# Carbon Dioxide Theatre

This book is about the Carbon Dioxide Theatre project, in which we explored how participatory theatre and participatory design methods can be used in a museum to create engagement with climate issues.

The Carbon Dioxide Theatre project focused on young people's ability to reflect on and critically review social norms and practices around climate targets and carbon dioxide emissions, although the process affected all participants. Objects from the museum's existing collections were central to the project to create reflections on past and present social norms.

With this text, we want to inspire you to explore how museums can develop new ways of working with collections and communication related to our cultural heritage and contemporary global challenges.

In the text, we have mixed descriptions of the process and the methods, with personal stories from us in the project in order to share as many different perspectives of the project as possible with you. We hope that you will get inspired!

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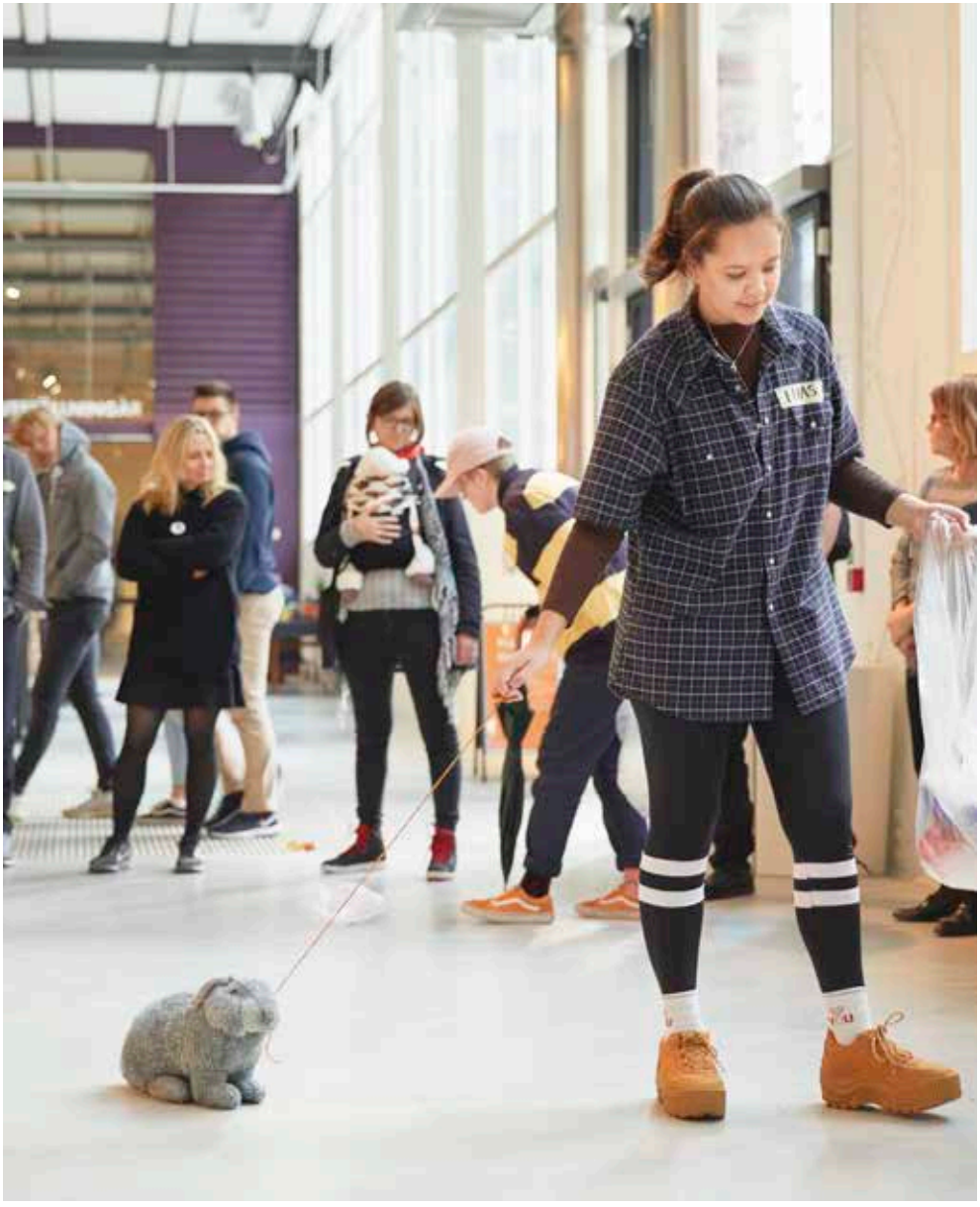
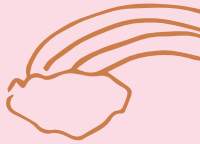



Young participants reenacting and sharing their knowledge and experience with museum visitors in a pop-up scene for their summer exhibition.

# This book is associated with so many emotions

I have not cleaned my room for an eternity. I have gotten used to the thin layer of dust that – like a soft, comfy blanket – has been lying over my room. But today I decide to finally clean up. I start by cleaning under my bed, where there is all the crap you can imagine! Lots of books, clothes I never use, funny hats (from the period when I always wore hats) and millions of dusty cans. I start to pull out everything that was hidden under my bed. Suddenly, I touch something that does not feel like old clothes and dust at all; it is a book and, as soon as I see it, I know what it is. In my hands, I am holding the notebook I used during my summer job with the Carbon Dioxide Theatre. It is a strange book full of doodles, glitter glue and sticky straws in all the colours of the rainbow. I flip through the book and feel tears running down my cheeks. This book is associated with so many emotions; when I look at it and browse through it, I remember one of the best summers of my life. This notebook holds all of the crazy, brilliant and fantastic ideas Isa, Henry, Eden and



I managed to come up with during the summer with the Carbon Dioxide Theatre project. There are interviews with residents at the Apple park's seniors' residence, quotes like "I hate plastic" and countless to-do lists with points such as "find Barbie doll, molten Barbie doll?". I hold the book in my hands, thinking that this should not lie under my bed. I take it and put it on my bookshelf, along with my other favourite books.


The Carbon Dioxide Theatre project was one of the most fun things I've ever done. I met such nice and crazy people, and laughed until I got a cramp in my stomach. But I didn't just have fun – I also learned so much. I learned about the climate crisis and how we can influence the climate and environment through the choices we make in our everyday lives. I learned new things about climate impact, such as what the difference in carbon dioxide emissions is between different food products, clothing and modes of transport. Through all the workshops, I felt more and more confident sharing my ideas and thoughts. I feel like it was a place where I was able to share other people's thoughts but also express my own. Even the summer job with the Carbon Dioxide Theatre was so rewarding and fun – it was the best job I ever had. Working as a group, we created an exhibition that highlighted the climate issue. It was also so much fun! I really felt that we were free to shape the exhibition into exactly what we wanted, and that the museum staff had confidence in us. That summer job really made me grow.

**CORNELIA,** student,
teenager in the 2010s

## Introduction

A great deal of information is available about climate change today. The earth's climate is getting warmer. Continued emissions mean continued rising temperatures. The UN's Intergovernmental Panel on Climate Change (IPCC) has stated that human impact is behind most of the temperature increase that has taken place since the middle of the 20th century. Even if all the countries of the world implement severe restrictions on their emissions in the coming decades, the earth's climate will continue to change in the coming centuries. The effects of increased warming include floods and droughts, reduced access to fresh water, mass migration and agricultural disasters.

There are national, European and global goals and recommendations for reducing carbon footprint emissions, which are often formulated by climate researchers. To move forward from a situation in which citizens simply receive information and gain increased awareness, to a situation that supports changing behaviours and structures in society, new methods need to be explored. Through the Carbon Dioxide Theatre project, we have explored how participatory theatre and participatory design can be used in a museum to create engagement with climate issues.

Improvised scene exploring different types of interaction that the young participants have in their everyday life.


Most of the doodles in the book come from participants' sketches during the project and were made in brainstorming sessions on actions and attitudes that could be a response to climate issues.

In order for museums to be able to develop new ways of working with their collections and the dissemination of cultural heritage and to engage young people in depth, it is necessary for those of us who work at museums to educate ourselves. The Carbon Dioxide Theatre project focused on young people's ability to reflect on and critically review social norms and practices around climate targets and carbon dioxide emissions. Objects from the museum's existing collections were central to the project in order to create reflections on past and present social norms. We learned and developed participatory methods and approaches throughout the project, for example Carbon dioxide (CO2)-based participatory improvised theatre, Life-cycle assessment film sketch, Object life-stories in the exhibition, Value lines on carbon footprints, Teatime, I write to you and Life-cycle visualisations to make CO2 data tangible.

**"... being in the moment, and creating and sharing space are central."**

The workshops in the project were open to anyone interested in the subject, but were specifically shaped around a core of young citizens (between 15–20 years old), museum staff, actors, researchers in the fields of interaction and participatory design, and designers from RISE (Research Institutes of Sweden) and the University of Southern Denmark (SDU). This base recurred in all of the workshops. Although the young citizens took part in their free time, the project also provided the opportunity for summer jobs. The workshops, exploration of objects, and the history of the objects in the existing collections formed the basis for two pop-up exhibitions, which were created together with the young citizens in the project during their summer job.

The methods we used are based on participatory theatre and participatory design perspectives, in which improvisation, being in the moment, and creating and sharing space are central. A major challenge for us has been communicating the methods we used and the way we worked. The Carbon Dioxide Theatre project aroused interest in both those involved and those who heard about the project. Several museums have asked us to share the results of the project in the form of a book or illustrated manual. We hope that this documentation of the project will promote a discussion of the museum's role as a place for reflection and action about our present day, based on history, to be spread to other interested parties. In this booklet, we have tried to answer the question: how did we work to develop a participant culture in the museum within the Carbon Dioxide Theatre project? With this booklet, we aim to inspire others working in or with museums or other public institutions to try out and develop these methods.

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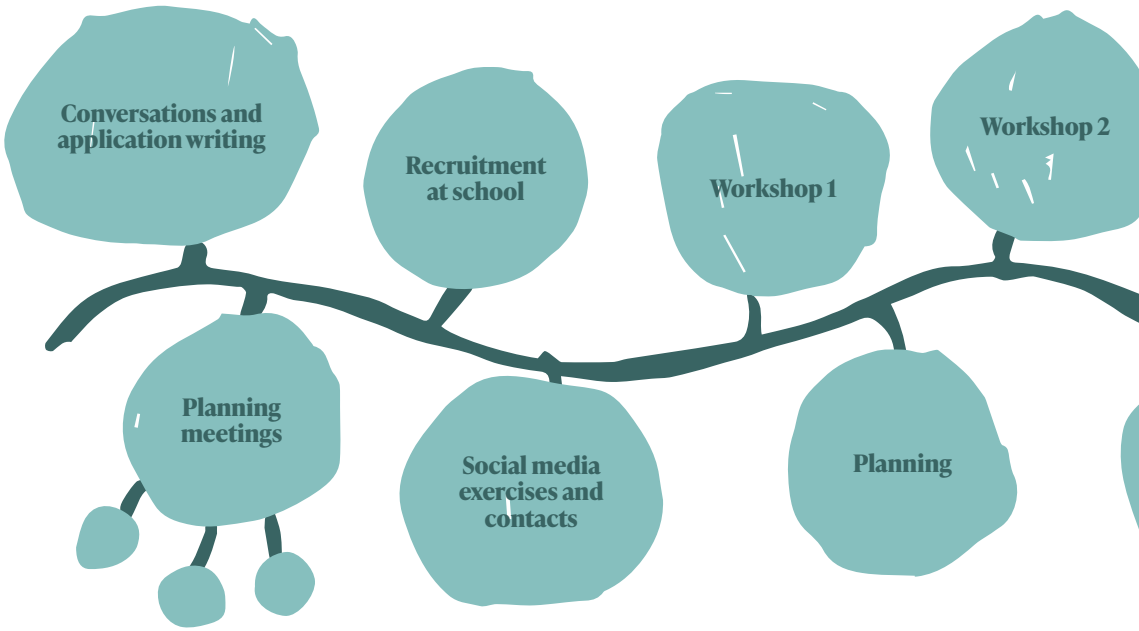
Learn more: *www.swedishepa.se/environmental-objectives-and-cooperation* and *www.un.org/en/sections/issues-depth/climate-change*

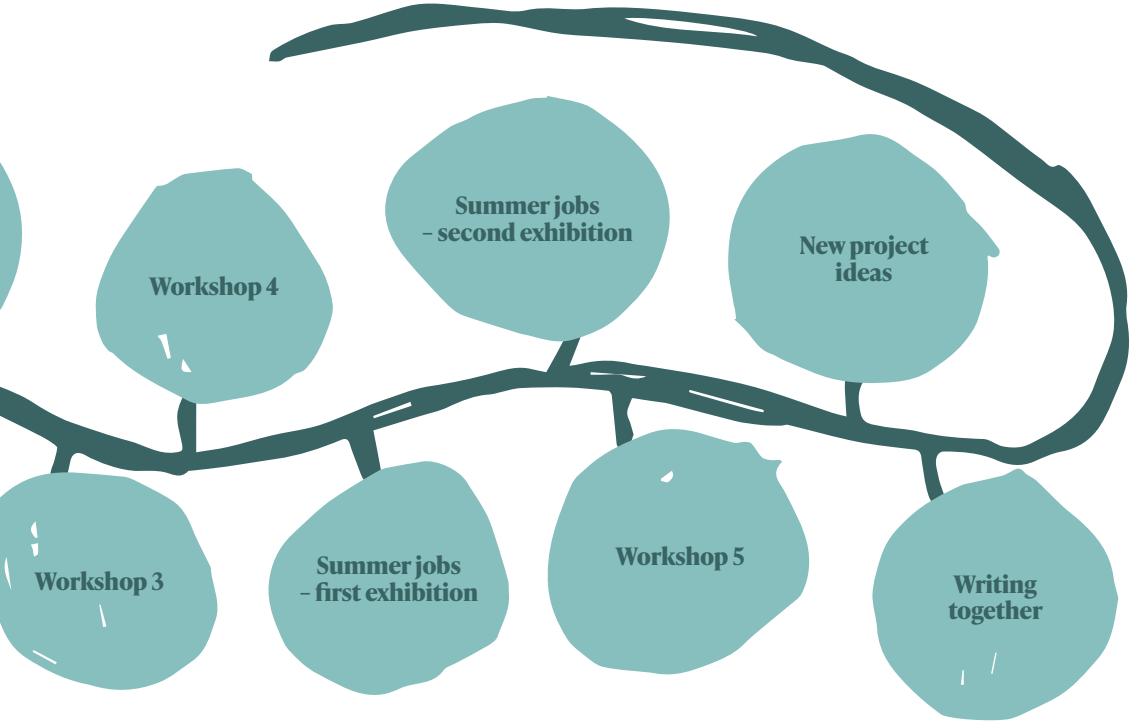
## Overview of the process for Carbon Dioxide Theatre




**Workshop 1: Building trust and exploring dilemmas in everyday life**
Friday and Saturday. Get to know the young participants, them to know each other, the rest of participants and the space. Exploring young people's daily life and dilemmas with participatory theatre improvisation.

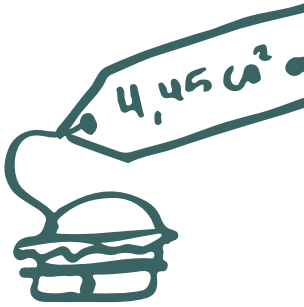
**Workshop 2: Collections and social norms**
Friday and Saturday. Working with the history and lifecycle of objects in the museum's collections in Hallstahammar. Exploring emergence of values and CO2e through generations: past, present and future.

**Workshop 3: How can playfulness be a part of our daily practice?**
Friday and Saturday. Bring a friend! Working at the museum with future actions, exploring dilemmas related to carbon emissions with participatory theatre and different emergent prototypes. Perfectionism – playfulness. Object storytelling with the objects in the exhibition Modern Times. CO2 Teatime.




**Workshop 4: Reflection and preparation for summerjobs**
Thursday evening. Prepared together for the summer job. Warm-up activating the body and the theme of the project and brainstorming session to develop the ideas further. Reflective evaluation of the workshop series. What were your thoughts when we started, how has your state of mind changed since then, if it has? Planning WS 5 together.

**Workshop 5: Open workshop – try it out**
Friday, the entire day. Introducing the project to a wider audience. Warm-up methods to get to know the subject and each other. Guided tour of the project by those who partcipated. How to integrate museums' objects and collections? Investigate how the method can bring to life an object's lifecycle and visitors' stories. Social norms and societal change. Explore scenes together that emerged from the dilemmas during the project. Shared reflection.




## Museums are transforming their work with the public

Why does a cultural history museum engage in dialogue with teenagers about carbon footprints? Traditionally, museums have been rich places for learning – places that convey well-prepared insights to their audience, with a focus on authority and on what is factually correct. However, there is an emerging discussion and action within cultural institutions such as libraries and museums on how the relation to the audience could be created in a different way. Västmanland County Museum (VLM) – like many museums and other institutions – is exploring ways to transform our public work. We are moving from a traditional model of visitor engagement, in which the visitor and the museum staff have clear territories and roles, towards the museum as a shared and negotiated territory where the visitor becomes a participant in the museum's activities. We are also asking what role a museum could play in working with current challenges in society, such as climate change. Cultural history museums are not only spaces for history; they are also places to engage with the present and the future. History can give valuable perspectives on current societal discussions.

The Carbon Dioxide Theatre project should be viewed in light of this shift. With the need to decrease carbon emissions to slow down climate change, how can a museum contribute to create space for reflection with young people on this topic? Young citizens are seriously worried about climate challenges, and frustrated regarding the lack of action concerning this. Working with the collections at the museum can actually diminish the void of loneliness and despair by showing that we have come together and succeeded in fighting really challenging problems before, and have been able to find solutions. Furthermore, although we commonly see parents with children at the museum, we do not see many teenagers; so we really wanted to strengthen our relationship with some of them.

To make sure this did not become yet another project in which experts conveyed messages, we wanted to interact with a smaller number of people. At the workshops, we typically had a total of 20–25 people. Half of the group made up of the young citizens and the other half was museum staff, researchers and designers from RISE, and researchers and actors from SDU.

**"... we have come together and succeeded in fighting really challenging problems before."**

The methods we will discuss in this text exemplify the reflectional and norm-challenging approach we took in the project. Personal stories will also be interlaced within the text. Through these stories, we would like to share more in-depth perspectives of the process; we also hope to stimulate reflection on important issues, such as sharing space and power in a museum.

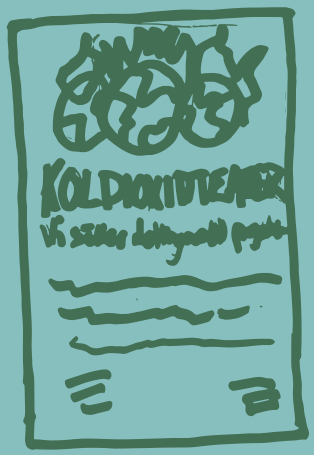

In the workshops everybody had a chance to share their individual stories.

POSTERS FOR SOMETHING CALLED

# CARBON DIOXIDE THEATRE

Posters for something called the Carbon Dioxide Theatre were put up on the walls at my school, among other things. An explanation of what was meant by the concept was there and, as the name already reveals, the theatre was to be mixed with environmental issues. But how? I didn't understand it yet, but it was alluring. Especially for a theatre student and environmentally conscious youth...A while later. First meeting at the museum. A meeting of masses of people who wanted to see a change when it comes to how we humans treat the environment came together to discuss the state of the earth and where we are located. Different ages, from different countries, with different thoughts met to address what we find wrong, while getting to know each other in various and funny ways.

**TOVA**, student,
teenager in the 2010s




Recreating and imagining a break at school, different kinds of groups and behaviors. Articulating different perspectives and scenarios. What are you doing right now? What are you thinking? How do you feel? What will happen next?

Poster used for recruiting participants for the Carbon Dioxide Theatre.

# KOLDIOXIDTEATER

## VI SÖKER DELTAGARE TILL PROJEKTET

**ÄR DU?** 16-19 år? Lider av klimatångest? Kreativ och vill gestalta berättelser om sociala normer och människans påverkan på klimatet förr och nu?

**VILL DU?** Delta i 4 kreativa workshops under våren 2019 (feb-maj)? Prova metoden deltagande teater och utforska föremål i museets samlingar? Få chansen att söka sommarjobb 2019 på museet för att producera en utställning online eller IRL?

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## What does it mean to start?

The project had many starting points. For example, some years back, some of the researchers in the project met at research conferences and became engaged in each other's projects. The informal and formal contacts involved in starting a project such as this one should not be neglected. It could take years to find and form the necessary relations to support the intense work of writing applications for funding. Funding is crucial in a project like this, especially for a fairly small regional museum like VLM, which has no extra resources to develop public work. So writing an application with a multi-disciplinary team and succeeding in that was one starting point. Another starting point was the conversations in the project team to make an inviting and open framework for the workshops. A third starting point was to talk to many upper secondary school students about the project. A fourth was starting the conversation between all of the participants.

Before the workshop series started, the project group reflected a lot on communication and the participatory aspect of communication. We thought about communication between the young participants themselves, between researchers and the young participants, between the young participants and the public, and between the young participants and their peers. We aimed to find a way to support communication with the young participants in the context of the project, and did a survey to understand their preferred way of communication. This work was facilitated by the project assistant, a master student in design: Andreea, who also wrote a master thesis on the project.[1] Based on the survey, the young participants seemed to prefer Messenger and Snapchat for communication.

**"... our first experience with Snapchat was a real experience of stepping into the shoes of another generation."**

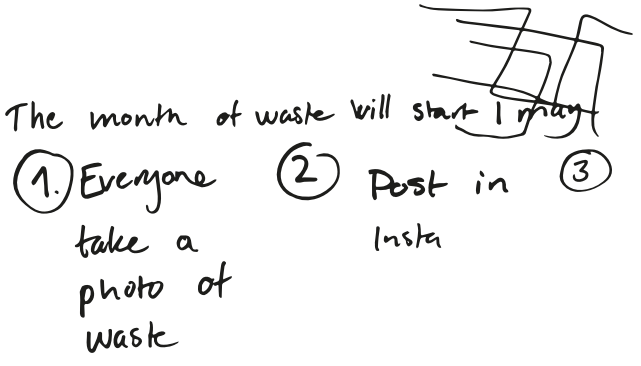
In no time at all, they had created a Messenger group for themselves. Before the first workshop, everyone in the project was invited by Andreea to set up a Snapchat "selfie" with a filter and write a caption related to the topic of climate change.

It might be unnecessary to say that, for some in the project (the older members), our first experience with Snapchat was a real experience of stepping into the shoes of another generation.

During the preparation of the first workshop, we also thought about how to create a space that linked our online communication to our new common workspace. All of the participants' selfies were put up on the wall in the temporary space at the beginning of the first workshop, as a way of strengthening our relationship to the space and helping everyone to feel welcome.

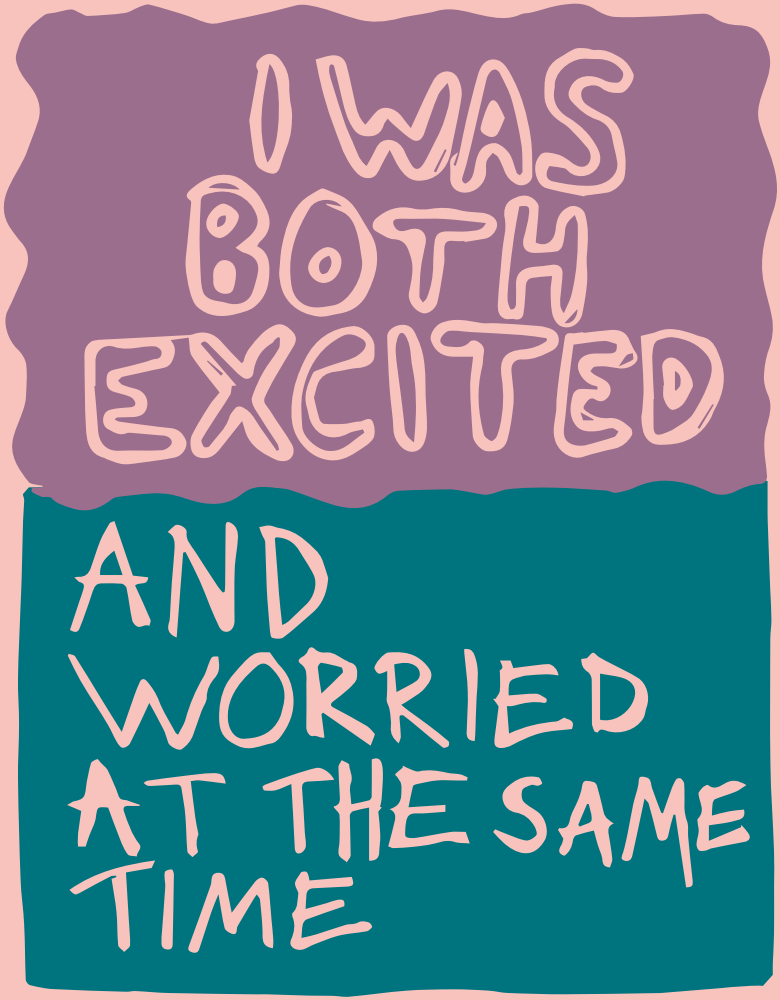
An Instagram account called *co2theatre* was started during the project and was driven by the young participants, alongside with Andreea.

So, imagine our first meeting with all the participants: around 15 teenagers, museum staff, designers, actors and researchers, with some of these people knowing a few of the others. How could we create an atmosphere for fruitful conversation across age, background, experience and – not least – with the existing "expectations of expectations"? By this, we mean the expectations from the museum staff and other experts that they would do what they are used to doing, and the expectations from the teenagers that they would eventually be treated as passive objects.



When I first heard about the Carbon Dioxide Theatre project I was both excited and worried at the same time. The excitement came from the beauty of this project, combining theatre methods with participatory design, and aiming to explore the teenagers perspective regarding a hot topic today, while involving them throughout the whole process. On the other hand I felt unsure about how I will be able to find my own research path along a project that was already established. Later on, when I met the team and deeper understood the context, I started to see many directions I could take for my master's thesis study, having the chance to provide value for both the project and academia. Thus, my role developed from a necessity we discovered together, to become the link between the teenagers and the team in the time between the workshops, engaging them in different activities by using online media, which later transformed in the subject for my thesis. It's been a wonderfully challenging process, where many topics and discoveries were brought up, but during which I found it difficult at times to distinguish the academic work from the powerful emotions and existential questions risen throughout the project. In the end I am grateful I was able to be part of it and explore how together we can create a better relationship between us humans and our environment.

**ANDREEA**, project-assistant at VLM,
teenager in the 2010s


I WAS BOTH EXCITED
AND WORRIED AT THE SAME TIME


How old were
you when you took
your first flight?




Moments from the first workshop
and the summer job.

For many years, I have been working with participatory theatre, in which our team from SDU plays ordinary situations that people recognise, either by making a little play upfront, or by asking the participants for such situations. All participants in the Carbon Dioxide Theatre are now standing on the floor, looking at each other, and I can't avoid thinking: how can we possibly create a connection across age?

In one of our preparatory meetings, I suggested a play about a girl who fancied a boy, and who asked him whether they should go to McDonalds together. Now, it turned out that the boy was vegan. Eventually, the girl started following his example, and we could then play a situation some months later at home with the girl and her parents, where the girl quarrelled with her parents about not eating all these dead animals. From there, we could engage with the participants about what was at stake, and how such an interaction in the family might unfold.

Then, I was told, if we played that, we might expect a question about why this had to be a girl and a boy – with reference to the current gender discussion. Now, standing on the floor with this insight, I did not dare to open with such a play.

So we began by doing some lines of people based on an initial question: At what age did we take our first flight, and where was it to? We created other lines, such as at what age people got their first mobile phone, and several other suggestions for lines came up.

We spent quite some time on such small exercises, and the response was amazing. By sharing stories, and recognising the differences in age, I saw a recognition from the young people towards us, which I interpreted as a respect and curiosity to hear our stories, also induced by our curiosity towards their stories. This was the first fragile experience, from which we could go on building mutual relations.

This was the first fragile experience, from which we could go on building mutual relations.

**HENRY**, researcher at SDU,
teenager in the 1960s

## Reflecting on this experience

Some of us in the project team had years of experience – not just with improvised theatre, but also with exercises like this.

Henry, who facilitated the first scenes, continues to reflect:

> *"Still, I cannot know the reaction, and I have to react in the present. This is not just me – this also counts for all other participants. With the idea of expectation of expectation in mind, we all need to – from moment to moment – make sense of our own and others' gestures. And although my primary attention was towards the young people and their reaction, the other participants also have a say, and the game of expectations of expectations is present. When does the museum director, Jennie, want to engage, when do the experts from RISE want to engage, what do they expect? Should I invite them in, and how would that be perceived among the young people? It is not possible not to have thoughts like that and, at the same time, I have to live with it – that this cannot be controlled."*

With a range of methods, we started exploring daily situations in the workshop, in which dilemmas around carbon footprints came up. A range of stories were told – such as having parents who were divorced, and the father invites you hiking in Sweden, while the mother invites you to fly to Thailand. Here, the negotiations go far beyond the carbon footprint – it also includes navigating the relation with both parents, and carefully navigating the parents' troublesome interactions and expectations. Another example from real-life that came up was a school that had planned a trip to France by air. In the beginning, the teenagers from that school did not expect any other outcome. To their own surprise, the school actually did end up organising an alternative school trip by train in response to the reactions from the teenagers at the school, which were partly induced by our participants.

**"... we all need to – from moment to moment – make sense of our own and others' gestures."**

All in all, we were keen to work with situations from ordinary daily life, with the intent to break down idealisations about how one "ought" to act towards climate challenges, and to examine what actually goes on.

Critiquing consumer habits and our own norms by embodying a scene from Black Friday.
The CO2e emissions of garments are made visible and tangible through inflatable balls.


There we were, at the first workshop. We did not know what to expect. I was heavily pregnant, and this would be the only workshop I would take part in during the spring. We were standing in a line, talking about how our generation responded to climate change. One of the young people shared her worries: that they are the last generation that can make a difference, that they have the responsibility to do something, because otherwise it will be too late; and that other generations did not feel this need or urge and therefore did not act, she felt. I could sense that she

did not know how to channel this worry – that she did not feel like she was being taken seriously. They did not feel listened to. I found it difficult seeing them like this, seeing their concerns. I saw young people with this kind of pressure on their shoulders without the support to voice their concerns and to work with it.

I only saw them again in the autumn, during the last workshop that we organised to share our process with other museums and other interested institutions. A group of the young people was there as well, and what a difference I saw in them! They really stood their ground. They were powerful! In the workshop, they took on leading roles – they were the ones who wanted to act out the scenes. And for this audience that they did not know, they were not afraid to voice their concerns and talk critically. Looking at them, I felt that this process had empowered them to work with their worries and to channel it in different ways. They had created two exhibitions in the museum; they had taken on discussions with the school management to change the mode of transport for their school trip. They did so much more than they might have expected they could! I could sense a true transformation in their confidence. As a closing of that workshop, we were invited to read out letters written for someone from another generation. This is the letter I read, from one of the young people: "I am thankful for those adults who gave me the possibility to be part of this project, but I am also thankful for those who have been willing to discuss climate issues with me even before this. To you, adults, who discuss the climate and who create forums for young people to express their climate worries – Thanks! To you adults who don't, it is time to start..."

**LIZETTE**, researcher at RISE,
teenager in the 2000s


Re-enactment of the workshop preparations on the train.

Over time, the work we did together came to influence how all of us made choices and reflected on them. From SDU in Denmark, the team got used to taking the train to Västerås, instead of flying. However, after one of the later sessions, they ended up taking a flight back. At that time, we recognised a hesitation among some of the teenagers, which we interpreted as a hesitation about whether they were "perfect enough" according to carbon footprint to take part. So, in the train on the way to the workshop, the team from SDU talked about how we could work with their choice to fly to invite discussion. Later, at the meeting itself, they played themselves sitting in the train, negotiating whether or not they should tell the rest of the participants that they would take a flight – and we acted out the decision not to tell. "But what would we do if they asked us about it" they then played. One actor said, "Then I would tell the truth", while another said, "Then I would lie". This scene created quite a discussion; some argued that it was not OK to take a flight as long as there were other options, but other reactions were also given – mostly on the theme of disguising actions you are not proud of. In the end, a participant asked the team from SDU whether this was just a play, or whether they had actually bought a flight ticket. Some of them said yes, but the actor who had argued in the play to say "no" denied it with a smile.

**"Some of us said yes, but the actor who had argued in the play to say 'no' denied it with a smile."**

This was a situation in which the relationship between those of us from Denmark and the teenagers was again at stake. We might have experienced a flat rejection of us as persons making such a choice; and maybe some of them had that reaction. However, it did invite a very important conversation about making not-that-perfect choices, and about being able to talk about it being preferable to hiding it.

We were in the big exhibition space at the museum that we had taken over and transformed into a temporary process space. It was just at the end of the first workshop, and something new happened that I still remember. During our first days together, I had felt that the group had developed from a sense of:

"Do I belong here?", "What is my role?", "Do I want to stay?" to a more secure "Wow, this is much more fun than I ever expected!", "We are in this together", "Here is a good place" and "It is actually my place". Some of the young participants brought up the subject that more people should be able to have the same experience as they had had over the last few days. It was then that we decided together that the next workshop should be a "bring a friend" workshop – that is, that everyone (including the older people) could bring a friend. For me, it was a turning point in the process. The next workshop we had doubled the size of the group and it gave such great energy to the process. I felt a mixed sense of "it is so easy to work in this way" and "what we have unleashed here does touch on something fundamentally important" – important both in terms of how we do it and the subject of climate change that we are working with.

**JENNIE**, museum director at VLM,
teenager in the late 1980s

It is striking how different this form of theatre is from a well-rehearsed and well-prepared exhibition, film or theatre play. And it is important to recognise the sense of risk in this work, which is why many people would want to stay away from working like this.

**"... many people would want to stay away from working like this."**

During a reflection on the overall interaction at the end of the workshops, one of the participants called our work process "flummig" [in Swedish]. This might be translated into "hazy" or "flimsy", meaning that it is not entirely clear where our interactions lead, and also "undirected". Contrary to what one might expect, this was articulated positively – as something that was appreciated – because this mutual search in the haze was experienced as opening a way for new understandings and new ways of taking part.

A playful conversation scene between a teenager and the father about upgrading to a new mobile phone. Discussing issues around making choices to fit in in a group of friends and how that may conflict with climate impact.

THIS PROJECT MEANT A LOT TO ME PERSONALLY, BUT ALSO GAVE ME NEW IDEAS AS A MUSEUM EDUCATOR.

This project meant a lot to me personally, but also gave me new ideas as a museum educator. In addition to new knowledge about carbon dioxide emissions, I got completely new thoughts about my everyday life and my choices. My wish as an educator is to be able to use methods that create the same kinds of insights and reflections I received myself about an important contemporary issue. As a theatre teacher, I recognised several of the theatre exercises we did, but the combination with facts, other reflective exercises and, above all, the meetings with people with different experiences and thoughts, made what we did relevant and burning. The great thing was also that, despite the important subject, we worked without pointers, judging or polarising. We all went in with our own experiences, our backgrounds and our honest concerns mixed with everyone's various difficulties in changing the habits of patterns and conveniences. In addition, we had fun and laughed a lot, which is probably very important.

I will take that feeling and way of working respectfully and will be inspired in future educational meetings around issues that require reflection and the active participation of those I meet. During a regular exhibition tour at the museum, it is usually me who tells the story and the audience who listens. In the project, the most important ingredient was to meet and to be active. Theatre and improvisation is a fun and good way to activate people, but it is still not the important thing I bring with me from the project. Keeping the activity and the meeting between the participants at the centre of the educational sessions will be my future challenge when planning visits, guided tours and projects.

**HELENA**, museum educator at VLM,
teenager in the late 1970s and early 1980s

## Invitation to reflection and action

A fundamental part of the Carbon Dioxide Theatre project was to work with participatory theatre and participatory design, which open up ways of interacting and reflecting on our lifestyle in action. Participatory design and participatory theatre have similarities in their core concepts and made an interesting and potentially powerful combination in this project.

The design researcher Rachael Luck, who in her research examines how people participate in collaborative design situations, took departure in six guiding principles for participatory design in the article "What is it that makes participation in design participatory design?".[2] Luck develops the six principles from earlier research[3] (see the bullet list below) and in large they sum up our points of departure for the participation in the project:

**"It enables a blend between reality and fiction."**

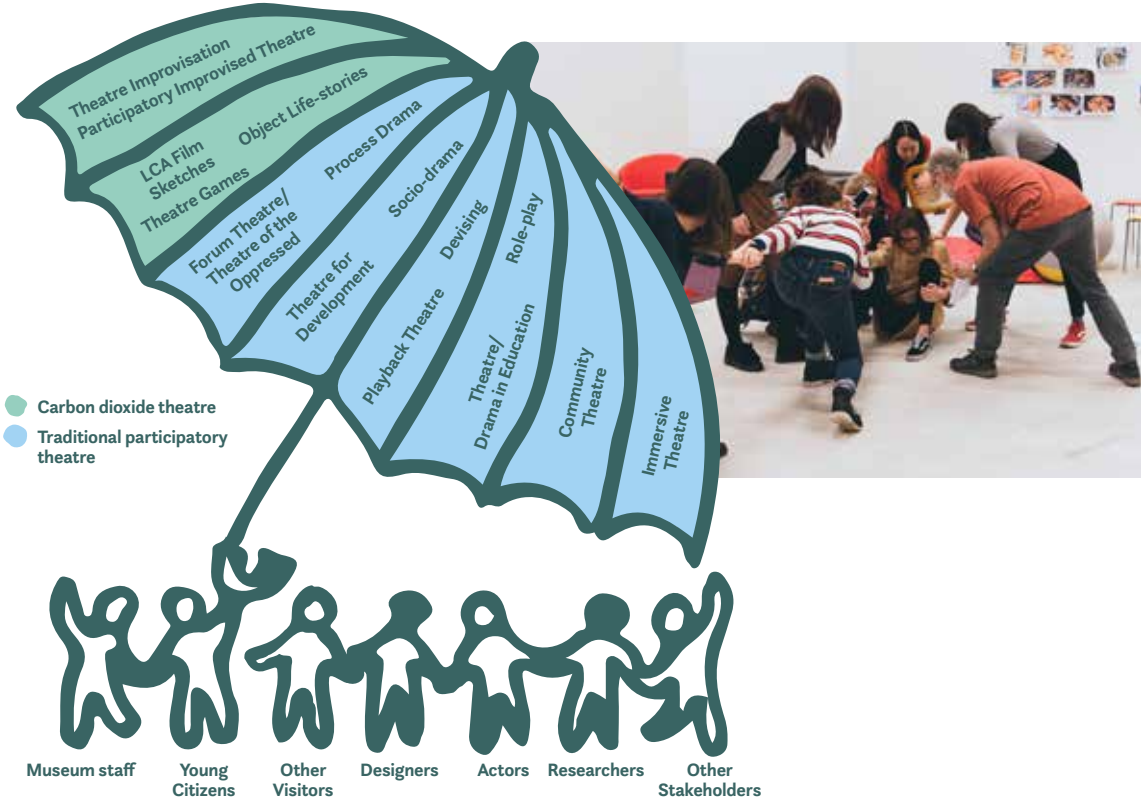
- Equalizing power relations: giving voice to the one invisible or weaker;
- Situation-based actions: working together with people in their life contexts;
- Mutual learning: considering the different views of people which might foster new understandings;
- Tools and techniques: using them properly based on specific situations to help people express their visions and needs;
- Alternative visions about technology: ideas that can generate expressions of equality in many different contexts, shaping future scenarios.
- Democratic practices: putting into play the practices and role models for equality in a project or activity, including considerations for genuine and legitimate (user) participation through an iterative process.

Participatory theatre has long traditions in arts and pedagogical work, and it can be seen as an umbrella term for various different ways to work through theatrical methods outside of traditional institutional theatres or among theatre professionals.

All participatory theatre approaches share the tendency to engage with communities and facilitate group processes in which multiple stakeholders come together to explore a theme or a question together through theatrical methods. Participatory theatre works with people's ability to imagine together and immerse themselves in fictitious play, yet recognise and reflect on themselves through the theatrical setting. It enables a blend between reality and fiction. It can also be said that theatrical ways of working do not try to give answers or solve problems, but instead pose questions and make us reflect upon challenging dilemmas.

The researchers from the SDU's Theatre Lab have long traditions in using participatory improvised theatre as a research approach when engaging with complex societal questions, such as changing the healthcare system, engaging with public-sector service design

and participatory innovation processes. Researchers at the Theatre Lab have developed ways of working with improvised theatre, forum theatre and object theatre, working always in close interaction with different stakeholders, communities and organisations. In the Carbon Dioxide Theatre project it meant working with the young people and the museum. Introducing participatory theatre in cultural organisations can be seen as an organisational change, where the whole project group needs to bear the risk of the unknown and work together in groups with different stakeholders and roles.




We
ended up
in a
bubble

One thing I thought was special about this project was that I experienced it as very prestige-free for us participants. We ended up in a bubble where I was not ashamed of anything I said or did, because my little mistakes and my personal successes all felt like a natural part of the process. I also liked that everyone was involved in the activities, both young people and the adults. It is difficult for me to put my finger on exactly what it was that made the dynamics of the group so welcoming and uplifting, but the result was that I experienced each workshop as welcoming and uplifting, while at the same time acting as a valve for a heavy concern I think that most people carry within us. It always felt hopeful in the end.

Having been part of the project has been incredibly rewarding for me as an individual. In addition to serving as a meeting place for creatively placed people who share a concern about the climate threat, the project allowed me as an individual to face my perceived barriers regarding who can actually influence our time and how far this can go. On a deeper level, I feel that, through the project, I gained a deeper respect for my own creativity – something that affected my self-image and self-esteem in a positive way.

**ISA**, student,
teenager in the 2010s

Improvising frozen images to mutually explore the current and future state of the earth and feelings connected to it.

## What is participatory improvised theatre in a museum?

Interactions with young people and the museum staff were based on improvised theatre scenes, frozen images and group warm-ups, with the whole group participating together. We were also keen to harness the speciality of museums as a participatory theatre space, which arose from the possibility of using the objects in archives and exhibitions, and improvising with artefacts to explore how social norms have changed over time. This can be perceived as quite a radical idea in museums, as many cultural institutions would rather share the existing information that they have already accumulated and gathered about the history of countries, places, people or archaeological objects than work with improvisation and emergent stories. It is important for these institutions to be truthful to the facts and historical development, in order to give citizens a trustworthy story about the history of that place. Interestingly, this is what more traditional participatory theatre in museums is often used for.

**"This can be perceived as quite a radical idea in museums ..."**

Theatre in museums can be understood as a pedagogical forum for presenting historical information or events – for example, through a scripted play, a role-play of live characters giving a tour for museum guests or immersive experiences such as a medieval village with professional actors playing out their roles of daily life at that time. These forms do not necessarily build on active interaction between the actors or characters and the museum visitors. In fact, visitors are often perceived as an audience that is receiving information in lively, dramatic and engaging forms. Another major difference can also be seen in the way in which participatory theatre focuses on the past or present, but does not really consider the potential to impact the future. Traditional ways of working with participatory theatre in museums do not usually try to engage with citizens directly by improvising together. In the Carbon Dioxide Theatre project, we had a fundamentally different way of understanding participatory improvised theatre in museums:

- We worked without scripted plays.
- The stories were improvised together (with a blend of young people, museum staff and researchers) and were based on real-life experiences, yet played out as fiction.
- The improvised situations were mutual exploration, not finished "performances" that would be played for an audience.

We noticed that this way of working was experienced as "risky" among the researchers, museum staff and young people; however, this was also what created trust and connection between us. A genuine change in the patterns of conversation started to occur when everyone was able to share their personal stories and struggles with the complex topic of climate change. We are trying to explore situations that we do not have answers to; we are trying to mutually explore what is at stake. That is what is so risky in this way of working: we do not have the right answers. To explore some examples of how the participatory improvised theatre unfolded, see the reflections of Merja and Henry.


WE
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EXCITED
ABOUT
HOW IT
WOULD
GO

It was the third workshop we were hosting at VLM during the spring. As usual, our theatre research team had started our day by taking the train from Denmark and finally arrived at Västerås after 7 hours of travelling. Meeting the museum staff, our colleagues from RISE and, finally, the group of young people, was always an energising experience, however. On Friday, we were meeting with the young people as a group of their own, and we prepared with them for the workshop on Saturday, to which they could also bring a friend or a guest. We all were quite excited about how it would go, how much the young people would like to be "participants" and how much they would want to be active "hosts" facilitating the interaction with the guests that they brought.

As a preparation for the Saturday workshop, we improvised small scenes based on climate actions and small initiatives the young participants would like to enact in their own everyday life. I worked with a group of three, who wanted to suggest a vegetarian barbeque night for their classmates. They told me that, in the school, their class has a weekly meeting with the

homeroom teacher, where they can bring up different initiatives related to school or leisure time. They quickly improvised a situation happening at their weekly school meeting, in which one of the students suggests holding a vegetarian barbeque night. After playing the scene quite directly, the young people were hesitant regarding how they should bring up the idea and what different reactions they might get from their classmates. During the preparation, it became pivotal to consider what the others might think of them. They were afraid of "losing face" if the idea was not accepted by their classmates. They didn't want to be perceived as preaching about vegetarian food; more importantly, they wanted to be seen as suggesting a social gathering where everyone would be welcome. The social dynamics of the class obviously played a role in this. So, after improvising and discussing the scene, they agreed to have one student suggest the vegetarian barbeque and two others in the class back her up by wanting to join the barbeque.

At the Saturday workshop, the scene was played with the whole group of young people, their guests and the research group. The beauty of participatory theatre is that everyone can take and be assigned roles. So, all the other participants were seated in a "classroom" and assigned with a role: they were classmates attending a weekly meeting with the homeroom teacher. One of the young participants played the homeroom teacher. I played the role of the student suggesting the vegetarian barbeque, and the two other young people played the student supporting the idea. After setting the scene, we started a mutual improvisation.

The homeroom teacher stood in front of the class: “Ok, we still have a few minutes for general discussion. Does somebody have something they would like to talk about?” A moment of silence occupied the class. The two other students looked at each other and then at me, encouraging me to speak up. I slowly raised my hand and started by saying that the spring is coming and it’s very warm outside. I suggested that we could hang out together on Friday and have a shared vegetarian barbeque party. Everyone could bring something vegetarian to grill and we could also try some cool recipes. The silence after that seemed like a small eternity. I recognised the hesitation that the young people had: what if no one will support this idea? What are they thinking of me? Will I be excluded?

A friend of mine then hurried to respond, saying that it’s a great idea and that she knows a lot of good vegetarian recipes. The other friend joined in as well. But after that, other voices started to rise. Very quickly, the participants realised that this was their opportunity to try out all the nasty comments and reactions they usually face. One student, played by one of the young people, said that she can bring sausages – “it’s almost a vegetable”. A few students were laughing and saying that they’d like to do a barbeque, but why couldn’t we grill meat? In particular, the vegetarian participants seemed to use this opportunity, and obviously had much more to draw from. Others were more supportive, saying that they think it’s a good idea, and they could bring very nice salads and bread.

**MERJA**, actor and researcher at SDU,
teenager in the 2000s

## Into the museum's collections

Museums are used to sharing the history of things in order to help people understand how our society has developed. Today, much of our lives revolves around the gadgets we own – or wish we owned. These devices give us identity, security, experiences and a sense of well-being. The many things we have around us are a natural part of our lives that we have become accustomed to. Our museums are also full of things that we save and care for. They tell about people's lives over time, what materials have existed, how we created and cared for our possessions and how these possessions were used in everyday life. There are different ways to tell stories about objects; for example, in Tingens metod [method of things], people share their own real-life experiences and knowledge about an object in use in order to gather rich information about that object. This method is a way of getting in touch with objects and their history and making the objects relevant for the people of today. We took objects as a starting point and wanted to explore past, present and future social norms and its connection to the climate change.

**Exploring museum objects through object theatre**

One effective way for museums to work with climate change and CO2 emissions is to bring the museum's guests, the museum staff and the objects in the museum's collections and archives together into active interplay. People's rapidly growing rate of consumption in combination with the shortened lifespan of products in use (e.g. clothing and electronics) is one of the factors impacting the footprint we leave on the planet. When it comes to understanding the carbon footprint of objects, we quickly realised that people need to be able to understand the whole lifespan of an object. In our global society, people do not know where their everyday products come from or how they were made. For example, try asking yourself these questions: Do you know where and how the clothes you are wearing are manufactured? Can you recall how long you have had these items? How about your mobile phone? By investigating the full life-cycle of an object (from raw materials and production to the use and disposal of the object), scientists can create a life-cycle assessment (LCA) for an object and determine how much CO2 is emitted in relation to that object over its lifetime. To understand the journey that each object has taken and to make the "life stories" of objects come alive, we turned our attention to the genre of object theatre.[4]

Sharing stories and historical context about object in the collections to prepare us for doing the life-cycle assessment film sketches together later in the evening.

We used object theatre as a way to explore people's relationships with objects and materialism. Object theatre, however, is not concerned about

historical facts. In object theatre, performers tell stories through and with ready-made objects.[5] This method opens up a path for the expression of the emotional aspects of objects, allowing us to reflect on current temporal social norms.

**Friday evening in the museum storage areas**
We held a workshop in our artefacts storage area in Hallstahammar, and had the participants walk through our large rooms full of objects. Helena, the museum educator, together with the museum's object antiquarian, had picked out certain objects in advance and had made the chosen objects accessible and on display in the storage areas. These objects were intended to illustrate the development and changes in how we view things, with a focus on the time period from the 20th century to the present day. Helena's ambition was to try to find stories and objects that could help to understand what has led us to live as we do today by looking at objects that tell about everyday human life.

**"We used object theatre as a way to explore people's relationships with objects and materialism."**

She showed us older, handmade, unique objects made of natural materials, which were often richly ornamented and made with great craftsmanship. She also showed us things that were inherited, repaired and patched, which were typically used until they were turned into rag rugs or burned in order to heat up the house. As we approached our own time period, Helena showed us objects that illustrated mass production, showing how objects have become cheaper and easier to buy – and to throw away when they break or we become tired of them.

Read more:
*www.raa.se/museer/publikt-arbete/tingens-metod*

Something I thought was very fun was that we had the opportunity to learn about history as well. We had the opportunity to visit the museum's storage area in Hallstahammar. We went from room to room, where old objects were found. I remember how I saw an old bike and thought about what it must have been like to use it – and the same with all the clothes that hung in the storages.

We got to play theatre, and we focused a lot on the environment in our own time, but, after we were in Hallstahammar, we also discussed how there used to be material things that held up better. We got to see a shoe that still holds up quite well today. If we had taken a shoe that we have in today's society, the shoe would be completely broken if it were used in the same way as that old shoe. We learned a lot during that visit. We gained insight into what it is like to work with old objects, and developed our understanding of how the people of Västmanland lived in the past. We also saw old furniture, which gave us an increased understanding of the lack of comfort among the people who lived in the past.

The absolute best thing about this project, in my opinion, was that the people who were there were of completely different ages, had completely different backgrounds and came from different countries. Whoever you were, you got to talk, and help, and just be yourself; no one was judgemental.

**EDEN**, student,
teenager in the 2010s and 2020s


No one was judgemental

Some of the objects in the museum's collection have stories that tell how Sweden has gone from being one of Europe's poorest countries to one of the world's richest. New inventions and discoveries gave us practical things that facilitated everyday life and cured diseases that had been deadly to people. Knowledge of hygiene, for example, was important; along with running water in everyone's home, it became a part of everyday life. New, warm homes were built and laundry could be machine-washed. New ideas and people's struggles brought us democracy and more freedom to think and believe what we wanted to. A hundred years ago, humanity in the Western world came together to make major, necessary, social changes that led to the breaking down of poverty and injustices that were previously accepted by society.

**"These kinds of experiences could be a small step to inspire us to re-imagine our society."**

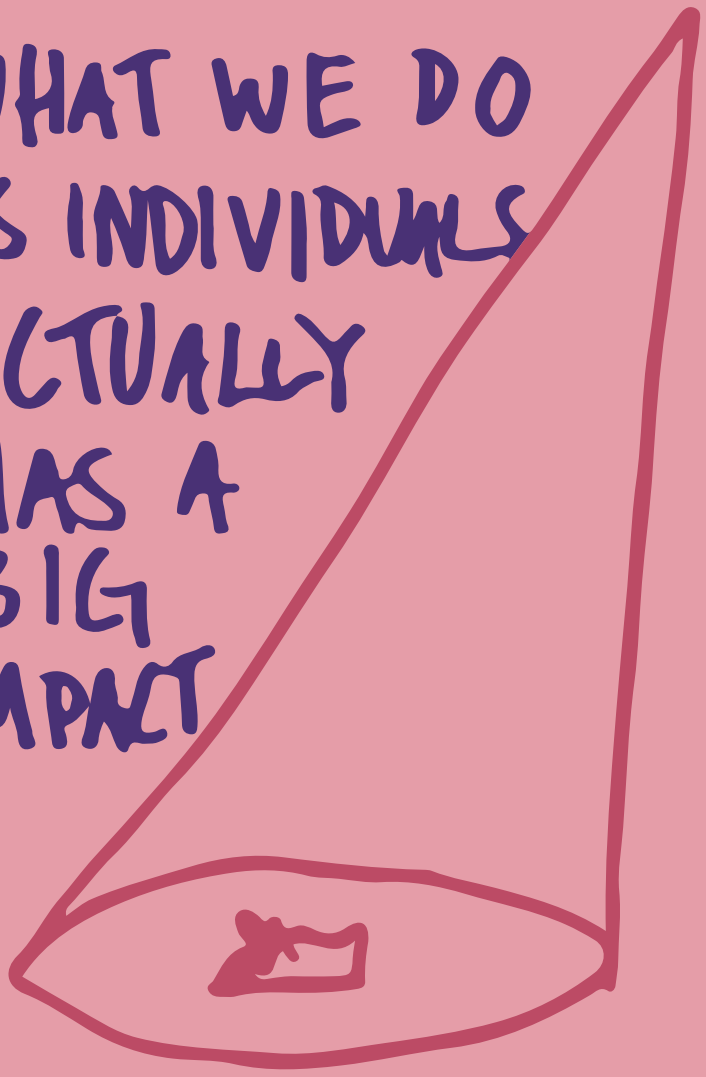
Yet along with all of these positive aspects, our new norms and ways of life have also come to negatively affect the earth. Better hygiene has led to a requirement to shower every day and for our clothes to have to smell like detergent. With more money to spend, we move around in cars, travel by plane and buy things for our ever-more-crowded homes. Trends, globalisation, the Internet and cheap deals control our consumption patterns, and the old knowledge of crafts, care for objects and recycling has been lost. These kinds of experiences could be a small step to inspire us to re-imagine our society.

People entering the museum's storage areas are usually fascinated by the number of objects and all the nice old things the museum has, and the same was true this time. But this time there were also many "aha" moments, along with questions and reflections about what we humans truly need to live a good life.

Taking the collections and object storage areas as our starting point, we introduced different exercises to allow the objects themselves to tell us about their lives. These rapid "object life-stories" recurred several times during the project. Some objects we knew more about; others, we had to use more imagination to be able to create a story. For Helena, the museum educator, these exercises gave a whole new feeling and perspective on how carelessly we look at things in our everyday lives. One object life-story was about a simple pencil, which we have cartons of at work, and its journey across the oceans from China to our office – and how sad it became when its life ended in a trash can.


Props from the museum were used as a base for exploration through the decades and between generations. We shared memories and then the props became the center of different scenes.

WHAT WE DO AS INDIVIDUALS ACTUALLY HAS A BIG IMPACT



A memory that stood out a lot in all of this was, when we were documenting the lives of objects by filming from their perspective, it was an easy and, at the same time, a clear way to illuminate our culture of consumption. Our conversations about the information we received (e.g. the emissions per self-selected item) reminded me that what we do as individuals actually has a big impact, and that it is not just giant companies and organisations that can make a difference. With that, I would say that the project has really helped me to turn my climate anxiety into something productive and more manageable, and I got the feeling that this was experienced by more than just me.

**HENRY**, student,
teenager in the 2010s and 2020s


The plastic bowl "tells" its life story.

## Life-cycle assessment film sketch

The visit to the storages continued with an exercise where objects were given the opportunity to "tell their own story" about their life-cycle, starting from where they were made and what they were made from, all the way until they were discarded or reused. The young people had to choose an item that they had seen during their visit to the storage areas and that they thought was special. They agreed on a 19th-century shoe made of birch bark.

For an hour, we devoted ourselves to making simple films with our mobile phones, in which we used our imagination to create various stories about the shoe's fate. During this short time period, we came up with funny, exciting, happy and sad stories.

A film is a good way to visualise and experience the life-cycle of an object. The LCA film sketch method is both a fast way to engage in the life-cycle of an object and a fantastic way to explore the museum's collections physically, without actually touching the items. As described earlier, we visited the collections during this project, which gave us a certain awareness of the past and of the amount of objects in the collections; however, there are several other ways to develop this method. For example, it would be possible to start from objects in exhibitions, photos of objects or replicas.

When working with this exercise, we tried to maintain a mind-set of exploration and improvisation, which meant that we were focused on these aspects:

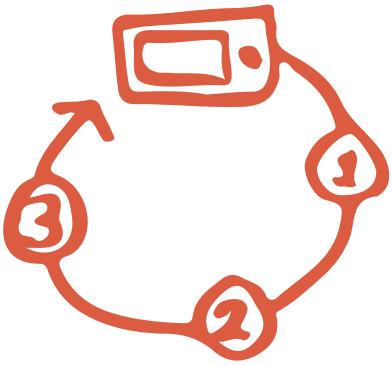
- Thinking of the process rather than the product
- Saying "yes" to ideas and trying them out
- Filming rather than talking about what to do in the process
- Not using fancy material
- Using the space that we were in – no studio was needed

**"The exercise stirred up emotions about the material and the people who produced the objects."**

- Transforming what was available in order to tell the story we wanted to tell (e.g. a curtain in the room became the birch)
- Letting go of control over having a good result
- Trusting the group to find someone in the group with enough space to film on their mobile phone
- Putting the episodes together one after the other in chronological order with a simple editing program
- Sharing with everyone and opening up the space for reflection

The reactions from the young participants included, for example, not realising that objects had a life before it was a shoe; the construction of the birch shoe also showed that such crafts-manship is no longer used today. Individuals do not need to know how to make shoes anymore. However, the film process led to reflections on how repairing and using shoes for a longer time and how many shoes we have. The exercise stirred up emotions about the material and the people who produced the objects. The whole process at the museum storage areas also created memories that were used to reflect on other materials later in the process – such as plastic.

People trust museums, museums are, as a rule, careful about what is true and historically correct, what is an interpretation and what is likely. This is a good practice, and is something to be careful about. But the kinds of stories described here do not aim to tell facts about things and objects; rather, they are about imparting participants with a sense of everyday things and, by extension, a sense of how we consume and handle all the things that are produced, transported, used and thrown away in our lives. Through these simple and fun exercises, we can achieve deep reflection about how we live and think.




**Filming the one-shot video**

**1. Reherse**

Prepare a scene, try it out.

**2. Action**

Act out the scene. While filming it zoom into details (gestures, reactions ...) to emphasise the emotion.

**3. Closure**

Say/do/show something to sum-up, perhaps a reaction, and zoom out for an overview.

I was involved in the Carbon Dioxide Theatre both through my (then) very new job at Västmanland County Museum and as a parent of one of the young participants. The project gave all of the participants so much on several levels. I saw the young people grow when they received the facts on the climate issue, when they got to express themselves with their whole body and when they gathered the courage to speak English in front of a large group. The fact that there was almost the same number of adults as young people proved to be a strength, as it created a climate of conversation with high ceilings where everyone could be themselves – something that is not always obvious in youth groups. It was wonderful to see a participant who was newly arrived to Sweden, and who was shy and quiet at first, open up and dare to speak both Swedish and English in front of the whole group, and proudly show his foster father what had been achieved during his summer job. But what I carry with me in my heart is the community and the joy; the many laughs and happy young people who, late on a Friday night, got out of the bus that took them back and forth to our artefacts storage. They were filled with the experience of seeing all the old preserved objects, and with the comparison between "then" and "now" in terms of an object's life-cycle, but also by the good atmosphere on the bus, where everyone who wanted to had sung something in their own language on the way home. So simple and yet so valuable. Memories for life.

**ANNA**, museum staff at VLM,
teenager in the 1980s


So simple
and yet so
valuable.
Memories
for life.

## Actors playing the object and telling the life story of the object

Working with object life-stories became a central way of understanding how objects can help people to imagine life from the perspective of an object. Inspired by the traditions of object theatre,[4] we researched objects not only based on their "factual" traits (e.g. weight, material, size, age) but also, and more importantly, by bringing forth the feelings and emotions that the objects are associated with and the social relations that these objects exist within.

We tried this way of working with objects during the project and for the final workshop at VLM, we invited guests from other research institutions and museums in Sweden to explore the methods further. The museum staff and actors from SDU prepared short life-stories of a few museum objects from different eras. We also engaged the LCA specialist to complement the object life-stories with LCA calculations, to determine the size of the carbon footprint of each item. Putting all of this together, we wanted to demonstrate how people's relationship with "stuff" has changed over the decades, how the number of objects we own and consume in our everyday life has changed, and how object life-stories can help us to estimate the carbon emissions of the objects. We prepared three large "buffet tables", each filled with objects from a specific era. For each era, we (the actors, museum staff and life-cycle analysts) selected one representative object and prepared a short monologue of that object: a handmade bark shoe from the beginning of the 20th century, a locally manufactured plastic bowl from the 1950s and a mass-produced disposable Coca Cola cup


Object life-stories: becoming the birch bark shoe.

from 2019, which had been shipped to Sweden. The idea was to tell short stories of three objects to highlight the origins of each object, where and how they had been made, transported and used, and how they ended up in the museum.

These three objects were selected based on the process we had worked through together. First, the visit to the museum storage was an eye-opener regarding how radically Swedish society has changed in the last 100 years. Some of the things that we take for granted today were luxury items back in the day – such as hygiene products or beautiful clothes. If you wanted to have shoes back then, you needed to make them yourself, exchange goods for them or inherit them from a family member. Only rich people could afford to buy clothes or have them made.

**"Some of the things that we take for granted today were luxury items back in the day."**

Second, through dialogue among younger and older generations, we realised how differently diverse generations view materials such as plastic. The museum has many plastic items in its collections, including props that people can touch during workshops with guests. To the young people, plastic seemed to be one of the big problems in society – polluting seas and destroying ecosystems all over the world. It was mainly perceived negatively by the group of young people. In contrast, the researchers and museum staff who were teenagers during the 1960s told stories about plastic as a revolutionary material. Back then, plastic was fantastic! Plastic made it possible to have many household items in different bright colours, shapes and sizes. Kitchen bowls, for example, were light weight, easy to clean and didn't break, so they lasted for decades. Manufacturing and transporting plastic products was also faster, cheaper and required less energy.

Third, we observed how the life-cycle of everyday products, such as electronics and clothes, has become shorter and shorter, because we do not repair items anymore – or, in some cases, because it is simply impossible to repair them. An enormous number of objects are also designed for one-time use only – such as all the take-away boxes and disposable forks, knives and cups. The museum had the shoe and the plastic bowl in its archives, but it was not that easy choosing an object from "today". The museum faces a challenge in preserving modern objects, as the number of objects and daily products that Swedish people use and have in their households in the 21st century has become immeasurable. Therefore, to represent the most recent era, we all collected the disposable items that we usually throw away without giving them another thought. In just one day, we gathered a table-top full of paper bags, cardboard boxes, take-away coffee cups and plastic lids, soda cups and bottles, paper napkins, plastic knives and forks. The Coca Cola cup, which the museum personnel saved from a trash bin in a local cinema, became the star of the play. You can read the object life-stories on the coming pages.

Oh, I'm old – and I'm tired. I would like to tell you my story, because my life began one day when a big birch tree was cut down. There was a house, and in the house lived an old man. He was my master: he made me. And he had a good family, two sons, they visited him very often. And some grandchildren. When the tree was cut down, he said: "Oh, be careful! I must get the bark of the tree." And the son said to him: "Oh, father, are you going to make those bark shoes again? We can buy you new shoes that are much more comfortable." But the man who made me, said: "Well, I would prefer to make my shoes myself, because I have used it all my life." And then he started to make me. He cut long strips of bark, and then one of his grandchildren came to him: "I want to help. Can I do it?" He replied: "Yes of course, you are welcome to."

And together they made ME – and my brother [laughter from the audience]. There were two of us. And we were very, very well-made. And the grandfather said: "Now I will use these shoes, and when I'm not here, when I'm dead, then you can have them."

But I could see that the young boy was not quite so happy about the thought of inheriting us, the shoes.

**OLD BARK SHOE**, age unknown,
acquired by the museum in 1925


Oh I'm
old - and
I'm tired.


I was
designed
to be this
beautiful

This is the story of my life. I've been created out of black oil – and you can't believe it, but I was the innovation back then. I was something so special, so imaginary, something so new, so light, I could become almost anything. So, I became this bowl, designed by engineers, manufactured here in Västerås – I'm local as well! So, I was designed to be this beautiful. I came in different colours, you could choose the size that you wanted, you could choose the colour, I came with a full family of different sizes of bowls. It's not just me, I'm part of this big complex! I was made in a factory line, which was the fastest in all of Sweden. We came out, I think, they could make like one per minute or something. It was so fast! We were just coming out, out, out, out – one after another. Brilliant, right?

So, what happened? We went to this family. I was wrapped in beautiful wrapping paper. It was a marriage – a start of a new relationship. Two people got married and I was the gift. I was the new innovation they got. And since then, I've been serving the whole family. I feel like I brought up their kids! All the buns went through me, all the salads, so many celebrations, all the cakes they baked, all the breakfast they served. I was there – the centre of attention. Until.

There came a new product line: new bowls, new colours. I started to get some scratches... I thought, that's normal – we all get old, right? We get a few scratches. No. That was the end of my use. I went into the garage with the whole family of bowls. Stacked and piled up. We were there in the cold garage for, I don't know, some years, maybe.

**PLASTIC BOWL**, 60 years old

Oh yes, very short life. You know ... I cannot tell you where I come from or where I was made, but my self-esteem is very high. I was born in a box of ... well, we were a couple of hundred, but I was red. And it was with nice letters: Coca Cola. And my five minutes of fame – or, in my case, one hour of fame – was when I was in the cinema watching a Hollywood movie, while the nice girl who had bought me was sipping Coca Cola during the film. And then I was thrown away into the bin. And that was that, I thought. But then there was my angel – a lady who picked me up and took me to her home, and then the next day to her office, and I stood on her desk. I thought, well, I am a beautiful decoration. Well, that's my life. But a cleaning lady came by and thought that I was trash, and she threw me away again. But then my angel came again and took me out of the bin. And then I came here. And now I am at the museum. I think I will live forever!

**DISPOSABLE CUP**, new born


My
self-esteem
is very
high

## Museum guests improvising object life-stories in the exhibition

It is very common for museums to tell stories about the life and history of objects, but it may be more unfamiliar to invite museum guests to tell stories about an object – stories that do not necessary have to be "true" and that never happened in real life. In the project, we experimented a lot with different ways of telling stories about objects and the life-cycle of objects. This was important for several reasons: to change the storyteller and invite the museum visitors to imagine stories together; to have people of different ages work in smaller groups to tell and listen to stories told from a different perspective; to bring different generations closer together to explore the life-cycle of an object; and to activate the knowledge and imagination that people have, and then invite them into another world. The learning we got out of telling object life-stories was that generational differences can be a powerful spark for conversations about how differently we experience the world, and how important a single object might have been 40 years ago, which it is now seen as "waste" or as a bothersome thing that we need to figure out how to get rid of. During the project, plastic was a strong example of how differently people from older generations saw the material, in comparison with how the young people saw it. Telling stories about objects can bridge the gap between generations and open up new ways of seeing the world.

**Object persona**

Telling a full object life story as an object can be a big step. It might be easier to start with smaller steps and just let the visitors imagine a story about an object in a dialogue form. A museum staff member may tell a story about an object. This is the "correct" story, in a way. Alternatively, there is an easy way to involve museum visitors: a staff member holds up the object and asks the guests to tell the story. Together you will then explore the object's persona.

The staff member can pose questions, such as:

- Who do you think made this object?
- How old do you think it is?
- Who might have used it? How was it used?
- How might this object have ended up in the museum?

You can document this, simply putting sticky notes on the wall. Or you can have a conversation in a small group and then share the story the group imagined for the object. Then, at the end, the museum can describe the origin of the object.

**Object life story**

The aim of an object life story is to invite people to tell the story of an object that is chosen from the museum's exhibitions. It takes curiosity to imagine alternative stories about objects and, for a moment, to let go of the thought that all the historical facts should be squeezed into the story.

Facilitating this method is easy, and you can guide the museum visitors to do it – for example, as part of a guided tour. This is how you do it: Ask people to pair up and explore the museum exhibition together. Choose who is A and who is B. Both A and B choose an object from the exhibition that

Museum visitors telling object life-stories to each other in the exhibition "Modern times".

raises their curiosity. It doesn't need to be a shared object. The object should be something that they would like to explore in more detail and learn something new about. Ask them to hold the object in their hand or, if that's not possible, to stand close to it, so that they can look at it and have "eye contact" with it. During the first round, B listens carefully while A has 2 minutes to tell the life story of that object, from the day it was "born" until today, including how the object ended up in the museum. The person telling the story "becomes" the object. So, they should stick to the first person perspective, and use the "I" form. They imagine the whole history of that object, which it might include past experiences of being produced, sold, distributed, found, used, reused, misused, abandoned and disposed of. On the next round, have B describe the future perspective of the object to A and answer this question: what will happen to the object in the future? These improvised object life-stories can then be shared briefly as a large group with other museum visitors, and contrasted with carbon emission calculations and current recommendations for carbon emission reductions.

For me, personally, the meetings with the young participants from Västerås, the Swedish climate experts and the people from Västmanland County Museum had an unexpected impact.

Until our Carbon Dioxide Theatre, I was quite satisfied with my own climate concern – not having a car, using only bicycle or public transportation, eating mostly vegetarian food, being conscious about using plastic, repairing things ... But during the project, I realised that it was not enough at all. I need to do more, even though it will definitely make my life more troublesome and less pleasant – less streaming, using the train instead of flying, avoiding plastic, becoming a member of climate movement organisations to be able to influence politicians ... simply thinking more and fighting more every single day. We can do it!

So let us remember all the clever and cheerful activities we experienced together – improvised scenes hitting home, funny lines showing how old we were when we had our first mobile phone, object theatre stories ... All of that was an eye-opener for all of us.

**ELENA**, actor at SDU,
teenager in the 1960s


WE
CAN
DO IT

## What is a good life? Value lines on carbon footprints

In order to highlight the complexity of making decisions on carbon emissions (based on discussions and experiences in earlier workshops), the designers from RISE created value lines in relation to carbon footprints. As a preparation, we set up different value lines from low to high for the following: CO2 levels, Practical, Personal development, Social, and Pleasure. We had cut out round paper circles (dots) with colours that corresponded with one of the value lines. One LCA expert was given the "CO2" dot and their role was to move on the CO2 line. Participants were given a dot at random for one of the other values. The facilitator gave a scenario, or invited the participants to come up with a scenario, and the participants went to stand on their value line depending how high or low they personally viewed that value for that particular scenario. A camera that was set up on the ceiling and was linked to a projector that showed an overview of the range of perspectives as the participants moved around and decided where they wanted to stand on their assigned line. An image was captured to share and compare the different scenarios. Facilitated discussion then took place about the reason why people made the choices they did, with input being asked from every single participant. Based on where they chose to stand on the value line, the facilitator invited discussion by asking the participants to reflect and exchange ideas:
*"I agree with your arguments, and it's like, if you have eaten meat all your life and then just … Oh, I want to be a vegetarian or I want to be vegan. Then you have this challenge and you have to learn how to live like that. And then I believe that it will be a big personal development."*

**"An image was captured to share and compare the different scenarios."**

Aspects other than carbon footprint were articulated:
*"But I was here* [at this position on the value line], *thinking that it would be very difficult socially. So I didn't think of this as positive or negative, I thought that it would have a big impact on my social life, and it might not always be easy to choose how to eat and where to eat and to defend my choices in my social groups with family and friends."*

The participants could exchange dots in order to stand on different value lines in different scenarios.

**These are some of the scenarios that we used:**

- Fly to South America for a school exchange to practice Spanish.
- Take the train to Spain for a school exchange to practice Spanish.
- Become a vegan.

**Learnings**

Everyone has different priorities and reasoning, depending on their situation, and this is a good method to enable all different perspectives to enter the discussion. It enables the group to empathise with decisions that they may not agree with. It created a democratic discussion, where everyone's perspective is equally valid and important. The value lines became a platform to discuss opposing opinions in a constructive format. Based on tangible scenarios, it created empathy for real life dilemmas and practicalities. Choices are complex. There is no "perfect" decision, and it is impossible for anyone to be "perfect". It is a practical and constructive method to deal with climate anxieties and emotional stress that was a reaction to working with social norms and information related to climate change.


Value lines on carbon footprints. Conversations and negotiations on where you have placed yourself on the line and why.


THE
REALITY
IS NOT SO
BLACK
AND
WHITE

In the reflection discussions and process of working with the scenes that were coming forward as a result of situations in our daily lives, it became clear that making choices and thinking about choices carried a feeling of guilt for the young people. We had experienced that when making choices based only on climate impact, there can be a great feeling of guilt or judgement (of ourselves or of others) when we make what is perceived as the "wrong" decision in relation to how it affects the climate. The reality is however not so black and white, and there are different values that influence the process of choice-making. Different people may also hold different perspectives and be motivated by different values, which does not make their decisions more right or more wrong. By exploring the greyscale, we can relieve the anxiety and burden of making the "wrong" decision, and make informed multidimensional decisions in different contexts. Carbon footprints are complex, and changing them is even more complex. We wanted to reflect on carbon footprints in a fun way without too much simplification.
We wanted to develop a reflection tool that could stimulate thoughts on how people react and think through the complexities of carbon footprints.

**HAYLEY & SOFIE**, designers and researchers at RISE, teenagers in the 1990s and 2000s



Teatime session, reflecting playfully on memories and thoughts in relation to dissolving words and relational concepts.

BE. HERE. NOW.

## Teatime

During one of the workshops, a Teatime session was created as a means of drawing attention to our interconnectedness – connection to ourselves, to others and to the planet – and to explore embodied reflection on this topic. The Teatime stimulated experiences of togetherness, which mirrored the topic of inquiry. Teatime is a method that was developed by Laura Gottlieb who also co-facilitated the Teatime event in this project.[6] Through a tea ceremony designed around certain themes, the Teatime aims to support dialogue on questions that matters to people, such as climate change and fundamental themes related to it. The Teatime design was inspired by Playful Triggers – a tool aimed at stimulating social bonds between collaborators.[7] Playful Triggers introduce artefacts and odd experiences to trigger conversation and playful interactions. Using decontextualised everyday objects can prompt multiple interpretations, metaphors and stimulate new perspectives.[8] The inspiration of this Teatime session was to bring out the perspective that the ecological crisis involves a personal transformation – changing how we relate to each other and to the world.

**"The inspiration of this Teatime session was to bring out the perspective that the ecological crisis involves a personal transformation"**

The Teatime was carefully designed with four tables set up. A group would sit around each table to experience a Teatime. Each teacup was embedded with a concept from relational ontology: love, compassion, interconnection, local, community and responsibility. One of these words was written inside each cup with food colouring. As a result, when hot tea was poured into the cup, the word was dissolved and consumed. Furthermore, the tea itself was a surprising element in the Teatime, as it was a bright red and bitter tea. The tea and the food colouring had a similar colour to give the impression of drinking the word.

The participants chose a word and cup at the start of the workshop and wrote down their thoughts or memories in relation to their word. The stories were written or drawn on the participants' placemats, which also contained a menu of the words. After individual reflection, each participant shared her or his story with the other members of the group. When all the stories had been shared, the facilitator asked the participants whether there were any common themes. The participants received water-based pens to write emerging themes on the teapots. At the end of the session, the participants chose a new word that described what they would like to take with them in the future, and wrote this word on or in their cups.

The Teatime stimulated experiences of togetherness, which mirrored the topic of inquiry. Furthermore, the Teatime created a feeling of hope for some participants.

# IT WAS 200% WORTH IT

This project was by far the most fun I have had in my entire life. I, who is not a theatre person, really got to go outside of my comfort zone, and it was 200 % worth it. All the people I came to know who I probably wouldn't have met if it wasn't for this wonderful idea. Participating in the Carbon Dioxide Theatre was truly an honour, having the chance to interact with people in deep discussions about the climate, but also through theatre. I have brought a lot of things from the Carbon Dioxide Theatre with me. I bring knowledge with me, as well as information about the environment and carbon dioxide emissions that I might not have known about if it wasn't for the project. I take courage that it's okay to be a little spontaneous and strange at times. I bring with me the knowledge of what it's like to build up exhibitions and, most importantly, I bring along the fine Carbon Dioxide Theatre family.

Working as we did brought us (who were strangers to each other) so close. During the summer job, we worked in a room together, we danced, sang, chatted, laughed, ate together and planned. It was absolutely wonderful to be surrounded by people who were as odd as I am. When I entered the project, I was afraid that I would end up among a bunch of stereotypical tree huggers but, once I got there, I realised that I was as weird as them – and they were not tree huggers either. There were people from different countries and different cities within the county.

People I would have never gotten in touch with, if it wasn't for the project. A strong memory I have was an exercise we did at the first workshop. We identified ourselves as theatre people, professors, researchers, designers and students. After that practice, it really didn't matter what you said, you were one of the Carbon Dioxide Theatre people, and it didn't matter what category you belonged to. The strangest thing for me was that I could talk as much as I wanted, and the adults really listened to me. I could make a joke, talk about school or how I had a bad day – I could talk about it and people really listened, to both the students and the adults. Of course, I also bring with me how to live a more environmentally friendly life, and I already noticed this after the first workshop we had. I started thinking how much paper I would use when drying my hands, how much meat to eat, how often to buy new things, and so on ... these things had really stuck with me. But also knowing that I'm not alone when it comes to my thoughts about the climate ...

I think that what you see of the project in terms of image and film might look too plain and simple: that is, it might just look like a lot of people talking and playing theatre. What stuck with me was the feeling, and what happened in-between the people. We went to Västmanland County Museum's storage area in Hallstahammar, we sang on the bus and joked around. It felt so safe and family-like in some way, something which is very difficult to capture in a photo. The summer job also meant a lot to me – as well as the fact that the museum trusted us to set up two exhibitions and that we had an almost completely free hand to do it; that was a wonderful feeling.

**EDEN**, student,
teenager in the 2010s and 2020s

## I write to you

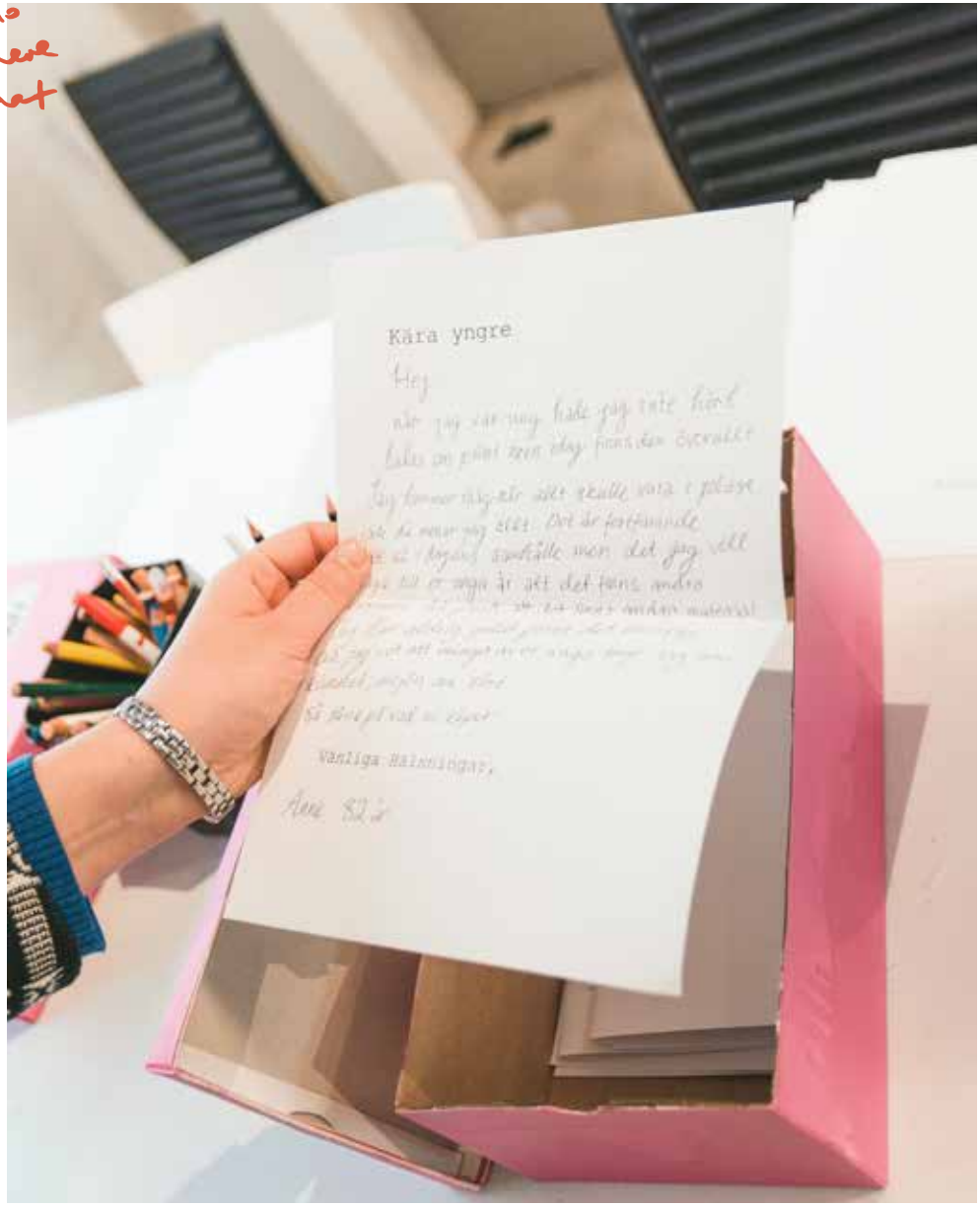
During the project, we tried to involve ourselves in the process by sharing our thoughts and reflections through writing. Every participant – including the museum staff, researchers, young citizens, actors and designers – took part in these reflections (all at the same time, within our workshop room), which aligned with our ambition to create a safe space and the opportunity to reflect over the social norms around climate in everyday life. One way to do this was to introduce letter writing while reflecting on a scene that we had just explored. The scene stemmed from a dilemma in one of the young citizens' daily life that we had explored together by building roles, taking part and changing the scenario. Everyone could choose to write to a person in the scene – it could be a letter to the grandma, the daughter, or to the earth itself.

Postboxes to share letters with other generations in the Plastic-is-fantastic pop up exhibition.

**"The letter writing gave everyone some time for individual reflection on the actions we just carried out."**

The letter writing gave everyone some time for individual reflection on the actions we just carried out. Then, if we wanted to, we could read the letter out loud. When one person stopped speaking, another person started to read; this was not directed but was based on the rhythm of the whole group. The floor was open so to speak, which created agency for anyone to take initiative or to lead. This established a space for people to share perspectives without needing to say "this is my opinion", while still being about a personal and emotionally engaging letter.

The letter writing was then developed further within one of the two exhibitions at the museum by the young citizens. Since they had experienced the intergenerational dialogue as valuable, they had the ambition to include that kind of dialogue outside the form of a workshop. Within the exhibition Plastic is Fantastic, a new idea took form. Why couldn't the visitors write to their own generation or to another generation? On a table in the exhibition, there were three simple shoeboxes painted in pink, looking like very basic post-boxes for "snail mail". There was one box for each generation and on each box was written: "Write a letter to a different generation. To the young generation or to the year-rich ["årsrika" in Swedish] generation or to the generation in between."




Reading letters of another generation to learn about their perspectives, hopes and concerns. Originating in the pop-up exhibition, used further in the final workshop.


When working with questions around the visualisation of information, we started from questions around interaction and engagement with information and facts. How can research be communicated so that it is accessible for different audiences, advancing beyond text, tables and databases?

How can something as intangible and complex as amounts of CO2 be represented in a tangible and quantified way? How can the facts around CO2 emissions be not only engaging, but also interactive and adaptable to questions and interests from the group? What we were not expecting as we used this information for discussions and activities was that it was elevating the anxiety of the young people. We therefore had to come up with a way to give more than numbers for single actions, and provide references and context that are grounded in today's everyday impact as well as the future to make the dialogue more constructive. To address the feeling of hopelessness, we transitioned knowledge into activities for discussions towards proactive actions, some of which we were proud to see at the initiative of the young citizens and independent of us, became reality outside the project. To move away from the anxiety of needing to make the "perfect" choice on every single decision, we introduced the idea of balancing different choices in different areas related to lifestyle depending on personal circumstances.

At the end of the project we created a timeline, where all participants mapped together the change of emotions through the process of the project, highlighting where we had interaction points with people outside the project group. Together we had begun with *nervous*, *anticipation*, *curiosity*, *excitement*, gone through different waves of *sadness*, *happy*, *overwhelmed*, *respect*, *hopelessness*, *hopeful*, *impressed*, *embarrassed*, *togetherness*, *anxiety*, *empowerment*, to conclude with *motivated*, *strong*, *proud*, *love*, and *hope*.

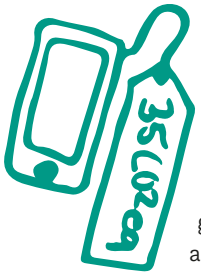
**HAYLEY & SOFIE**, designers and researchers at RISE, teenagers in the 1990s & 2000s


A scene in which CO2e becomes tangible through smaller and bigger balls.

## How can climate research be tangible in a museum?

**CO2e visualised**

Though, until now we have mostly talked about Carbon Footprint (CO2), we should rather be talking about CO2e to be more acurate. It can be difficult and abstract to try and grasp what amounts of CO2e mean. The term CO2e refers to "carbon dioxide equivalent" and is a way of including all climate-change-related gases together (including methane, nitrous oxide, water vapour and ozone), adjusted so their effect is equivalent to the effect of the same amount of carbon dioxide. We used balls as a way to represent and transform this information into something tangible, in order to create a language between us. The aim was to better understand and explore the concept of CO2e emissions and where those might come from in our daily life. We used infographics to explain the 10-tonne (what the average Swede uses today) versus 2-tonne lifestyle, (what we should aim for). We introduced physical balls (representing 1 kg, 10 kg, 100 kg, 1 tonne CO2e) that participants could bring into theatre




improvisations in order to explore social norms. The project consisted of participants who were not CO2e experts, and we wanted to find a way in which the project group and young people could relate and link CO2e to daily situations.

**LCA Visual Database**

We built a visual database of specific LCA numbers for different objects and activities that are relatable to the daily lives of the participants. The database was built in the exhibition space at the museum. We put up photos and added information of the related CO2e emissions on the wall. Each item, such as a photo of a car-ride, a bus trip, a train trip or a flight was combined with their equivalent CO2e emissions. This database can be used as a way to compare and discuss different choices that can be made in different areas, such as meals and food, travel and transport modes, clothing and electronics.

**Life-cycle visualisations**

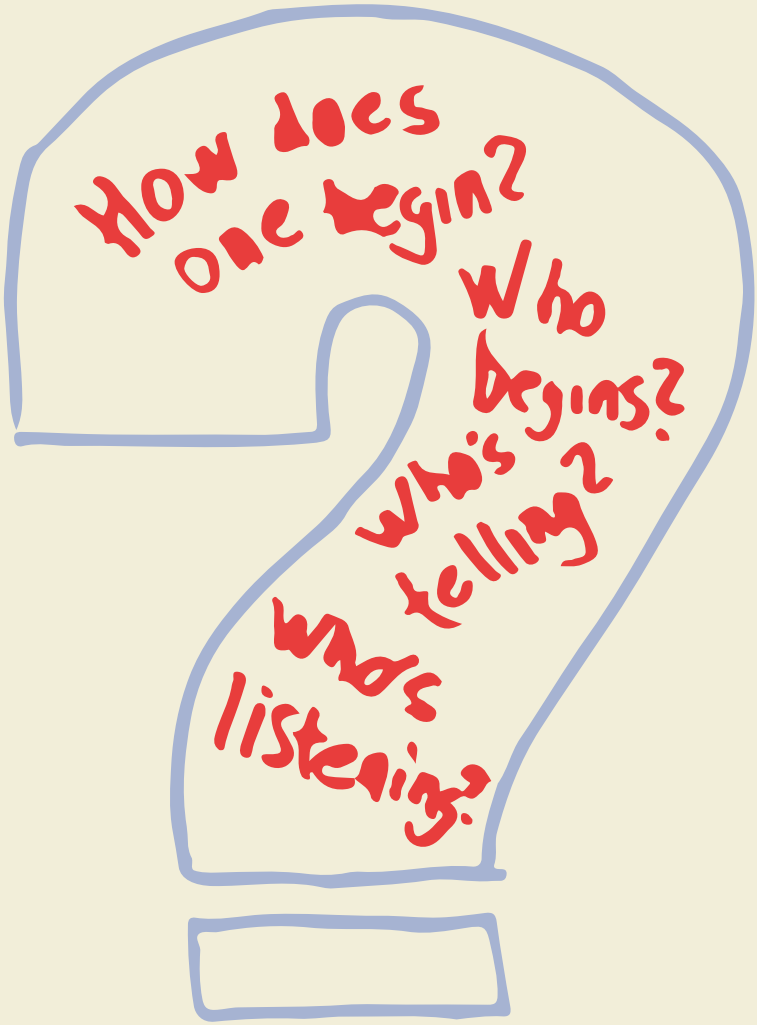
The life-cycle of a product, service or activity, along with its impact, is a complex process that is difficult to understand and that feels detached from everyday life. As an introduction, we therefore wanted to go through what a life-cycle is and how it can vary for different items and in different industries. We used concrete examples from the LCA Visual Database to discuss the life-cycles of products as well as museum objects. As described earlier, for example, we recorded LCA film sketches together that put together a visualisation of the life-cycle of a pair of old birch shoes to tell their story.

To make the information and data relevant and relatable for the young people, we discussed and expanded on the themes that came up in the theatre that were important to them. These centred around contexts that the young people were able to influence directly (e.g. clothing choices and food choices) or that were trending in the media (e.g. travel choices). We carried out LCA calculations on objects that were important to them that they brought in (e.g. hairdryer, headphones), and used them as a basis to discuss object life-cycles.

In addition to envisioning and empathising with historical or currently produced objects, we explored the perspective of circular economy, in which an object is responsibly produced and designed for easy repair and reuse. Since progress and development are necessary in order to address societal needs, we wanted to discuss how the development could be done in a way that reduces climate impact. We reflected on the usage phase a lot, and on how the impact of a product or object is lowered by how many times it is used, regardless of whether the creation phase was energy-intensive or not. For example, how does a fast fashion T-shirt that is used over a period of five years and worn dozens of times compare with an organic cotton T-shirt that is only used five times before it is thrown out?

**"The life-cycle of a product, service or activity, along with its impact, is a complex process"**

Learn more: *www.ellenmacarthurfoundation.org/circular-economy/concept* and *www.naturskyddsforeningen.se/skola/cirkular-ekonomi*


How does one begin?
Who begins?
Who's telling?
Who's listening?

Conversation between different generations is difficult. Where does one even meet? How does one begin? Who begins? Who's telling? Who's listening? Who decides what is included on the agenda and what is not?

These are questions we asked ourselves in the creation of the exhibition. When we studied CO2 emissions in the workshops, we all saw how important conversations between generations were and how necessary they are for a matter that is created and influenced by all generations. The question was just how we could recreate conversations and experiences similar to those we had during the workshops. The project in its entirety gave me the eyes to see the various artists' ability to show complex situations, versatile grey zones and functioning compromises that words cannot always accommodate. This is something that will help with the rest of my life, be it in politics, or professional and everyday problems, or some completely different situation. It has shown me that the climate issue has more sides and perspectives than I thought, although, above all, there are many different starting points and paths into the climate movement. Now I have actually seen in practice how people with different ideologies can agree that we share the same planet and that the important thing is the solution. This is something I rarely do – look into party politics – and that is why I will try to take the same attitude that we had there.

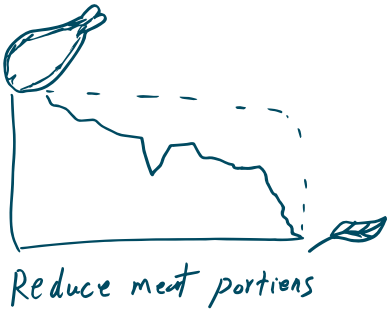
**HENRY**, student,
teenager in the 2010s and 2020s

**Factor 5 framework**

To be able to think more holistically about lifestyle choices and aspects, we presented the problem in the shape of a Factor 5 framework. The Factor 5 framework is an extension of the goal to reduce, on average, your lifestyle consumption from 10 tonnes of CO2e per year (as an average Swede) to 2 tonnes. The framework describes how you can balance different aspects to reduce your CO2 emissions in different areas related to lifestyle (e.g. food, transport, housing, products, public consumption, heating and electricity). We found that the framework helped a lot in tackling the general feeling of anxiety and paralysis around the issue of climate change mitigation. The Factor 5 roadmaps were developed during the project.[9] The roadmaps are based on the idea of visualising the reduction of Co2e in the daily life.

**"We found that the framework helped a lot in tackling the general feeling of anxiety"**

Birgit, part of the project as climate researcher, who introduced the Factor 5 framework, was earlier involved in several industrial roadmaps within RISE.[10] The Factor 5 framework is based on her earlier teaching over 15 years in sustainability strategies.




**Ask an expert!**

To ground the workshops in Life-cycle assessment (LCA) research, we had an LCA expert who came in person to the workshops and who had the competence to address the questions raised by the young people and other participants. We used the expert to gain familiarity with LCA data and as a base for our conversations and improvisations. Quick and rough calculation estimations could be done to determine the carbon footprint and LCA for specific activities or objects. However, it is important to stress how complex it is to do these calculations, and that they are always rough approximations to give an idea of where these values fall.

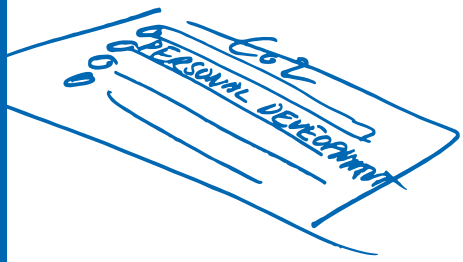

Conversations about how different generations related to technological objects.


THEY
NEEDED
THE
BIGGER
PICTURE
AS WELL

Engineers are always looking for solutions. I am an engineer and the LCA expert doing the climate calculations during the workshops. The situation in one workshop: I had to give a lot of numbers. The young people thought it was confusing, so they asked for more information about every single thing they did. I was alone as a “living CO2 calculator”. Also, they needed to have something positive, and needed a structure or a more simple way of dealing with the carbon values. Furthermore, I realised that the young people were only doing single actions (eating vegetarian or switching their mobile phones off) and asking a lot about these. They needed the bigger picture as well.

At the same time, the theatre people were performing theatre with the big balls, and needed CO2 values for that. We had the typical carbon footprint (10 tonnes = 10 balls) and we had the sustainable goal (2 tonnes = 2 balls). In order to reach the goal, the carbon need to be reduced by 80% or calculated with the reduction factor of five. An example was made for food: if you eat meat only once per week, then you can reach Factor 5. The Factor 5 framework was created during the workshop and became the solution. The bigger picture initially became visible in form of a personal target board for lifestyle areas such as food, housing, and transport.

**BIRGIT**, researcher at RISE,
teenager in the 1980s.



## Advice from the young

### Eden gives advice

If another museum were to do something similar, I think they should do what Carbon Dioxide Theatre did. You have to show an interest, because then you know the people who are there want to be there. I also think that those museums should mix in history just like Västmanland County Museum did. We got to visit the collections, and play theatre with older versions of the products we have today. I also think it is very important to stay in one place; I felt a great sense of security to spend time in the Traversen [the exhibition room in the museum]. It became a happy room; you knew every time you walked in that something fun was about to happen. I can go there even today, just to take in all the positive energy that was there.

It would also be fun to have one more museum do this, so that we who did it in Västerås could participate in that in some way, and see how two places make it different. If several museums do it, then they could create a great workshop for everyone who has been involved from different countries. When I look back on the project I get warm in my heart. I wish that the Carbon Dioxide Theatre could have continued as a leisure activity – to discuss climate issues, play theatre and just get to know people more. I miss all the people who were part of the project and hope that we will always be able to keep in contact, and maybe conduct another workshop just to experience it again. The Carbon Dioxide Theatre is a memory I will hold onto for life.

# Henry gives advice


I think the biggest factors in this project included:

- A mix and variation of age both in those who held the project and the participants
- That we were equal to each other

It's only through this project that I have realised that, in all other similar projects or contexts, all of the participants and/or organisers have either belonged to the same generation or, when there was more than one generation, it has been clear that one generation's (usually the older one!)

**"... a mix of people with different ideological backgrounds and political experience."**

knowledge and being are valued higher and must therefore be taught. I think that this often only happens by habit from the organiser's side, as that is the norm. The problem is that if we keep to these structures, then it is impossible to have the kinds of conversations that the Carbon Dioxide Theatre has had between generations and people. Therefore, I would like to note that in order to do similar projects, it is necessary to think about whether you are creating a structure with the prerequisites for "group A" to tell while "group B" listens and asks questions, or whether both groups have the same opportunities to tell, listen and ask.

Another important thing I would say is to make sure that there is a mix of people with different ideological backgrounds and political experience. It felt refreshing that it was not just people who, for example, had studied the subject, or who had worked with it in party politics or who were brand new to the topic; instead, it was a mix where almost everyone had come in and worked with his or her position in different ways.

Overall, I saw the structure as important. The project seemed flimsy at first, but there was never chaos; there was a clear structure. We were given opportunities to participate and create what we wanted with the assurance that there was a clear structure to fall back on, and someone who could coach and guide us if we wanted them to. Some people work best without restrictions and some work best with them, so it was good that the people who held the workshop and helped in the summer job were at a distance but still there. In conclusion, my advice to everyone is to at least try to create similar projects and spaces, as we in the world now need it more than ever.


In the final workshop, the whole project group hosted an interactive walk and shared their learnings from the different phases of the project. Jennie is sharing her learnings about writing the funding application as part of the team.

Jennie, museum director and researcher


## A project like this never ends

Västmanland County museum (VLM) participated in the Carbon Dioxide Theatre project because the museum, like many museums and other institutions, is exploring ways to transform our public work. This "participatory turn" in museum's public work is not new. In 2011, Nina Simon, one of the leading figures in the participatory museum movement, spoke on visitor participation at the Swedish museums' Spring Meeting. Since then, many museums in Sweden have developed their own ways of working and have been inspired to involve visitors and create new methods to do so.

In the book The Participatory Museum (2010), Nina Simon describes different forms of visitor involvement, where each level has something distinctive to offer the visitor. The participant perspective is based on five different levels.

**"Simon describes a change that occurs as the process moves from 'me at the museum' to 'we at the museum'."**

Simon describes a change that occurs as the process moves from "me at the museum" to "we at the museum":

- Level 1: Individuals consume content
- Level 2: Individuals interact with content
- Level 3: Individual interactions are networked in aggregate
- Level 4: Individual interactions are networked for social use
- Level 5: Individuals engage with each other socially[11]

In level one described by Simon, the museum is seen as a knowledge resource where visitors can come and experience the museum and absorb information and knowledge. Level two provides the opportunity for visitors to ask questions and act. In the third level, visitors can see where their own interests and actions fit among those of the rest of the museum's visitors since you can leave traces during your visit. In level four, visitors interact with others, who share their interests or actions, as it is possible in different ways to comment on other people's thoughts and comments. The final level, level five, makes the museum a social place where interesting and stimulating encounters with other people are in focus. A sense of togetherness is created that encourages societal development and conversations about other topics than the one presented in for example an exhibition.


VLM has a broad competence in what can be called spectator culture, which corresponds to Nina Simon's level one. We do not see participatory culture and spectator culture as opposites, in our pedagogical practice; rather, we see the development towards a more participatory approach as an expansion of the museum employee's repertoire and competence. VLM has also worked with participatory projects for many years – for example, by having university students work for five weeks to add to the exhibitions, based on different assignments. From one perspective, this can be seen as a level two initiative, where individuals interact with content, albeit in a very thorough way, since they change our base exhibition in practice. In fact, the students were co-creators of the museum's message.

In the Carbon Dioxide Theatre project, we wanted to contribute to an exploration of in-depth methods and ways of working to develop the participatory culture and of how we, as a museum, engage ourselves and our visitors in major societal challenges. A basic motive was to dare to question and expose ourselves to the unfamiliar and on how we should communicate in order to contribute to the development of society. This could mean that all the participants in the project would change the way we think and how we do things, including those of us who work at the museum.

**Expanding the model of visitor involvement**

In fact, the way in which the museum partly worked earlier, and how we worked during the Carbon Dioxide Theatre project, suggests an additional level beyond Nina Simon's five levels, which includes exhibitions, objects and props and which provides a transformative potential. Therefore, I would like to add an additional level to Nina Simon's five levels after working on this project:

**Level 6: Individuals engage with each other and objects to transform norms and actions in society.**

"A basic motive was to dare to question and expose ourselves to the unfamiliar"

The addition of level six is necessary, I think, since level five's "engagement with each other socially" includes human interaction but does not fully include exploring civic action in interlacement with the museum's objects and props that we strove for in our participatory project. The word "transform" in level six holds an additional level of intensity, beyond the word "engage", that was significant for the work in our project.

Our aim as a museum working together with all the other participants in this project can be framed in three areas of interest:

**Democracy**

- Support democratic dialogue in society
- Engage ourselves and our visitors in major societal challenges
- Support exploration of norms around climate change
- Create places for reflecting on societal development
- Create a safe shared space for expression

**Shared space**

- Co-create knowledge to think and talk about a topic (such as, in our case, carbon emissions) from a historical perspective and to collaboratively find ways to act now related to that topic (in our case, climate change).
- Create relationships between young citizens and the museum
- Share knowledge between generations and competence areas
- Dare to question our practices and expose ourselves to the unfamiliar

**Collections and exhibitions**

- Challenge borders, and question actions with the objects as points of departure
- Explore methods that open a way for relations to emerge with objects in the collections
- Let the objects (or props) be interlaced in conversations and action
- Explore objects in a fun way

## Participatory processes change how we work at the museum

One of the young citizens participating in the project said, *"I do not think that a project like this ever ends, it will just continue and take new forms"*. And yes, as a director of the museum, I will agree with that. The never-ending character of this project brought both new opportunities and new challenges to the museum.

On the one hand, the project provided great opportunities for opening up; initiatives have continued on individual and organisational levels, new projects have formed and inspiration has been found in wider circles in the Nordic countries. On the other hand, we have met unexpected challenges. Even though our aim was to add new ways of working towards participation, we were not fully prepared for the relationships that were created between the members in the project.

**"... we were not fully prepared for the relationships that were created between the members in the project."**

These relationships, which were valuable for us in the project, brought a responsibility of care beyond what we are usually prepared for at the museum. And this implies an ethical perspective on continuation after the project and on shared responsibility for each other. What are we actually inviting when we invite visitors to become participants in the museum? A question to ask is: Are we prepared and willing to build these relationships over a long time and to accept the consequences in terms of planning, resources, new practices, management and programmes?

On an individual level, many of the personal stories in this text bear witness of a change in both thinking and action beyond the time frame of the project. On an organisational level, this project was a great inspiration and introduced many new ideas for us, since we are exploring new ways of working. For example, it was an opportunity to train in an organisational culture with a readiness for more radical innovation culture, for example by introducing a higher degree of risk-taking, playfulness, humour and openness in dialogue.

Not planning everything and opening the programme activity to what would emerge might be perceived as an uncertain way to work. This way of working needs museum staff that is trained to handle uncertainty, in order to learn how to build frames that are open enough for the other impulses that will be demanded from us. Opening up the museum for different kinds of participation and co-creation is an opportunity to question the visitor's and the museum staff's clear territories and roles in the museum. What habits and norms change when the museum becomes a shared and negotiated territory, and the visitor becomes a participant in the museum's activities? To develop our work further, we need to have a broad understanding about

This is a project where everybody can be involved.

Improvising a scene together. Negotiations about what is at stake when we say we cannot fly anymore, can we still visit family living abroad?

participatory ways of working. The internal process within the museum needs to be participatory and engaging as well, and it is a challenge to prioritize with very few resources. One way to engage more staff from the museum in this project was to make an offer that they could participate in the project workshops as a part of the competence development programme.

Through this project, we have seen that working with history and historical objects in participatory ways give valuable perspectives on current societal discussions and changed how we work.

Creating new relations with the exhibition through improvising object life-stories between participants of the project and museum visitors.

## New ways of communication and relations are established

With the form of theatre we used in the project, the situations were not marked by one-way communication; instead, a comment or reflection could be captured, answered and reworked in a role-playing game or by responding to a letter. The exchange and the possibility of sharing in these situations contributed to a changed relation.

We could see that, during the process, there were a lot of examples of participation and the creation of a safe space. The usual norms/roles of professional and private life could be questioned and tested; there was an opportunity, with the help of the theatre exercises, to try and take another role that was completely opposite from one's own beliefs; and we learned to know each other well enough to know each other's names. This is not what we usually know about our visitors – and visitors do not usually know the names of many of the museum staff

Encourage friend to go with you to try this experience.

either. A new form of relation would push the borders and territories that we are used to. With many participants, the medium for communication may change; an informal way of conversation takes up more space. Contact over social media occurred during the project; even after the project, there was contact between some of the participants.

**"We saw that this way of working potentially changed the behaviour of not only all the participants, but also the museum itself as an organisation."**

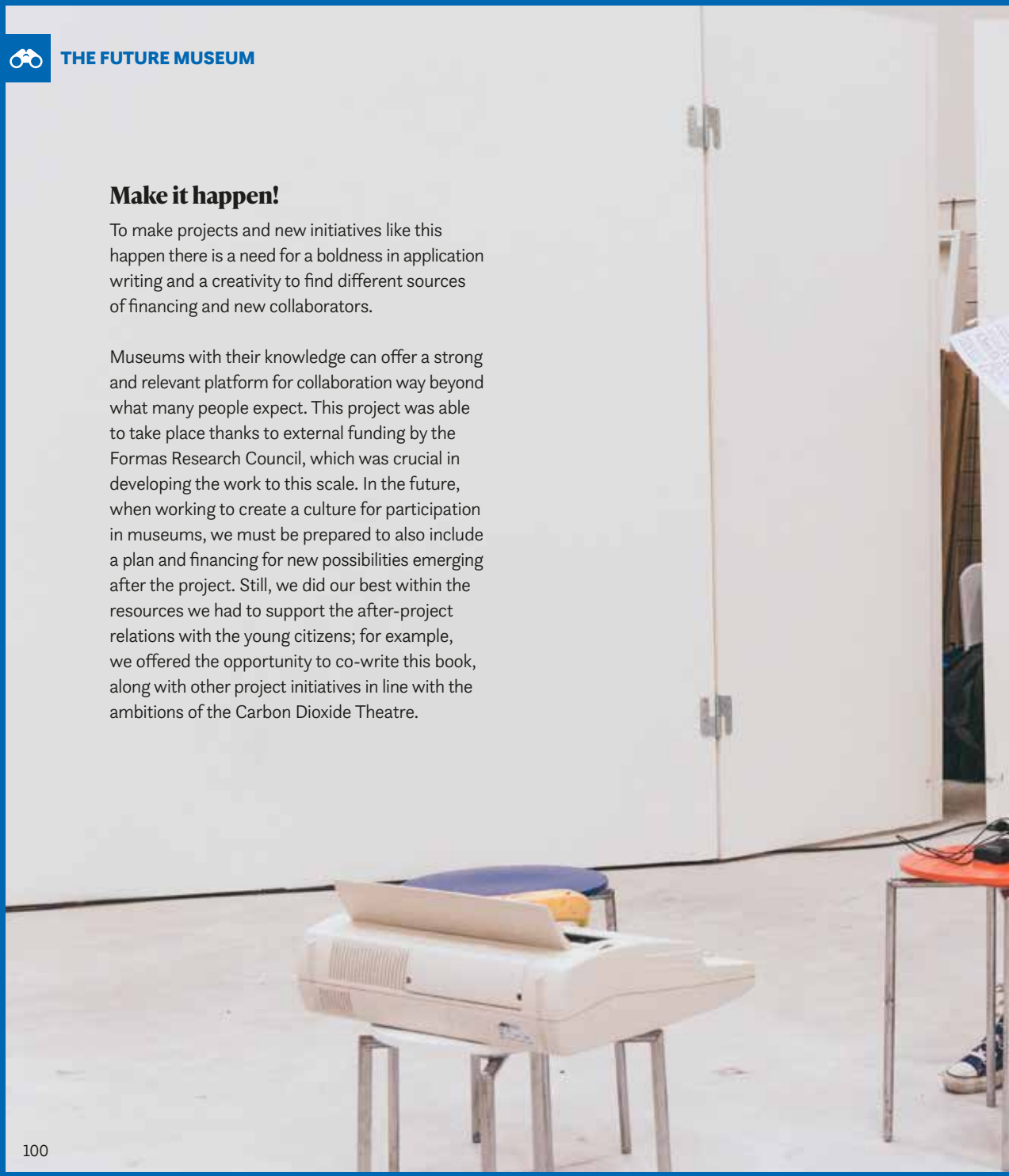
The structure of this project, with a core group of youths working together with researchers, designers and museum staff, proved to be valuable in order to create a safe space and build trust together. The creation of a safe space with a group that has the potential to grow is something the museum has taken further in several ways, such as in a new project in which we are elaborating and exploring the method of self-help groups. We saw that this way of working potentially changed the behaviour of not only all the participants, but also the museum itself as an organisation. There was also a greater security to talk about the climate issues in everyday life and to express opinions. Since then, the work of the museum has changed direction. After the project, we decided to work in a more focused way with themes for the coming years: first, the theme of sustainability; and, after that, democracy. We encourage creativity from our staff as well as from people in the local community.

The experience from the Carbon Dioxide Theatre project has unleashed a new possibility for interaction and collaboration. In these new initiatives at the museum, we will continue to explore how a visitor becomes a participant of learning, explores possible futures together with us at the museum and reflects on climate behaviours and norms. The museum now has a spin-off project called Sustainable Life, where upper secondary school students are producing films based on everyday dilemmas related to the climate situation. We have dedicated our biggest exhibition space to a collaborative effort, for something called a "tiny house" project that will be created by citizens in the exhibition space alongside craft workshops and the exhibition Sustainable at Home. A space called "the power station" will also be opened that invites us and the visitors to shape the future together. For us, it is important that our future initiatives of the participatory work with the public will be even more closely integrated in the museum's activities in order to have a long-term impact.

## Make it happen!

To make projects and new initiatives like this happen there is a need for a boldness in application writing and a creativity to find different sources of financing and new collaborators.

Museums with their knowledge can offer a strong and relevant platform for collaboration way beyond what many people expect. This project was able to take place thanks to external funding by the Formas Research Council, which was crucial in developing the work to this scale. In the future, when working to create a culture for participation in museums, we must be prepared to also include a plan and financing for new possibilities emerging after the project. Still, we did our best within the resources we had to support the after-project relations with the young citizens; for example, we offered the opportunity to co-write this book, along with other project initiatives in line with the ambitions of the Carbon Dioxide Theatre.



"We offered the opportunity to co-write this book."

## Authors of this book

**Eden Allalouf** is currently a student at Rudbeckianska gymnasiet in Västerås. Eden participated in the entire project and in the summer job. Eden has a big interest in other cultures, music and dance.

**Tova Anderberg Wallin** lives in Sweden, Riddarhyttan. Tova studied theatre at Carlforsska gymnasiet in Västerås and puts most of her time into theatre. She participated in the project's workshops and in the summer job.

**Helena Arnell**, exhibition producer and museum educator at VLM. Helena has a BA in history and ethnology. She has worked with education in different places and forms for many years. She was a participant and an educator representing the museum and their collections in the project.

**Henry Ash** has been politically active in the subject of climate and relating matters since 2016. He has been performing in theatre and other performative arts since 2014. Henry is currently studying art in high school. He participated in the project as one of the students.

**Birgit Brunklaus**, senior researcher in Sustainability Assessment at RISE. She has a PhD in life-cycle assessment and organising (2008). Birgit has a special interest in the cultural sector. She develops methods combining life-cycle assessment (LCA) and social sciences. She was a participant and CO2 expert in the project.

**Isa Espling** has been politically active, with a focus on combating climate change, since 2014. Isa recently graduated from a high school arts programme, specifically oriented in music. Isa participated in the project as one of the students.

**Laura Gottlieb**, PhD candidate at Mälardalen University. She has a background in philosophy and information experience design. Her research interests include the intersection of dialogue, design and transformation. In this project, she was a participant and workshop designer for the Teatime session.

**Hayley Ho**, designer in Prototyping Societies at RISE. She has a BA in product design from Central Saint Martins, and over 10 years of experience working in design and culture in London and Hong Kong. Her current research explores meaningful collaboration to address societal and sustainability issues relating to culture, community and creativity. Hayley was a designer, facilitator and participating researcher in the project.

**Henry Larsen**, associate professor at SDU. He has several years of experience as an organisation consultant, and completed a doctorate degree in management in 2005. Henry's research evolves around the nature of human interaction, for which he draws on participatory improvised theatre. He was co-initiator for the project and incorporated improvised theatre methods into the project.

**Sofie Nyström**, interaction designer at RISE. Sofie holds a BSc in cognitive science and an MSc in human-computer interaction. Her research interest focuses on how humans interpret and interact with information and technology to facilitate reflections and actions connected to environmental sustainability. She was a designer and participating researcher in the project.

**Lizette Reitsma**, working at RISE during the project, now an associate senior lecturer at Malmö University in design for sustainability and social change. She has a PhD in participatory design (2015) from Northumbria University, in the UK. Lizette has a special interest in bringing different perspectives to the climate debate and in collaboratively reflecting through making. She was a co-initiator and participant in the project.

**Merja Ryöppy**, actor and PhD researcher at SDU. She holds a BA degree in participatory theatre and a MSc in engineering. Merja uses participatory improvised theatre methods in design research processes to understand the ongoing social and material relations among people and objects. She was a co-initiator, an actor and participating researcher in the project.

**Jennie Schaeffer**, design researcher and director of VLM. She has a PhD in innovation and design (2014) from Mälardalen University, Sweden. Jennie has a special interest in participatory cultures, artefacts and places. She was co-initiator and the project leader as well as being a participant in the project.

**Andreea Strineholm**, visual artist and designer. She has a BA in Stage and Costume Design and a MSc in Innovation and Design. Her role during the project was to establish the online communication with the teenagers between the workshops, and coordinating the two exhibitions created during the summer, while conducting her master's thesis study.

**Elena Strøbech**, actor, playwright, facilitator. Born in Prague, Czech Republic, living in Denmark. She got her actor education at The Danish National School of Performing Arts in Copenhagen. In 2000 she began to work with interactive, improvised theatre, since 2017 at SDU in Kolding. As a theatre consultant she has a practical approach to bring forward dynamics between different stakeholders in organizations, through improvised theatre.

**Cornelia Vadlin** has been performing and engaged in theatre since 2015. Cornelia graduated from Carlforsska High School in Sweden, with theatre as a main subject, in the summer of 2020. She participated in the project as one of the students. In addition, she worked with the exhibition during the summer of 2019.

**Anna Blom Allalouf**, curator at VLM and responsible of the museum's events. Anna has a BA in ethnology. She has worked with education and exhibitions in museums for many years. Anna participated in two of the workshops.


## About the project partners

**Västmanland County Museum** is a cultural history museum operating under the oversight of the local regional administration, Region Västmanland. It is the only museum whose mandate and sphere of activity span across Västmanland County in its entirety. At its broadest level, Västmanland County Museum's mission is to contribute to a vibrant cultural life throughout Västmanland, to play an active role in community development and to promote sustainable regional development. The County Museum is tasked with increasing public awareness of the diversity that exists within Västmanland's cultural heritage, conveying and arousing public opinion, promoting knowledge about the past and broadening residents' perspectives on the present and future. The museum aims to promote knowledge, cultural experiences and the principles of freedom of expression and information for the benefit of the community.

The museum's offices, archive, library and exhibition venues are located at Karlsgatan 2 in Västerås and its storage area is located in the nearby village of Hallstahammar. Please follow us or get in touch with us at Västmanland läns museum on Facebook and Instagram!

**University of Southern Denmark (SDU)** offers around 115 different study programmes ranging from bachelor and master level to doctoral studies, and conducts research across campuses in Slagelse, Odense, Kolding, Esbjerg and Sønderborg. SDU Kolding accommodates an internationally acknowledged and multi-disciplinary research environment to bring together disciplines across the Faculties of Humanities and Social Sciences. It is known as a vivid center of design research, participatory innovation and management studies, conducting research with both public and private sector partners. They have successfully established a Theatre Lab that employs participatory improvised theatre in teaching and research to develop understanding of innovation practices and change processes.

**RISE Research Institutes of Sweden** is an independent state-owned research institute accommodating a wide range of research areas, testbeds and demonstration facilities, as well as almost 3000 researchers in different fields. RISE Prototyping Societies (previous RISE Interactive) has a wide portfolio of Design Research projects. They generate new knowledge, develop experiential prototypes and shape engaging stories that push towards ethical transformation of society. RISE Sustainable Assessment has over 25 years of LCA experience and data. RISE has developed an unique climate database and perfoms LCA based climate research and find sustainble solutions for food, textiles, buildings and transport.

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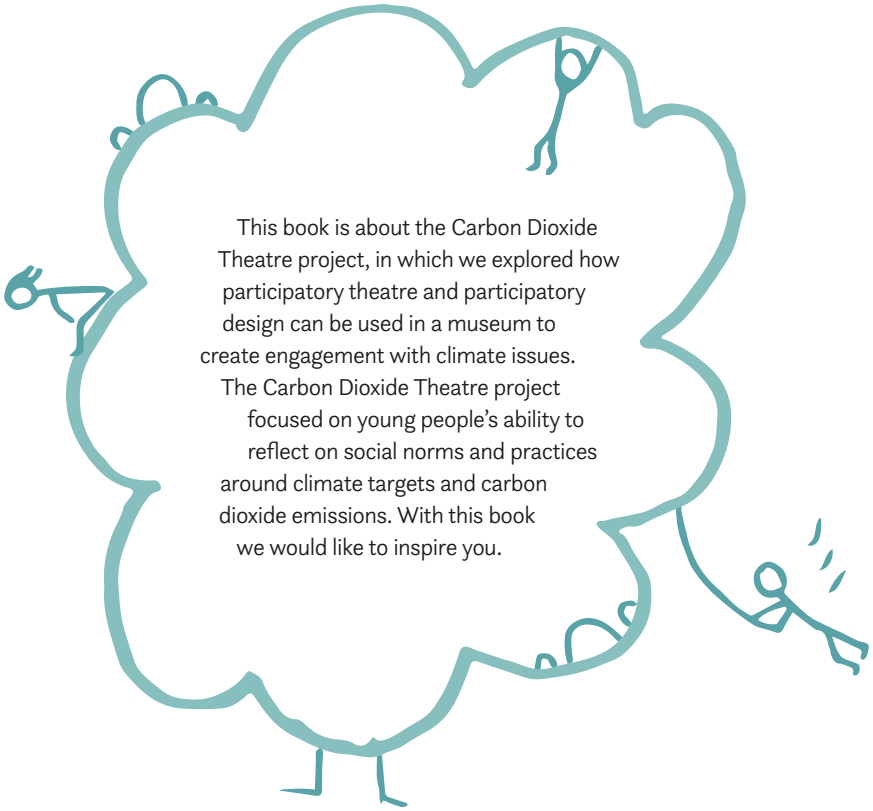
Lizette Reitsma, Hayley Ho, Birgit Brunklaus, Sofie Nyström, Wasim Brikhan, Jennie Schaeffer, Merja Ryöppy, Henry Larsen, & Elena Strøbech. (2019). Our burden – Carbondioxide theatre for climate action. In Proceedings of Nordes 2019: Who cares?, No 8, ISSN 1604-9705.

Birgit Brunklaus, Lizette Reitsma, Jennie Schaeffer, Merja Ryöppy, Hayley Ho, & Sofie Nyström. (2019). Carbon theatre in public spaces: Using participatory theatre and co-design methods in a museum for shaping low-carbon lifestyles. In Proceedings of the Life Cycle Management Conference 2019, vol. 9.

Growing from understanding and knowledge, by Eden Allalouf.



This book is about the Carbon Dioxide Theatre project, in which we explored how participatory theatre and participatory design can be used in a museum to create engagement with climate issues. The Carbon Dioxide Theatre project focused on young people's ability to reflect on social norms and practices around climate targets and carbon dioxide emissions. With this book we would like to inspire you.

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– en del av Region Västmanland

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