Climate-KIC is supported by the EIT, a body of the European Union

2811

TOOLKIT

Climate Action Academy Water

JA Slovenija
100 YEARS OF ACHIEVEMENT
A Member of JA Worldwide
Zavod za spodbujanje podjetnosti mladih

CLÉMENTSTIFTUNG

Co-funded by the European Union

Who are the organizations?

2811: The 2811 platform builds human capacity for climate action by enabling dynamic, friendly and meaningful learning, while connecting with students, teachers, activists and experts from around the world. Participants in the programs find a space for learning, a like minded community and techniques to reduce climate anxiety by taking action at local level and engaging in grassroots initiatives**.** The organization disposes of an interdisciplinary team in Colombia, Chile, Brazil, the United States, and Germany.

Weltweit e. V.: has set itself the task of empowering local initiatives to develop and implement their own strategies for solving local problems. The association conducts group training and personal coaching for young professionals and students.

JA Slovenia: develops a sense of entrepreneurship in young people – from elementary school students to university students – by encouraging young people to be creative and innovative through experiential learning. To this end, companies and educational institutions are brought together to nurture and educate future generations.

What is the project about?

The **Climate Action Academy Water** is a project financed by the Erasmus+ program of the European Union and the Clément Stiftung, led by 2811, Weltweit e.V., and JA Slovenia.

It seeks to foster the development of innovative pedagogical methods around the topic of water management in local organizations working with young people, and ultimately aims to raise awareness among the latter stakeholders, to promote concrete steps towards sustainable and resilient lifestyles.

What is this Toolkit for?

Through this toolkit, local **organizations and young people** will be provided with different tools and methodologies that will enable them to identify challenges and work on **solutions** in the framework of climate action.

Map of challenges

Reflection on social and environmental challenges related to water

SDGs, climate action, and education

Tools for identifying challenges

Tools for working on these challenges

1. Find your challenge related to water, young people and climate change	2. Make the challenge understandable and inspiring	3. Present the challenge and start working.
Pentagonal problem	Actor tree canvas	Credential cards

Competences

Self-efficacy:
Individuals and groups are unlikely to attempt to act to solve a problem unless they have a belief—a perceived sense of efficacy—that their individual and collective actions can make a difference, will help to solve the problem."

Collaborative problem solving:
Ability to work cooperatively to solve a problem by contributing and exchanging ideas, knowledge and resources to achieve the common goal.

Mobilizing others:
Ability to connect with others to motivate actions for a cause or a common goal.

Creativity:
Ability to see possibilities within a given context and generate ideas by connecting concepts, knowledge and experiences.

Systemic thinking:
Ability to approach knowledge with curiosity, motivation and rigor, perceiving reality in its totality, as a system; knowing how to observe the complexity of the interrelationships in order to find opportunities for improvement.

Entrepreneurship:
Being proactive to seek opportunities in a context, and implement projects based on ideas generated.

Manage uncertainty:
Ability to adopt a flexible attitude to the ambiguity and constant changes that define the current reality of the climate crisis.

Change agents:
Ability to understand their environment and want to impact it by taking action in the present to build a more resilient and inclusive future.

Adopting a low-carbon lifestyle:
Ability to change one's own behaviors and habits for healthier ones, coherent and consistent with sustainable development.

Digital skills:
Ability to implement digital skills in the exploration of climate change solutions.

Reflection on social and environmental challenges related to water

Water and climate change

How are the two related?

The effects of **climate change** are already particularly evident today in **water issues**: (Drinking) water shortages, droughts and floods pose major challenges to people and nature all over the world. Health problems, world food problems, conflicts and refugee movements are the result.

How is the situation already today – and how is it likely to develop in the coming years?

What you should know about climate change and water:

– Globally, **water scarcity** already affects **4 out of every 10 people**. A lack of water and poor water quality increases the risk of a lot of **diseases**. (WHO)

– **Water and sanitation related diseases** are one of the leading causes of death in children under 5 years old. (UNICEF)

– **Increasing temperatures** on the planet and **more variable rainfalls** are expected to reduce **crop yields** in many regions. (WHO)

– By 2025, **1.8 billion people** are expected to be living in countries or regions with absolute water scarcity, and **two-thirds** of the world population could be under **water stress conditions**. (UNESCO)

– With the existing climate change scenario, by 2030, **water scarcity** in some arid and semi-arid places will displace between **24 million and 700 million people**. (UNCCD)

– Around **74%** of natural disasters between 2001 and 2018 were water-related, including **droughts** and **floods**. (UNICEF)

– Scientists, farmers and the business community consider **variability**, casted as 'extreme weather events', as one of the most likely production risks over the next ten years. (WEF)

How can we work with young people on such an overwhelming topic as climate change in relation to water without overwhelming them?

There are several methods to get into the topic and relate to the life worlds of children and young people without overwhelming them. Here you can find some useful examples:

Self Reflection

Reflect on your personal ideas about climate change: What comes to your mind? How does it affect you personally? What are your biggest worries? What are your biggest hopes?

Climate Story

Write down your own climate story: When you think back, when did you first think about climate change? How does it relate to your own life and your experiences? Write down a short story and link them to the stories of your friends or classmates!

Research on your home region

What does climate change mean for your own region? Check websites to see temperature rise, and the occurrence of floods and droughts over the last years.

SDGs, Education and Climate Action

The **Sustainable Development Goals** (SDGs) are a collection of **17 interlinked global goals** designed to be a "blueprint to achieve a better and more sustainable future for all".

The SDGs were set up in **2015** by the United Nations General Assembly as part of the **2030 Agenda for Sustainable Development**.

The 17 SDGs are made up of **169 integrated and indivisible targets**, focused on achieving achieving **human development** (SDGs 1 to 6), **economic development** (SDGs 7 to 11, 16 and 17) and **environmental development** (SDGs 12 to 15) with respective indicators to measure progress on each of the targets.

Digital tools to work on the SDGs

We share some digital tools to work on the SDGs individually, with communities and in classrooms.

170 actions to transform our world

A document with 170 ideas (10 for each of the SDGs) on how you can contribute to achieving the SDGs on a daily basis. We invite you to be inspired by these actions and put them into practice!

The Lazy Person's Guide to Saving the World

A short document prepared by the United Nations that presents ideas to contribute to achieving the SDGs by making small changes in daily routines. in daily routines.

Go Goals

It aims to help teach children all over the world about the SDGs in a simple and the SDGs in a simple and friendly way. You will find downloadable games with the board, the rules of the game, the cards, and the questions.

All other Tools

The materials available on this page are for adults and youth alike – a fun and engaging way to learn about the SDGs and what you can do to take action to make them a reality.

Relationship between education and climate action

What is the role of education in climate action?

<u>Our societies are currently facing a number of crises.</u>

It is necessary to address these crises from different **intersectional approaches** to continuously work towards **social** and **environmental justice**. In that sense, **education** is connected to all areas of sustainable development, and its role is key to train and accompany the next generation of leaders.

Training agents of change in climate action is more urgent than ever!

Teachers and educators for all ages and subjects play a leading role in developing, in the younger generations, the capacities and skills needed to understand and find solutions to the environmental and social challenges they face.

Digital Tools for Climate Education and Action

We share some digital tools to work on climate action with young people, whether in classrooms or other activities

Water Footprint Network, interactive tools

From simplified and extended Footprint calculators to the Water Footprint Assessment Tool, the interactive tools of the Water Footprint Network can help you to address water issues in different ways.

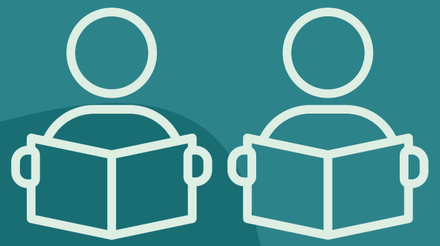
Global Footprint Network, Calculator

The footprint calculator can be used by your organization to find out with the youth what your biggest areas of resource consumption are and to learn how to tread more lightly on the Earth

EN-ROADS, Climate simulation tool

En-ROADS is a global climate simulator that allows you to explore the impact of roughly 30 policies—such as electrifying transport, pricing carbon, and improving agricultural practices—on hundreds of factors like energy prices, temperature, air quality, and sea level rise.

Tools to map challenges



Together you will move from what seemed to be impossible at first, to creating sustainable and positive impact

via

Challenge-led learning approach
using challenges as a starting point to help learners understand real-life contexts from different perspectives. It allows students to explore, discuss, and meaningfully construct concepts and relationships, ultimately leading to collective solutions to complex problems.

System innovation approach
allowing students to gain a broader perspective. It will help them in diagnosing the systems that surround their challenges, and to reflect on how solutions would make an impact. It ultimately helps them understand the profound change that is needed to face the climate emergency.

Use of visual tools

What are visual tools?

Visual tools are operational **co-creation tools** referring to design thinking, transition management, consulting, and community design.

Each tool consists of a **canvas**, **indications of use** and **operating instructions**.

Why use visual tools?

- They support **group work**
- Are compatible with **interdisciplinary** and **intercultural groups**, supporting the development of a **shared narrative**
- Are **challenge-led**
- Are based on **System Thinking**
- Are **empirical**: the degree of refinement depends on the introduced contents
- Are **iterative**: repeating the exercise refines results
- fit well into a **design perspective**: empathize, define, ideate, prototype, test
- Are **interconnected** (results from one tool feed into a different one)
- Are **adaptable**

Get ready for the challenge

1.Find your challenge related to water, young people and climate change

1.1 Start thinking about water topics in a way to understand climate change and sustainability issues.

1.2 Make it local by trying to understand how climate change is interconnected with community action.

1.3 End with inspiration that is relatable to participants.

Time to get started with **system mapping tool**!

Each person creates a systems map of their own life, including positive and less positive elements, finds connections between the elements, and identifies challenges that require solutions.

2. Make the challenge understandable and inspiring

Create a case study to help young people to quickly make sense of the complexity around the challenge, without offering shortcuts to a predefined solution.

The basic elements:

- **Factual:** It should be based on facts and be documented.
- **Analytical:** A case study should offer an analytical perspective on past situations and encourage critical thinking through an analysis of the situation and evaluation of the actions.
- **Narrative:** A case study can be effectively structured as a story (hence, with an opening, a middle and an end) describing a factual series of actions occurred in the past.

3. Present the challenge and start working.

It is essential to set a clear and relevant local climate challenges that are formed in a simple to understand problem statements, which are easy to relate to.

How to empower young people?

Do they care about water issues?

How to impress young people, to be more active?

How to activate them?

How to empower young people to take more active and appropriate care of water?

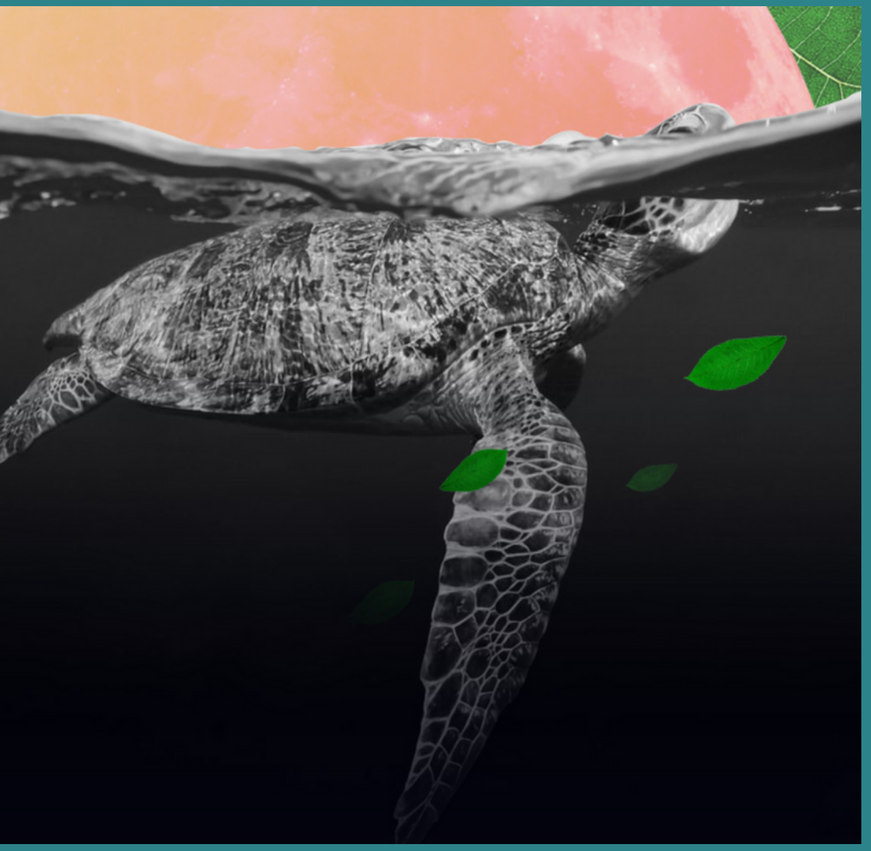
Tools to work on a challenge

Pentagonal problem

Stating the problem

Making your problem **tangible** is the first step in looking for a solution. Before working on an in-depth understanding of a problem or challenge, and the search for solutions, it is necessary to have a clear description of such a problem. if you understand the problem, you can start building solutions

Pentagonal Problem is a visual tool to help teams nail down the problem, identify its different components and details, getting to a common ground for future actions.



HOW MANY From 1 person to groups of 10 people.

HOW LONG 40-60 min.

DIFFICULTY Low.

WHAT YOU GET A comprehensive and visual depiction of the main systemic components of your problem.

WHAT YOU NEED A basic idea of the problem you face and an open mind to see how the context affects such a problem and conversely how the challenge affects the context.

WHAT IS NEXT You can go on with the stakeholder analysis or go for the System analysis if you prefer diving deeper in your comprehension of the context surrounding the challenge.

How to work with Pentagonal problem?

1. **STEP 1. Define yourself** Draw a large pentagon in the middle of a big piece of paper and start by defining yourself.

2. **STEP 2. The basic statement** Try to describe the problem in one single sentence or short paragraph.

3. **STEP 3. The climate change challenges S**pecify the climate change related challenges that your problem is tackling. Pay attention to the problemswhatever they are. Use post-it notes and write down one idea per sticky note.

4. **STEP 4. The technical challenges** You are probably thinking about technical solutions for your problem, or you may be a technical entrepreneur. If that is the case, this is your time.

5

STEP 5. The social challenges Think of society and how it is affected by the problem, or, conversely, how society impacts the problem. Is societal behaviour worsening the problem or it is getting it better? What are the societal challenges underlying your project?

6

STEP 6. The Gaps After describing four sides and nuances of your challenge, where could you spot the main gaps with respect to resources?

7

STEP 7. Debrief Once you have completed the pentagonal description of your project, go over the first problem statement and how it has been enriched with many nuances and inputs coming from very different sources. Do you think you got a thorough description of your challenge?

Actor tree canvas

The Actor tree canvas is a visual tool that helps you identify, list and categorise the myriad of stakeholders around your project. Stakeholders are depicted as the roots of a tree that will feed and carry out the process of system innovation, represented by the crown of the tree. The trunk, in turn, accounts for your challenge.

Context

Challenge

Stakeholders

HOW MANY From 1 person to groups of 10 people.

HOW LONG 40-60 min.

DIFFICULTY Low.

WHAT YOU GET A categorized list of the main stakeholders for your challenge.

WHAT YOU NEED A deep knowledge of the challenge and its context in terms of actors and institutions playing any kind of role or being potentially affected by the project. Essential: an open mind to engage/empathise with actors with opposite interests to ours. The Pentagonal problem can provide useful inputs for this tool.

WHAT IS NEXT After having a list of stakeholders you will need to know them better: their needs, expectations and possible reactions. You also need to map them out to make their stances and relations clear.

How to work with The Actor tree canvas?

1. **STEP 1. The challenge and the context** Take a big piece of paper and draw the tree canvas. The roots account for the network of stakeholders, the trunk for the challenge and the crown for the context in which your challenge is embedded. The starting point for this tool is to nail down the challenge or project you have, and the context around.

2. **STEP 2. Chunking down into categories** With the challenge and the context in mind, the following step is to identify categories and subcategories of actors clearly represented in the system around your challenge. Draw a new root for each category you identify, and a new root branch for each subcategory.

3. **STEP 3. Closing gaps** To finalise the tree, look for those hidden stakeholders: outsiders, groups barely organized and with no skills for self-organization, minorities, etc.

4. **STEP 4. Debrief** Spend some minutes on reflecting about the outcome you obtained. Some of the questions you might ask are the following: Do you think you have spotted many or few stakeholders? Did you find it difficult to come to a consensus regarding the stakeholders to factor in? Do any of the branches look more relevant than the others, with many more stakeholders?

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Credential cards

The Credential cards is a tool to characterize a stakeholder's stance about the challenge and more specifically how they relate to that challenge. That is, how they are influenced by the problem and the future solution and how they can influence the process of developing the new solution. The tool is made up of four components:

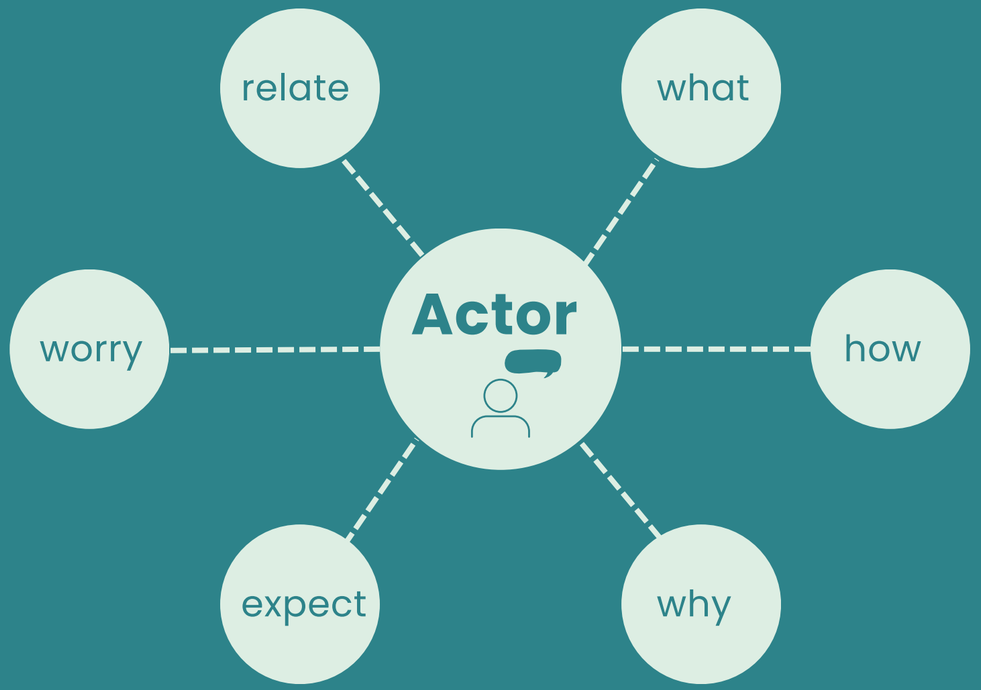
Actor Description,

Problem Statement

Stakeholders wheel

Stakeholders equaliser

Actor description



Influence

Capacity to influence the process

Capacity to influence other stakeholders

Other...

Interest

Adaptability

HOW MANY From 1 person to groups of 10 people.

HOW LONG 40-90 min.

DIFFICULTY Medium**.**

WHAT YOU GET A comprehensive and visual depiction of how the stakeholder relates to the project and its context.

WHAT YOU NEED A comprehensive and visual depiction of how the stakeholder relates to the project and its context. This tool requires good knowledge of the actors involved and especially how their actions or behaviour are related to the project.

WHAT IS NEXT In training environments, it is crucial for the trainer to provide sources of information. After gathering a set of Credential cards for different stakeholders, you may want to go with Stakeholder Universe to go deeper into their relations and how they can have a significant influence on the project process.

How to work with The Credential cards?

1

STEP 1. Setting the scene Before starting with the tool, clearly define the challenge or the problem you are facing. You can resort to the Pentagonal problem outcome or any other tool you have used to narrow down the challenge. Right after that, define who you are and your role regarding the project.

2

STEP 2. Stakeholder description Describe briefly the stakeholder you are going to analyse: write their name, describe in which category it falls, and briefly include any import.

3

STEP 3. Problem statement Paraphrase the problem or the challenge you, and as a team, are addressing but from the stake - holder’s perspective.

4

STEP 4. Stakeholder wheel The wheel is the deepest part of the Credential card and it will take you longer to work on. It is aimed to unfold the stakehold - er's stance with regard to the challenge you are tackling.

5

STEP 5. Stakeholder Equalizer This tool is intended to make a first assessment of the actor's behaviour with regard to the system they all make up and the potential role they can play in the future. To do that, three attributes are assessed: Influence, Interest and Adaptability.

6

STEP 6. Debrief Once you have completed the Credential Cards, spend time reflecting on the outcome and the process of filling it out. Use the following questions to spark reflection. Did you get new and better insights into your stakeholders? Do you think you are in a better condition to predict their future stance about the project?

Glossary

Acidification:
Ocean acidification is a lowering of the pH of the oceans over a long period of time, caused predominantly by the absorption of carbon dioxide (CO2) from the atmosphere.
(oceanservice)

Climate Change Mitigation:
Emissions of heat-trapping greenhouse gases into the atmosphere need to be avoided and reduced to prevent the average temperature from climbing further.
(WWF)

Climate Change Adaptation:
is the need to adapt to the climate change that is already "in the pipeline".
(NASA)

Drought:
is a period of unusually dry weather long enough to provoke a severe hydrological disbalance.
(IPCC)

Education for Sustainable Development:
"gives learners of all ages the knowledge, skills, values and agency to address interconnected global challenges including climate change, loss of biodiversity, unsustainable use of resources, and inequality. It empowers learners of all ages to make informed decisions and take individual and collective action to change society and care for the planet. ESD is a lifelong learning process and an integral part of quality education. It enhances the cognitive, socio-emotional and behavioral dimensions of learning and encompasses learning content and outcomes, pedagogy and the learning environment itself."
(unesco)

Extreme weather event:
is a seldom occurring event at a particular location and season of the year., estimated from observations rare means in the bottom 10% or top 10% of severity. Extreme weather may vary from location to location in an absolute sense (e.g., drought or heavy rainfall depending on the season).
(IPCC)

Flash floods:
can be triggered by a variety of causes, but most commonly they are due to extremely heavy rainfall caused by thunderstorms. Flash floods can be caused by dam failures, dike failures, and/or mudslides (debris flows). (National Weather Service)

Food security:
exists when all people at all times (physically, socially, and economically) have access to sufficient, safe food, to meet their nutritional needs.
(IPCC)

Tipping point:
is the point of change in system characteristics beyond which a system does not return to it´ s original state even if the causes of the change are reduced. This often happens quite suddenly.
(IPCC)

Water Footprint:
is a multidimensional indicator that not only relates to the amount of water used, but also makes it clear where the water footprint is sited, what water source is used, and when the water is consumed. This additional information is critical to assessing the impact of a product's water footprint.
(waterfootprint)

Seal-level rise:
Mean global sea level has risen by about 21–24 centimeters (8–9 inches) since 1880, about one-third of it in the last two and a half decades. The rise in sea level is mainly due to a combination of meltwater from glaciers and ice sheets and thermal expansion of seawater as it heats up.
(climate.gov)

Virtual Water:
is the measured freshwater volume used to produce a product.
The adjective "virtual" refers to the fact that most of the water used to manufacture a product is not contained in the product.
(waterfootprint)

Groundwater depletion:
can be caused by sustained groundwater pumping. Further droughts and low precipitation also contribute to a lower groundwater table.
(earthobservatory)

Sustainable Development:
meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987) while balancing social, economic as well as environmental concerns.
(IPCC)

Small Island Developing States (SIDS)
are a group of 38 UN Member States and 20 Non-UN Members/Associate Members of United Nations regional commissions facing particular social, economic and environmental problems.
(UN)

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