year, while maintaining the natural systems that sustain us. Essentially, it sounds like a simple enough concept.

Unfortunately, translating the idea into reality is hugely more complicated. Clearly, it will require technological innovation. But it requires lots of other changes, too – to the way we organise businesses; the way that we design cities; the way we move people and goods around; the way we live, essentially.

European Environment Agency: <http://www.eea.europa.eu/>

## Greening our company: A board meeting



**In a board meeting, people usually have little time. Be concise. What is important to the board? E.g. reducing cost, improving the company’s image, increasing sales figures, offering innovative products, motivating employees? (How) Does your idea contribute to any of these?**

## Buen vivir – a good life

The recently revised Ecuadorian constitution now reads: *“We ... hereby decide to build a new form of public coexistence, in diversity and in harmony with nature, to achieve the good way of living.”*

And this is what the American Declaration of Independence (1776) says:

*“We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain unalienable Rights; that among these are Life, Liberty and the pursuit of Happiness.”*

**What does a “good life” mean to you? Do you feel you are leading a good life? Take a few minutes to think about these questions and write down your ideas.**

**Share your ideas with your group. Then read your text. Is this your idea of a good life? Prepare your performance.**

## Wrap-up

Look back at this section. How do you feel about it? Note down your reactions, using the phrases suggested.



**Ideas I take home:**

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# Regenerative cities – lifecycles



What products, processes or activities make a city regenerative? Find examples in the text. What other examples can you think of?

Make a little questionnaire on the basis of your ideas and interview 3 fellow students. Are the cities they live in regenerative?



## “The political book”

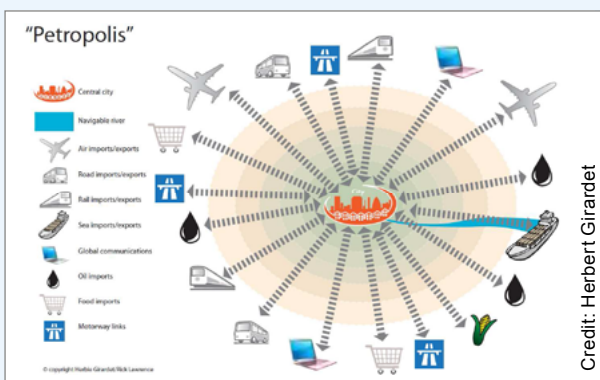
Here's the script of our last programme From Petropolis to Ecopolis, hosted by Brian Winter.

*Good afternoon and welcome to “The political book” on Radio for a Sustainable Future! Today my colleague Janet Grapewood and myself, Brian Winter, would like to discuss a recent publication by Professor Herbert Girardet, who has been promoting sustainable urban lifestyles for many years. Janet, you have read “Towards the regenerative city”. What is a regenerative city? A sort of utopia?*

Hello Brian, good afternoon everybody! Well, in a way it's a utopia – an idea of a healthy urban habitat where people are in touch with nature. But it is a utopia which in some places is already becoming a reality. Did you know Munich was a regenerative city? But let me start by explaining how Prof Girardet sees the development of the city over time.

*As far as I can see, the terms he uses to describe the development are “agropolis” and “petropolis” – the agrarian and the oil city?*

That's right. The “agropolis” refers to pre-industrial cities. Those cities were smaller, and they were set in the context of surrounding farm lands which essentially fed the city, although there was some long-distance trade. We know about spices from the orient, and even the Romans had international trading routes. But only luxury goods travelled far – by horse, on a camel's back or by wind- or manpowered ships. To sum up, the economy was predominantly a local economy, with little export and import.



*I see – and today the basics travel far as well. Cheap stuff typically comes from Asia or Africa, doesn't it? And not just that! Lots of people have cars, mobile phones and hi-fis from Asia.*

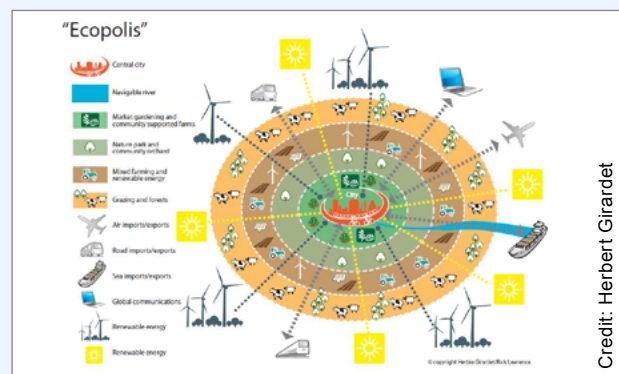
Exactly! The point is that international trade has entered everyone's everyday life. As a consequence, more and more goods need to be transported – whether 100, 1000 or 10,000 miles! In that sense a cup of coffee is quite oily.

*So is this mainly about traffic? Should we only use locally produced goods to reduce the amount of petrol we use?*

That is part of the answer. Girardet and his colleagues claim that today, all the key functions of a modern city – production, consumption, and transport – are powered by non-renewable fossil fuels. Much of our electricity and heating still comes from coal, oil and gas, and to go back to computers and mobile phones: Not only have they travelled far, but look what they are made of! Lots of plastic...

*Just try to imagine a day without fossil fuels or anything derived from them... So what do they suggest? It would seem logical to say “let's go back to agropolis”...*

Rather than going back, they suggest we move on to what they call ecopolis. The ecopolis is only a little like agropolis used to be in that it relies primarily on local and regional supplies, so imports and exports are reduced. The main focus is on creating modern cities that work completely differently, using modern technologies. In ecopolis, everything is powered by renewable energy, and cycling, walking and public transport are given high priority.



*I am relieved – so it is not “back to the stone age”. I am afraid our time is almost up. I have one last question: As the term is “regenerative” I suppose waste management is also an issue?*

It certainly is - in a nutshell, the idea is “reduce, reuse, recycle”. Waste needs to be reintroduced to productive processes and nutrients returned to the soil – so we need to rethink and redesign our cities and economies to make cities of tomorrow good, healthy habitats for humans.

*Thank you for your time and enthusiasm, Janet. I am very sorry we have to stop here. The paper “Towards the regenerative city” (2014) by Professor Herbert Girardet et. al., co-founder of the World Future Council and an expert on sustainable urban development, is available under: [http://www.worldfuturecouncil.org/fileadmin/user\\_upload/PDF/Towards\\_Regenerative\\_Cities\\_web\\_01.pdf](http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Towards_Regenerative_Cities_web_01.pdf)*

**Doing things differently: Sustainable cities around the world**

Your teacher will give you some information. Read it carefully and rehearse a little talk about it. You will be going to a pre-conference reception for sustainable cities. Be prepared to small talk about your project and make contact with representatives from other cities.

# Mimicking nature: The city's metabolism



**WWW**

*Find out more about "zero waste" from the internet. What ideas have you found? Pick the one you like best and write an email to a friend about it. Exchange emails with a partner. Based on your partner's email, write an email to your boss, suggesting that your company or department take up the idea.*

**Zero-waste grocery stores do away with all that annoying packaging**

If you've ever been annoyed with the bag of cereal inside a box or the huge amount of packaging waste that fills your recycling bin week after week, you'll probably love the idea of a package-free grocery store. Did you know this idea has become a reality in a number of cities across the globe?

The stores typically source food locally to reduce transportation costs and energy use, and they offer many items from "gravity bins", where you buy in bulk. What about the packaging? You bring your own containers, and most of these shops sell containers that can be reused. Some items, especially yoghurt, are sold in glass containers that are returnable, based on a deposit system.

The challenges the stores face are many. Think about issues like stocking food, hygiene regulations or best-before dates, just to name the most obvious ones. And customers need to get used to a different kind of shopping – you can't just shop "on the run" if you need to bring your own containers – and plastic bags are taboo!

**"Precycling" combines "prevention" and "recycling": Rather than producing packaging waste and recycling it afterwards, you don't produce waste in the first place.**

A zero waste approach wins customers' time: Less waste means less work getting rid of the waste, and it may reduce cost as well. Also, bringing your own jars means that you can make your pantry and countertops look pretty. No more ugly packaging from the store.

**According to the German Environmental Office, up to 140 million tons of waste are floating in or on the oceans or are polluting our beaches.**

## Wrap-up: Making it real

Which of the concepts you came across in this module did you find the most interesting, challenging or personally relevant to you? Which of them surprised you?

**Ideas I take home:**

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4.

# Fuelling our future

## Materials for activities



## How to use these activities

The numerous group and pair work activities you will find in this chapter are part and parcel of the material presented. You can use them independently, but make sure you provide your students with the context information necessary.

The teaching guide includes some background information and the instructions for these activities, plus a suggested time frame. Please note that this time frame is the minimum for a controlled setting. Most activities can be expanded, especially with strong students, who can go into more detail.

Activities range from a „Find someone who“- format to a chat show, role plays and text puzzles and a cross group reporting exercise. Students are asked to present their ideas in different ways, for example by creating a poster or (if facilities are available) a website, by performing an interview, or by giving a presentation, among others.

*All group activities involve discussion, so you could support students by handing out the language for discussions on page 41.*

*Activity materials do not always include student instructions to leave room for different uses. Check instructions in the teaching guide – it may make sense to put instructions on the board and explain them.*



## Text A: Alternative energy

Carbon dioxide is said to be the number one cause of global warming and climate change. Carbon emissions are primarily produced by burning fossil fuels like oil, coal and gas. When released into the earth's atmosphere, CO<sub>2</sub> remain there for one hundred years. In addition, some argue that "peak oil", the hypothetical point in time when the global production of oil reaches its maximum rate, after which production will gradually decline, has already been reached. Even some of the world's largest petroleum companies say that by 2050, one-third of the world's energy will need to come from solar, wind, and other renewable resources.

Renewable energy is generally defined as energy that comes from resources which are naturally replenished on a human timescale, such as sunlight, wind, rain, the tides and waves. These energy sources are carbon-neutral. In contrast to other energy sources, which are concentrated in a limited number of countries, the sun, wind and waterpower are available around the world. Although many renewable energy projects are large-scale, the technologies lend themselves to decentralised, small-scale production, thereby contributing to energy security. Solar panels can be brought to remote communities.

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

*Today in Germany, 65% of renewable energy is produced by 1.3 million community or individual renewable energy producers across the country.*

A

role card

You are an expert on alternative energy, particularly on its potential as a decentralised way of generating electricity and its potential for increasing consumer power and supporting developing countries. You believe that German energy requirement could soon be carbon-free and hope to get people to switching to eco-electricity.



## Text B: Widespread pollution of Ogoniland, Nigeria: The UNEP Report (2011)

The UN Environmental Program study found that the people of Ogoniland have "been living with chronic pollution all their lives". The assessment found there is no continuous clay layer across Ogoniland, exposing the groundwater to hydrocarbons spilled on the surface. The report found community members at Nisisioken Ogale were drinking water from wells contaminated with benzene, a known carcinogen, at levels over 900 times above the World Health Organization (WHO) guideline. The wells were close to a Nigerian National Petroleum Company product pipeline. The report stated that this contamination warranted emergency action ahead of all other remediation efforts.

Local communities were aware of the pollution and its dangers but stated that they continue to use the water for drinking, bathing, washing and cooking as they had no alternative. UNEP concluded that the environmental restoration of Ogoniland was possible but could take 25 to 30 years. A special body was recommended to achieve this.

The report exposed serious and systemic problems with the clean-up processes in Nigeria. The petroleum company's post-oil spill clean-up of contamination apparently does not achieve environmental standards according with Nigerian legislation, or indeed the company's own standards. For example, at 22 out of 33 sites along the company's pipeline, soil contamination exceeded limits set by Nigerian law. At five of the sites hydrocarbons were detected in the drinking water of nearby communities.

The conclusion of the UNEP report was that the company had, for years, not cleaned up oil pollution properly.

B

role card

As a human rights activist, you have been supporting the Ogoni people's struggle against the oil industry for a long time, witnessing the gradual decline of their environment and health. You are pleased that the UNEP report stresses the responsibility of the company and the Nigerian government, but you are sceptical that the UNEP recommendations will be implemented. That is why it is important for you to rally public support in the chat show.





**C****role  
card**

You represent an Ogoni community. In your community, many people are ill or weak due to contaminated water. Young people try to leave the area. All your life, you have lived with oil pollution, but your community has never benefitted from the profits the company and the Nigerian government have been making from the oil plant. In your traditional culture, nature provides for humans, but it cannot be owned or exploited.

**D****role  
card**

As a marine biologist, you have always thought that damage to the marine ecosystem takes a long time to heal. You feel that it is important to explain that in the shape of hydrocarbons, the oil is even more dangerous than as a slimy film on the water because hydrocarbons enter the food chain.



## Text C: Oil spills in Ogoniland

The Ogoni have suffered from five decades of severe environmental devastation by a petroleum company which has been dominating the oil industry in the region. According to the UN Environment Programme (UNEP), restoring Ogoniland could require the biggest clean-up operations in the world, dwarfing the response to Deepwater Horizon, and could take up to three decades to complete. Under Nigerian law, the company is obliged to clean up all oil spills regardless of the cause, but compensation is not available for victims where an oil spill has been caused by sabotage. In order to minimise its liabilities, the oil company maintains that 90% of the oil spills are due to sabotage.

However, UNEP believes that sabotage-related oil theft only became significant in Ogoni in 2007, as frustrated, jobless youth turned to oil theft. Yet many of the oil spills in Ogoni are up to four decades old and pre-date this recent trend. Moreover, the company's ageing infrastructure and lack of major investment in pipeline maintenance indicate that equipment failure is the cause of the majority of oil spills in the Delta. A leading pipeline specialist has criticised the multinational for falling below international standards by failing to incorporate more robust pipeline designs, leak detection systems and surveillance technology in Nigeria. Other analysts estimate that a comparatively modest investment of \$100 million could introduce the necessary surveillance and training to address oil bunkering in the Niger Delta.

Meanwhile, the Ogoni are left without clean drinking water, and their land is contaminated by oil. Hydro-carbons have entered the ground water and food chain. Residents know of the contamination of their food and water but do not have an alternative because the emergency supply of clean drinking water is not sufficient. Clean water is only available in some communities, and not at all times.

## Text D: Deepwater Horizon oil entered food chain

Carbon from oil released by the Deepwater Horizon spill has entered at least three levels of the marine food web in the coastal waters of the far northern Gulf of Mexico. That is according to researchers from the US who measured the amount of carbon-13 isotope in different sizes of plankton following the arrival of surface oil spills.

They showed with little doubt that oil consumed by marine bacteria reached the larger zooplankton that forms the base of the food chain. This zooplankton is an important food-source for many species of fish, jellyfish and whales. Fish in turn are eaten by humans.

Fishing, both commercial and recreational, is one of the largest industries in the region. According to the US National Oceanic and Atmospheric Administration, commercial fishermen earned \$659 million in total landings revenue in 2008, with red snapper and shrimp two of the most important species.

Some microbes can consume hydrocarbons, such as oil and methane. Once these microbes are eaten by zooplankton, the oil-based carbon enters the food chain.

## Text E: Ban on fishing in the Gulf of Mexico

May 2010

Frustration and anger among the Gulf of Mexico fishermen rise further as the US government officially declares the Deepwater Horizon incident a national disaster. At the same time, the ban on fishing was extended to all five Gulf States. Fishing, both recreational and professional, is the largest industry in the region.

As it emerged that oil has entered the food web, a ban was imposed last month to protect public health. The several hundred sea birds and fish found dead this month along the beaches of the Gulf of Mexico, smeared in oil, clearly indicated a major environmental disaster. With the official declaration of a case of disaster, those affected can now claim compensation payment. To what extent these payments will make up for the loss of a homestead and livelihood remains unclear, though.

It remains equally unclear who is ultimately going to pay the bill. The petroleum company involved has declared that it set up a compensation fund, but as the extent of the environmental impact is yet to be seen it is hard to tell whether these funds will get fishermen very far. More than likely, taxpayers will shoulder a large share of the damage, although President Obama from day one of the disaster declared he would make the petroleum company pay for the damage it had caused.

The Gulf of Mexico petroleum industry plays an important part in ensuring America's energy supply. At present, Gulf oil amounts to almost a third of the US oil production.

# E

role  
card

You are a representative of the Louisiana fishermen, many of whom have lost their livelihoods. As many of your colleagues, you have been a fisherman all your life. You have been offered a job in the clean-up of the beaches for a year, but you are not optimistic that by then nature will have been able to restore itself.



## Group instructions

Read the texts and make notes along these guiding questions: What happened? Who is responsible? What was the impact on wildlife, peoples' lives and the economy (fishing, tourism, petroleum...)? How did the authorities react? Who pays for the damage?

Now imagine you were the person described on the role card your teacher assigned to you. How are you affected or involved? How are you feeling about you situation? What needs to be done (by governments, companies, individuals or society at large)? What are you doing to improve the situation?

Prepare your role for the chat show. Decide which one of you will play the role during the chat show (one or two people). During the chat show, everybody can support the spokesperson.

*Marine biologists and researchers from the National Oceanic and Atmospheric Administration agree that even one year after the spill, it was far too early to estimate the long-term damage done to marine species and beaches. The deadline for claiming compensation for damage done by the 2010 oil spill is June 2015.*

# Instructions for journalists

## You host a daily chat show. The guests you are expecting are:

- A marine biologist from Louisiana who has been looking into the environmental impact of the gigantic oil spill caused by the Deepwater Horizon oil rig explosion in 2010.
- A human rights activist who has been supporting the struggle of the Ogoni people in Nigeria against oil pollution in the Niger delta for more than 15 years.
- A fisherman from Louisiana who after the Deepwater Horizon disaster lost his livelihood and all prospects of working as a fisherman in Louisiana again. He is a representative of a fishing community in the area.
- A representative of an indigenous community in Ogoniland, Nigeria, which is badly hurt by the constant oil spill.
- An expert on alternative energy who is interested in the potential for renewables for development.

## What you know about Ogoniland and the Deepwater Horizon:

In 2010, the deep-water oil rig exploded. The oil spill was the biggest environmental disaster in US history, with 4.9 billion barrels of oil pouring into the ocean, polluting the ocean and beaches and killing sea birds and fish. A subsequent fishing ban badly hurt the fishing industry in the Gulf of Mexico states, a major industry in the region. Years after the event, scientists still cannot estimate the extent of the damage done to nature.

Since the 1950s, international companies have been drilling oil in the Nigerian Niger delta. Small but continuous oil spill has led to environmental disaster, contaminating the soil and drinking water of the Ogoni people. After years of protesting, they got the company to commission a scientific study of the problem, conducted by the UN Environmental Programme. The UNEP report showed the company's failure to ensure clean-up of oil-spill and appropriate modernisation or maintenance of infrastructure.

Prepare some questions. Remember to avoid yes-no-questions as they produce monosyllabic answers. Rather, use who – why – when – where – what – how – to whom. Your audience is not so much interested in scientific facts but in personal stories and people's feelings and experiences.

Open the chat show by asking the guests to briefly introduce themselves. Make sure you give everybody speaking time. The show lasts 15 minutes. After the first or second round of statements, invite the audience to join the discussion.

# The greenest city 2020

In your town, a new development is being planned. There are going to be 1200 flats of various sizes, for families and singles. 50% of them are going to be subsidised to ensure a good mix of people.

You have entered a competition for the best low-carbon mobility concept for the new development. This should take into account the needs of commuters, of mothers with small children, of school kids and of old-age pensioners alike. „Low carbon“ should mean more than „no cars inside our development“. It should reduce the inhabitants' need to use fossil fuels to a minimum.

Your concept should focus on mobility and traffic but can include aspects of building, landscaping, traffic-free zones, local food, environmental education etc.

Present your ideas by giving concrete examples or talking about (fictional) people who will live in the development. What do they do, why and how do they need to travel, how carbon-intensive are their consumption patterns?

Your city has adopted transport guidelines (see text below) which you should follow.

For presentation language, see page 40.

You will present your competition entry in an exhibition for citizens and decision-makers. You will have 5-10 minutes to present your ideas. Create a poster and prepare your presentation.

The jury will be made up by one member from each group. Elect your councillor before the meeting.

## A low-carb diet for urban transport: Guidelines

Investment in public transport infrastructure and services remains key to sustainable urban development. Additional transport sector investment as well as related public and private financing is urgently needed, in particular in developing countries.

The construction of commercial centers at bus and railway stations can offer new sources of revenues to co-finance public investment in transport infrastructure.

Sustainable transport policies and their implementation will need to explore opportunities to generate greater public revenues from owners and operators of private motor vehicles with a view to incentivising and/or to supporting the provision of public transport services.

Education in urban transport can increase people's awareness of their rights and duties in urban areas, hereby contributing to improve road traffic safety.

Park&ride systems, inner-city congestion charges and other measures can offer significant options to alleviate traffic congestion.

Accessible, affordable and safe transport options for the less well-off can enhance livelihood opportunities and facilitate greater social interaction in cities.

A more effective urban and multi-modal transport development and planning requires greater inter-institutional coordination and cooperation.

Investing in sidewalks and pedestrian-only lanes, as well as bike lanes, can greatly improve non-motorised mobility, reduce the risks or accidents, thus improving road safety.

Planning for sustainable transport will need to be based on comprehensive needs assessments of the various social groups, including women, the elderly, children and people with disabilities.

### How to engage your audience

- ▶ Be brief and clear
- ▶ Structure your talk around questions
- ▶ Avoid repetition and long words
  - ▶ Use examples and visuals
  - ▶ Avoid unnecessary detail
  - ▶ Balance information, emotion and a call for action

# Role cards board meeting

## A note to the teacher

These role cards are for you to pick and choose. This allows you to compose different boards as you wish.

### role card



You are in charge of sales and marketing. You are worried because sales figures have been declining due to your company's old-fashioned image. Personally, you love cycling and hiking and installed solar panels at home recently.

### role card



You are in charge of sales and marketing. You budget for this year does not leave room for additional expenses. As sales have been declining, you look for ways of reducing costs, especially in all other departments. Personally, you love driving and gardening. You live in the country, commute to work and oppose wind energy because of the ugly wind wheels.

### role card



You are the trade union representative on the board. For you it is important that any measures taken do not add to the work load of the employees or make their lives difficult. Your trade union supports alternative energy initiatives.

### role card



You are the trade union representative on the board. For you it is important that any measure taken does not add to the work load of the employees or make their lives difficult. Personally, you love cycling and buy organic food.

### role card



You are in charge of finances. You believe that ecological rules or measures only cost money, so you are very sceptical. You ask critical questions about the cost.

### role card



You are in charge of finances. It is your job to find ways of reducing cost. You believe that it is important to make your company environmentally friendly, but you can only agree to measures which do not impose extra expenses on the company.

### role card



You are in charge of product research and development. Innovation is what counts, and these days the most important aspect of innovation seems to be making products more environmentally friendly. You believe that being environmentally friendly is an important selling point.

### role card



You are in charge of Human Resources and personnel development. You believe that the move towards environmentally friendly production is important, and you would revise the company's mission accordingly. For this process, measures promoting environmental awareness among employees seem helpful to you.

### role card



You are in charge of product development. One of your criteria is reducing the amount of material used, another one that the production process produces as little toxic waste as possible because of the enormous cost involved in its disposal. You feel that these criteria should be applied to all departments. You are not really interested in environmental questions.

### role card



You are in charge of organisational development. You believe that all processes in the company need to be reviewed to make them more efficient, to improve work flow and to improve communication. One of your concerns is employees' health. You like ideas like an email-free day so that people go next door or upstairs to clarify a question rather than writing an email.

## Text A:

# Buen vivir: The social philosophy inspiring environmental and social movements in South America

Rooted in the cosmovisión (or worldview) of the Quechua peoples of the Andes, *sumak kawsay* – or *buen vivir*, to give it its Spanish name – describes a way of doing things in a way that is community-centric, ecologically-balanced and culturally-sensitive. With *buen vivir*, wellbeing is not about the individual, but about people in the social context of their community and their natural environment. *Buen vivir* has its roots in belief systems and world views of the peoples of the Andes, but owes as much to political philosophy as it does to indigenous cultures.

A defining characteristic of *buen vivir* is harmony between human beings, and also between human beings and nature. A related theme is a sense of the collective. Capitalism is a great promoter of individual rights: the right to own, to sell, to keep, and to have. But this alternative paradigm from South America subjugates the rights of the individual to those of peoples, communities and nature.

What does this mean in practice? Take property, for example. According to *buen vivir*, humans are never owners of the earth and its resources, only stewards. This plays against idea of natural capital, now used widely in business circles. Ecosystem services, for example, where a monetary value is given to environmental goods such as the water provision of rivers or carbon sequestration of forests, are not compatible with the idea of *buen vivir*. You cannot own Mother Nature, let alone buy or sell her. If anything, a parallel to *buen vivir* might be collaborative consumption and the sharing economy, two related ideas that are gaining traction globally.

## Text B:

# Buen economy

Advocates of *buen vivir* stress the need for us to consume less: "It's all very good pushing for energy efficiency and the like, but if your product does less environmental damage per unit but you end up selling lots more units, then the net impact is worse." (Eduardo Gudynas) This logic is hard to argue with, it is called the rebound-effect. In addition, consumers need to begin to pay the real price of the products they consume. That is to say, environmental and social costs should be incorporated into the final price and not externalised. Many products would be far more expensive if prices were calculated this way. Tax payers often end up paying for environmental damage, and the weakest in the chain of production often pay with dire working conditions for the cheap t-shirts or coffee consumed in industrial and emerging economies.

For *buen vivir*, small is beautiful. Small-scale production has a number of benefits: It is more likely to reflect and enhance local culture, to include local people and to protect the local environment. Importantly, it also has a higher probability of serving local needs, too. The days of industrial agriculture geared for export would thus be numbered – a fact that Andean consumers of quinoa might welcome.

Your notes:



Your notes:

## Text C:

# The Pursuit of Happiness: The Enlightenment and the emancipation of the individual

The phrase “the pursuit of happiness” in the American Declaration of Independence is thought to be derived from John Locke, one of the political thinkers of European enlightenment. It is certainly rooted in the philosophy and political thinking of the time. At the end of the 18th century, capitalist thinking of shaping one’s own life and career rather than entering the estate one was born into emerged and influenced political movements. The bourgeoisie began to emancipate itself from the domination of the nobility and church, and the individual gradually began to shake off social constraints. So much so that 100 years later, psychology arrived to help people find their place in society.

Social and political thought of the Enlightenment is many-faceted and has, arguably, contributed to the emergence of liberalism and market capitalism. It has also given rise to social movements and the protection of individual rights. The Declaration of the Rights of Man and Citizen, informed by Thomas Jefferson, is a central document of the French Revolution. At the same time, it constitutes the foundation of today’s human rights system, protecting individuals from societies’ and governments’ despotism.

### Group instructions:

**Read your text. What concept(s) of society, the individual and the economy do you come across? Discuss how these ideas relate to your everyday life. Do you think your life is influenced by them? How would it be different if it wasn’t?**

**To demonstrate the ideas to the class, find an analogy or a situation in which the ideas come to life. Rather than giving a talk, perform a pantomime or role-play to the class. Afterwards, discuss your performance with the class.**

**Did they grasp the idea?  
Did your message come across?**

**You have 20 minutes to read the text and prepare your performance.**

## Doing things differently: Sustainable cities around the world

In Greater Adelaide, a city region of 1.2 million people in South Australia, more than 26% of the city's electricity is produced by wind turbines and solar PV panels. There are over 200,000 houses in the city with photovoltaic roofs, making some of them into net electricity generators. Efficient energy use is now mandated for all municipal buildings, reducing their carbon emissions by up to 60%. There has been a large-scale retrofit throughout the city to ensure high standards of energy efficiency in people's homes, and a new-build solar village with 110 homes has been designed to the highest sustainable standards. These initiatives have reduced overall carbon emissions from the city by 15% since 2003.

In and around Adelaide, nearly 3 million trees have been planted on 2,000 hectares of land, providing carbon dioxide absorption services, as well as countering soil erosion and increasing biodiversity. An ambitious zero-waste policy has been implemented that has enabled the production of 180,000 tonnes of compost a year, made from the city's organic waste. This is then used to improve the fertility and soil structure of 20,000 hectares of land near the city that produces most of the fruit and vegetables the inhabitants consume. This land is also irrigated with reclaimed waste-water. And to top all of this, Adelaide has the world's first solar powered bus service.

Even in ancient city regions such as Seville in Spain, regenerative principles can be implemented. On the outskirts of Seville there are three solar power stations that produce 183 megawatts of electricity – enough to supply most of the city's electricity needs. Urban agriculture is burgeoning in US cities such as New York and Detroit. And in China, a long tradition of urban agriculture continues as government policy. In Shanghai 1.3 million tonnes of vegetables are grown on peri-urban land, meeting 60% of the city's needs.

Currently many cities import their foodstuffs from all over the world, resulting in highly unsustainable ecological footprints. Cuban cities however, due to political circumstances, had to become food self-sufficient by necessity. There are now over 35,000 hectares of urban land in Cuba where over 117,000 people work, growing food for the country's citizens. Cuba's urban agriculture programme aims to provide everyone with at least 300 grams of fresh vegetables per day, a figure deemed appropriate by the FAO for optimum health. Havana in particular is a world leader in urban food production with 'organopónico' gardens throughout the city.

Since 2006 the city of Oakland, California, has worked to implement a strategic target of Zero Waste, and has already achieved a 75% reduction in waste dumping. This was accomplished by pursuing 'upstream' redesign strategies to reduce the volume and toxicity of products and materials. Simultaneously improving 'downstream' reuse and recycling of end-of-life products, including the re-use of products and materials, to stimulate local economic and workforce development.

# The city's metabolism (see page 15)

**CIRCULAR METABOLISM CITIES REDUCE CONSUMPTION AND POLLUTION, RECYCLE AND MAXIMIZE RENEWABLES**

Credit: Herbert Girardet, p.10: [http://www.worldfuturecouncil.org/fileadmin/user\\_upload/PDF/Towards\\_Regenerative\\_Cities\\_web\\_01.pdf](http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Towards_Regenerative_Cities_web_01.pdf)

Group discussion

Use the questions to structure your discussion, and note down the results. Every group member will report to someone from the other group, so everyone needs to make notes/a drawing!

## Text A

Most modern cities have a linear metabolism: They are input-output-systems without caring where the resources come from and where their waste ends up. Inputs and outputs are treated as largely unrelated. Fossil fuels are extracted from rock, refined and burned, and the waste gases are discharged into the atmosphere. Raw materials are processed into consumer goods that ultimately end up as rubbish which **cannot be easily or beneficially reabsorbed into living natural systems**. Trees are felled for their timber and pulp, and often forests are not replenished.

Similar linear processes apply to food: Nutrients and carbon are removed from farmland as food is harvested, processed and eaten. The resulting waste – with or without treatment – is discharged into rivers and coastal waters downstream from population centres and usually not returned to farmland. Rivers and coastal waters all over the world are ‘enriched’ with sewage, toxic effluents and mineral run-offs.

**Look at the graph and read the text. Which one describes the metabolism of petropolis, which one that of ecopolis?**

---



---

**Try to find examples to illustrate the graph.**

---



---

**What is problematic about the linear metabolism of a city? Can you give examples?**

---

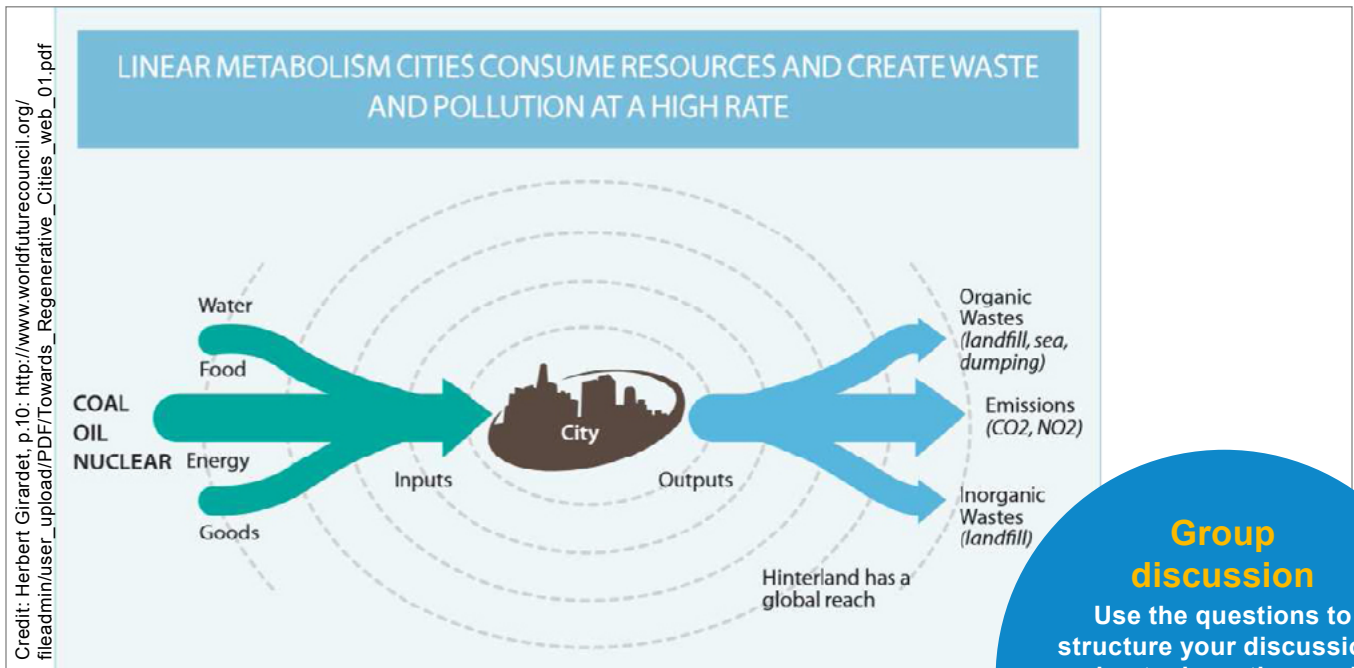


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**How would you put the text into a graph? Draw your graph into this box.**

*Our graph:*  
*The metabolism of a non-regenerative city*

# The city's metabolism (see page 15)



## Text B

To systemically address these issues, we need to imitate the circular metabolic systems found in nature: In nature, all wastes become organic nutrients for new growth. Similarly, urban wastes can become valuable inputs into local and regional production systems. In recent years, the recycling of paper, metals, plastic and glass has made substantial progress in many cities, but much more needs to be done. One key aspect is the redesign of products themselves

to ensure that they end up as **useful technical and biological 'nutrients'**. It is also particularly important to convert the vast quantities of urban organic waste into compost, and to return the plant nutrients and carbon they contain to farmland that feeds our cities.

**Look at the graph and read the text. Which one describes the metabolism of petropolis, which one that of ecopolis?**

---

**Try to find examples to illustrate the graph.**

---

**What is problematic about the linear metabolism of a city? Can you give examples?**

---

**What is meant by "useful technical and biological 'nutrients'"? Please note that 'nutrients' is used figuratively here!**

---

**How would you put the text into a graph? Draw your graph into this box.**  
*Our graph:*  
*The metabolism of a regenerative city*

# Language tips

## Signposting

Your listeners will follow your talk more easily if you give them “signposts”:

- ▶ What I'd like to discuss today is...
- ▶ Firstly, ... , after that we will look at .... and finally I'll ... .
- ▶ To begin with...
- ▶ Let's look at... first.
- ▶ To sum up, ...
- ▶ Now let's move on to ...
- ▶ As we saw earlier...
- ▶ Next, I'd like to look at ...
- ▶ To illustrate this point, ...
- ▶ To summarise, let's quickly look at the main points again.
- ▶ Thank you for your attention.

## How to engage your audience

- ▶ Structure your talk around questions.
- ▶ *What questions could you use as “signposts”?*
- ▶ Be brief and clear. Avoid repetition and long words.
- ▶ Use examples and visuals.
- ▶ *How can you draw a picture in peoples' minds? Find analogies and metaphors.*
- ▶ Avoid unnecessary detail.
- ▶ *What message do you want to get across? How much detail do you really need?*
- ▶ Balance information, emotion and a call for action.

## The elevator pitch

An elevator pitch is a short presentation, no longer than an elevator ride, or approximately thirty seconds to two minutes. The idea is to get the other person interested in what you have to say, not to give all the information.

Answer these questions for your product, then practise it with your partner:

- ▶ Who are you? Who are you talking to?
- ▶ What problem do your listeners need to solve? Start with the problem you are trying to solve, mention that current alternatives are lacking, and then, briefly describe your solution.
- ▶ Finish your pitch by asking the other person what they do. The elevator pitch should start an actual conversation and allow you to connect, even when the elevator ride is over.

### Language tips:

What surprising/intriguing opening line can you think of? Ask a surprise question or tell an interesting story to get your audience hooked.

Be specific, use plain and clear language, use metaphors and examples and make it personal.

Evoke a picture in your listeners' minds.

**AIDA: Attention – Interest – Desire – Action**



# Communication Skills



## Small talk – fuelling good business relationships

Are you good at networking?

What do you talk about at a business dinner, at a conference during a coffee break or when you first make contact?

How do you create a good atmosphere in meetings or negotiations?

Talking about the weather or asking your counterpart about their home town or food preferences can be a key to establishing contact and may make controversial discussions a lot easier.

Practice small talk in English as often as you can. In class, practice reacting spontaneously to an everyday topic by playing small talk ping pong:

Think of 5 topics. With your partner, take turns introducing a topic and keep the conversation going for 3 exchanges minimum before you move on to the next one.



## Active listening

How do we know our counterpart is following what we say?  
How do we make sure they know we are listening?

- ▶ Concentrate on your counterpart – don't write emails while you're listening (not even when you're on the phone – the person at the other end will notice you are distracted)!
- ▶ Look at the person you are talking to.
- ▶ Show your reactions through mime or gestures.
- ▶ Show interest by using phrases like "I see.", "Oh, really?", "That's interesting."
- ▶ When it is your turn, take up the points raised by your counterpart.
- ▶ ...



## How to conduct an interview

Prepare yourself - research background information.

Make a list of points that will interest your audience.

WH-questions (*Who - What - Where - When - Why - How*) will give you interesting answers whereas "yes/no"-questions tend to produce monosyllabic reactions.

A personal perspective tends to make factual information more interesting. You can include factual information into your question and ask about the interviewee's personal experience or reaction.

Make "the right noises" – show interest by using phrases like "I see.", "Oh, really?", "That's interesting."

Refer to the points raised by your interviewee when asking the next question.

In a panel discussion, include the point(s) raised.



## Being diplomatic

Germans tend to be quite direct, which can be risky.

People from other cultural backgrounds may feel that such directness is rude.

By using “would”, “could” or “might”, you can soften what you say.

Small words like “perhaps”, “just”, “a bit” or “quite” and tag questions also help.

**There'll be a delay.**

*There might be a small delay.*

**We have a problem.**

*It seems that we have a bit of a problem.*

**Can I interrupt for a moment?**

*Could I just interrupt for a moment?*

**Can we meet again next week?**

*Perhaps we could meet again next week?*

**It's really cold in here.**

*It's a bit cold in here, isn't it?*

**Can I go back to the point about timing?**

*Could I just go back to the point about timing?*

**That'll be very expensive.**

*That might be a bit expensive.  
Won't that be a bit expensive?*

*... can you think of other examples?*

## Presentation skills

### Visualising: Why use graphics, diagrams or figures rather than words?

Have you noticed that whenever you read silently, you “hear” the words in your head? That’s what your audience does if your slides are text-based, in which case people can’t listen to you at the same time.

After you’ve worked out what you’ll say, create a flipchart or powerpoint slides to literally **illustrate** your talk, not to “subtitle” it. That way your slides complement your talk, and don’t compete with it.

### What sort of questions can I use to structure my talk?

#### *Presenting a new company policy to staff*

- What’s wrong with our “old way” of working?
- What does this “new way” look like?
- How does it affect you?
- How does it affect your external contacts?
- If you have questions or comments...
- What do we need to do next?

#### *Proposing a new measure*

- Why would it be good for (our image, our processes, work flow, ...) to (introduce X)?
- How would staff (work flow, business processes) be affected?
- How about cost?
- What would the benefit be? (e.g. cutting cost, making work more effective, motivating staff, ...)
- What steps would we need to take?
- Who are the stakeholders? Who needs to be involved in the project?

## Language for discussions

### *Giving opinions*

I think/I feel /I don't think ...

In my opinion/In my view ...

### *Presenting an argument and persuading*

What we need to take into account is ...

If we take into consideration ..., we will come to the conclusion that ...

All evidence points towards the conclusion that ...

Unless we take decisive measures in the near future, we will ...

### *Disagreeing politely*

You're right in saying ..., but we also need to take into account ...

I see your point, but (I don't entirely agree).

I understand, but have you considered...?

I don't quite agree./I don't actually think so.

### *Suggesting a different view*

Don't you think that ...

Wouldn't you agree that ...

I would like to suggest ...

### *Quoting evidence*

According to (the IPCC), ...

Research shows that ...

### *Giving reasons*

I (don't) cycle to work because ...

I have very little time. That is why ...



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## DVV International im Überblick

DVV International ist das Institut für Internationale Zusammenarbeit des Deutschen Volkshochschul-Verbandes e.V. (DVV). Der DVV vertritt die Interessen der rund 930 Volkshochschulen und ihrer Landesverbände, den größten Weiterbildungsanbietern in Deutschland.

Als führende Fachorganisation im Bereich Erwachsenenbildung und Entwicklungszusammenarbeit setzt sich DVV International seit mehr als 45 Jahren für Lebenslanges Lernen ein. DVV International leistet weltweit Unterstützung beim Auf- und Ausbau von nachhaltigen Strukturen der Jugend- und Erwachsenenbildung.

Wir verstehen uns als Fachpartner im Dialog mit den Menschen vor Ort. Dazu kooperieren wir mit mehr als 200 zivilgesellschaftlichen, staatlichen und wissenschaftlichen Partnern in über 35 Ländern Afrikas, Asiens, Lateinamerikas und Europas. Unsere Länder- und Regionalbüros gestalten die lokale und regionale Zusammenarbeit und sichern

die Qualität und Wirksamkeit unseres Handelns. Schwerpunkte unserer Arbeit sind Alphabetisierung und Grundbildung, berufliche Bildung, Globales und Interkulturelles Lernen, Umweltbildung und nachhaltige Entwicklung, Migration und Integration, Flüchtlingsarbeit, Gesundheitsbildung, Konfliktprävention und Demokratiebildung.

DVV International finanziert seine Arbeit aus Mitteln institutioneller und privater Förderer. Gemeinsam mit den nationalen, regionalen und globalen Verbänden der Erwachsenenbildung fördert DVV International die Lobbyarbeit und die Anwaltschaft für das Menschenrecht auf Bildung und für Lebenslanges Lernen. Dabei orientieren wir uns an den UN-Millenniumsentwicklungszielen (MDG), dem Weltprogramm „Bildung für Alle“ (EFA) und den UNESCO-Weltkonferenzen zur Erwachsenenbildung (CONFINTEA). DVV International unterstützt den europäischen und weltweiten Informations- und Fachaustausch durch Konferenzen, Seminare und Publikationen.

