

# Climate Educators Network

Driving a rich and forward-looking climate education for active citizens of the future.

Paula Ikonen, Aybars Senyildiz, Zhiwen (Wen) Yap, Felix Zelck  
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and Culture



# EXECUTIVE SUMMARY

This report documents the process and results of a project responding to the brief of 'Boosting Climate Education', undertaken as part of Design for Government – an advanced studio course in Aalto University's Creative Sustainability master's programme. This project was commissioned in 2020 by the Finnish Ministry of Environment (YM) with the Ministry of Education and Culture (OKM), the Finnish National Agency for Education (OPH) and the Orchestrating for Systemic Impact research project (ORSI).

Over a period of 14 weeks, our team conducted research and developed a proposal to tackle this brief, which sought to find ways to shape the next generation of Finland into increasingly proactive and climate-conscious citizens through education. Our team consists of four master students from different programs at Aalto University – Paula Ikonen and Aybars Senyildiz from Creative Sustainability, Zhiwen (Wen) Yap from Collaborative and Industrial Design, and Felix Zelck from the Master of European Design.

Through a systemic analysis of the Finnish education system and climate education landscape, we discovered that themes of climate change and sustainability have already been introduced into the Finnish school curricula. Expert-produced climate education materials also exist in abundance. However, the missing link lies in its implementation by teachers – one of the most significant leverage points for boosting students' experience of climate education.

We found that in Finland where teacher autonomy is high, whether or not climate education is done depends primarily on teachers' personal interest and prior knowledge, time availability, and confidence and skills in discussing climate change. We hence concluded that the key to boosting climate education lies in giving as many teachers as possible the skills, tools, and networks to want to, and be able to, incorporate climate education in their teaching.

Currently, Finnish teachers are generally eager to do climate education, though many may be unsure about how to go about it. A more forward-looking approach to climate education, which may be less familiar to in-service teachers who have been teaching for a long time, is also needed to shape climate-active and solution-oriented students. Our challenge and goal was hence to drive a reimagination of climate education towards one that emphasizes open dialogue and active citizenship, to get it on teachers' minds and into practice.

Driven by these insights and goals, we developed a three-part proposal. The first two parts – the Conversation Starter Kit and Climate Educators Online Platform – provide concrete tools to kickstart climate education by inexperienced teachers, and facilitate exchange of knowledge between teachers of different experience levels. Together, they catalyse the formation of the third part – the Climate Educators Network, a growing network of confident teachers which continues to drive a rich and forward-looking climate education for active citizens of the future.

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# Introduction

This report communicates the research and design development process of our proposal – Climate Educators Network: Driving a rich and forward-looking climate education for active citizens of the future. Climate Educators Network was developed for the Design for Government course in Spring 2020. The course enables design students to address “complex challenges of the government and public sector”.

The brief for this project, “Boosting Climate Education”, was commissioned by the Ministry of Environment, Ministry of Education and Culture, Finnish National Agency for Education, and the ORSI research project/consortium. The brief is underpinned by the goal of shaping the next generation of

increasingly pro-active, responsible, and climate-conscious citizens to meet decarbonization targets of Finland. With this brief, the commissioners aimed to address the gap between government policies and the experience of students in learning environments, by harnessing education as an important tool for systemic change.

Addressing the concerns raised in the brief and the challenges discovered from our research, our proposal Climate Educators Network aims to provide teachers with the tools, platform, and network to exchange knowledge and experiences on climate education, driving a rich climate education for active citizens of the future.

## WHY CLIMATE EDUCATION?

Climate change is presently the greatest challenge threatening the future of our civilization. In 2015, Finland announced the Climate Change Act to strengthen climate policies and set targets for its ambitious goal of carbon neutrality in 2035 (The Ministry of Environment, 2019).

Although the topics of climate change and sustainability goals have been included in Finland’s curriculums since 2001 (Wolff et.al., 2017, p.5), its urgency has not yet been understood by the general public.

Educating the public about the causes of climate change and empowering them to be part of potential solutions is hence crucial for catalysing systemic change. In this context, Climate Education can steer society to a sustainable future by providing learning conditions to enable students to become critical, political agents (Wolff et.al., 2017, p.3). Further, just moulding knowledgeable citizens is not enough to tackle climate change. We also need them to become active citizens – who not only demand but also create change themselves.



# Research

## STAKEHOLDER WORKSHOP

To clarify the initial brief, gain a variety of perspectives on climate education and identify initial directions for our project, we conducted a workshop with our project stakeholders and various experts in climate education, as well as climate activists and cultural actors in Finland. Through the workshop, we discovered several challenges that lie ahead of climate education.

First of all, climate education is a politically charged topic. Though there is substantial research that validates climate change and the role of human actions in causing it, the interpretation of these findings and by extension, the remedial actions that should be taken remains intensely debated in society. However, Finland's political commitment to become carbon-neutral by 2035 provides a clear mandate to be elaborated on and addressed through schools.

We also learned that climate change is a highly emotional topic. On one hand, climate change and its effects can create feelings of helplessness and anxiety. On the other hand, emotions can be an important entry point for motivating students to take action against climate change. While external actions like the 'global climate strike' are not directly linked to schools engagement, those events impact schools indirectly, where students and/or teachers may wish to join these strikes during school hours. While it probably is not within the reach of schools to incentivise these activities, how schools react to the potential absence of teachers or students is both influenced by, and reflective of, their attitude towards climate change and climate education.

Unanimously, our stakeholders saw that the role of climate education should be to spur ground-up engagement with climate change issues. Since students will grow up to be future decision makers in society, schools are important leverage points to accelerate climate change action, and create a more sustainable society. Further, students have a strong direct influence on their parents, relatives and friends. Equipping students with a more informed, self-reflective and action-oriented stance on climate change may hence also spur action amongst today's adults, before the younger generation themselves grow into societal leaders.

There was further consensus that the essential ingredients for boosting climate education – educational materials, curriculum and educational actors – are already in place in Finland. The greatest challenge ahead was to bring these discrete parts together, and push for an approach to climate education that moves beyond knowledge towards active citizenship. Some key obstacles include teachers' lack of time, and widespread lack of confidence and knowledge in the topic. Many teachers also lack experience discussing climate change with students – while the topic has traditionally been addressed often by geography teachers, other subject teachers of math, language studies or physical education have rarely had to address it in class.

In sum, the workshop gave us fresh insight on social and structural issues in Finland, as they relate to climate education. Those social and structural relationships are further detailed in the system map (pp. 12-13).

## DESKTOP RESEARCH

In support of our engagement with stakeholders, we incorporated findings from desk research to understand the education system in Finland – its characteristics, and how teaching is designed and delivered. Further we considered findings on certain aspects of Finnish society and culture due to their impact on the education system.

### Education System in Finland

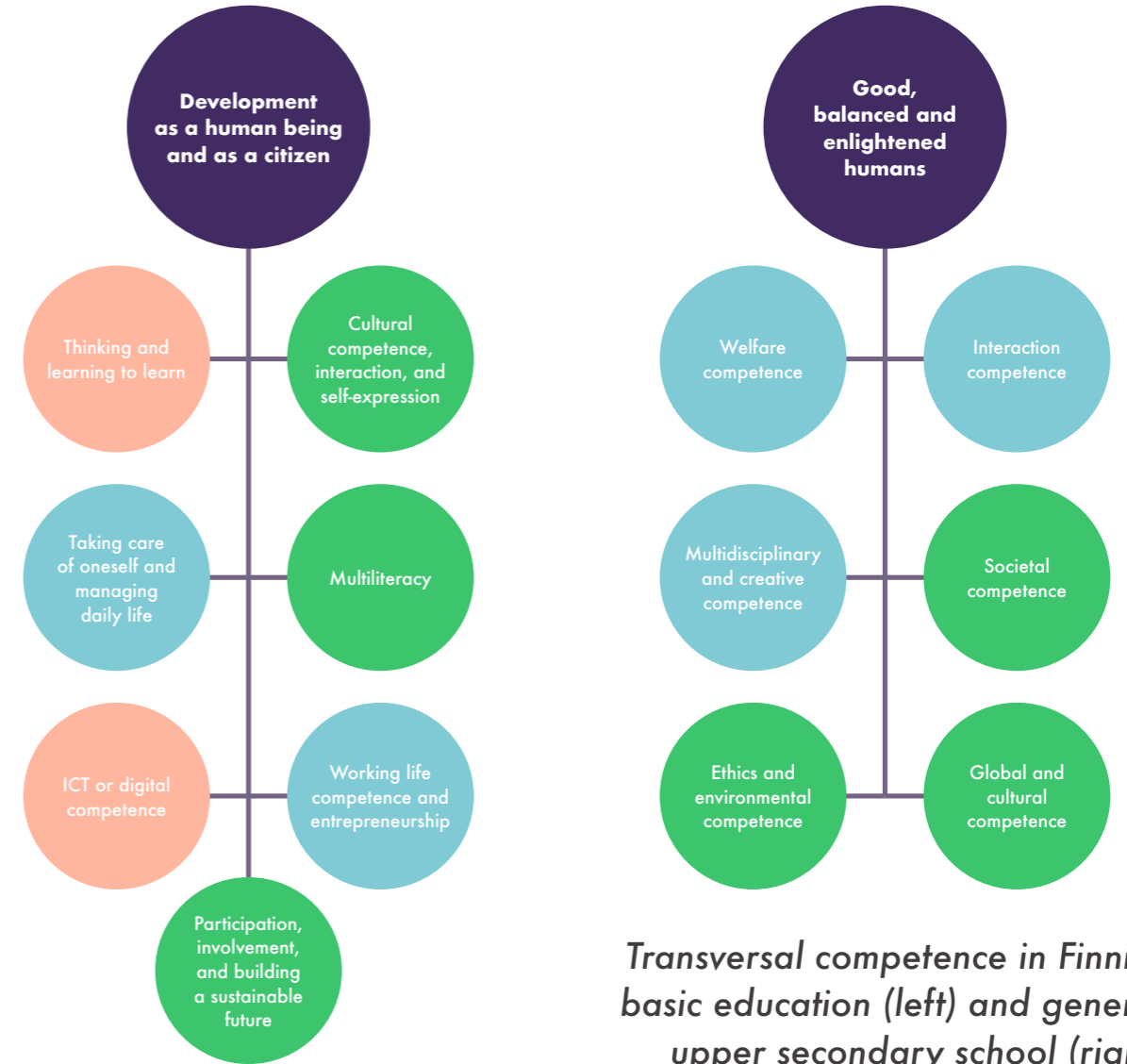
“The hierarchy behind the structure of the education system in Finland separates the roles of the national and local government into two equally important partners. At the upper level, the central government defines the overall structure and goals for education nationwide, while at the lower level, municipalities and local authorities implement the schemes (Boyer et. al., 2011, p.152)”.

The local authorities in Finland are characterized by a high level of autonomy, designating the goals, and methods for teaching (Boyer et. al., 2011, p.150). The National Curriculum Guidelines, created with the participation of teacher representatives, defines the general base of teaching. It is interpreted by teachers at the local level to create local curricula (Paronen & Lappi, 2018, p.9).

### Transversal Competence

Even though climate education is not a separate, dedicated subject in Finnish basic education or general upper secondary school, it is part of the underlying educational goals of these schools. In the core curriculum of Finnish basic education, one of the key elements is transversal competence (TVC), which refers to the unity of knowledge, skills, values and attitudes that are needed to navigate the world in the 21st Century. On top of professional competencies important for entering the workforce, TVC also stresses the importance of helping young students develop competencies that are essential for everyday life. Introducing TVC to educational systems hence requires a shift in thinking about how we see both teaching and learning. (Opetushallitus, 2014; UNESCO Bangkok Office, 2016.)

The 2019 national core curriculum for general upper secondary school introduced TVC as the base of all learning in secondary education as well. This creates continuity for students who are moving from basic education to upper secondary school in 2021 (Opetushallitus, n.d.-a).



Transversal competence in Finnish basic education (left) and general upper secondary school (right)

The underlying goal of TVC in basic education is “development as a human being and as a citizen” and in general upper secondary school “good, balanced and enlightened humans”. In the context of climate education in basic education, two themes stand out – “Participation, involvement, and building a sustainable future” and “Cultural competence, interaction and self-expression”. There are also subject-specific contents and methods in every school subject that aim to build students’ TVC (Opetushallitus, 2014). In general upper secondary school, the six themes are more intertwined and TVC is part of evaluation

processes in every study unit. Hence, it is important for students themselves to understand and be able to evaluate their own progress. (Opetushallitus, n.d.-b, 2019.)

It is important to mention here that the Finnish education system is still fundamentally subject-based, and teachers have their own areas of expertise in teaching a specific subject (Andere, 2020). The learning objectives for each subject take TVC into account, but there are still many factors that can hinder climate education.

## Climate Education Materials

As listed on the Opetushallitus (Finnish National Agency for Education) website, there are many climate education materials for teachers' use (Opetushallitus, n.d.-c). However, the project brief highlighted the problem that it is unclear whether or not these materials are in fact

used (effectively) by teachers. During the workshop and interviews we conducted, we explored the underlying reasons for the challenges faced by climate education in greater depth with our research participants, in order to develop meaningful insights.

## STAKEHOLDER INTERVIEWS

As a supergroup consisting of three teams working on the 'Boosting Climate Education' brief, we conducted several interviews together. Our group was involved in 12 individual or group interviews with total of 16 interviewees, ranging from teachers and principals from different school levels to climate education experts and researchers. Most of the deep insights that informed our proposal were derived from these interviews.

The interviews were semi-structured, and mostly took place online on various

channels like Zoom, Skype, Google Hangouts, etc. Although the questions prepared for each interview were tailored to the specific backgrounds of the interviewee, they were all centered around the education system in Finland, teacher training, climate education materials, curriculum, challenges and opportunity areas in climate education, different approaches to climate education, other activities that enrich climate education, inspiring stories from educators, learning processes, students' feelings about climate change, and their needs in relation to climate education.

### INTERVIEWEES

04.03.2020 Climate Education Expert

18.03.2020 Commissioner

Teacher Training Coordinator

18.03.2020 Earth System Researcher

Sustainability Education Researcher

19.03.2020 Climate Education Expert, Writer

25.03.2020 Special Education Teacher

26.03.2020 Climate Education Researcher

27.03.2020 Middle School Principal

30.03.2020 Teacher in Vocational School

01.04.2020 Teacher in Elementary School

Counsellor of Education

02.04.2020

Counsellor of Education

High School Principal

03.04.2020

High School Student

03.04.2020 Sustainability & Digital Learning Expert

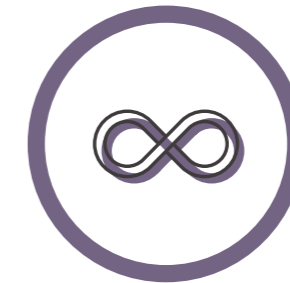
## DESIGN DRIVERS

Our analysis of the interviews gave us a rich understanding of the context of education in Finland, and valuable insights about issues related to climate change education. Consequently, we were able to develop our design drivers, which guided us to discover opportunity areas and subsequently develop solutions.



### Active citizenship

Activate students to translate theory into practical action



### Be inclusive

Include teachers and students who are not yet interested in teaching or learning about climate change



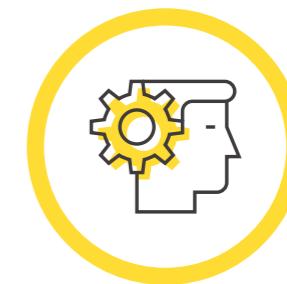
### Empower

Enable people to take desirable actions, rather than force them with top-down approaches



### Collaborate

Connect different parties to create a bigger impact



### Respect Autonomy

Allow diverse ideas to co-exist, rather than homogenizing perspectives

## SYSTEM MAP

Based on our learnings from the stakeholder workshop, desktop research, and interviews, we visualized the Finnish education system in relation to the delivery of climate education. The system map gave us a visual framework to guide our discussions on how the education system works, important relationships between key actors and institutions, and opportunity areas for climate education. Over the course of our project, different versions of the system map were prepared for different purposes. The version shown here is a distilled and

simplified version of our earlier maps, which we used towards the end of the project to explain our final proposal. However, our earlier versions illustrate the overall system in richer detail, and can be found in the Appendix.

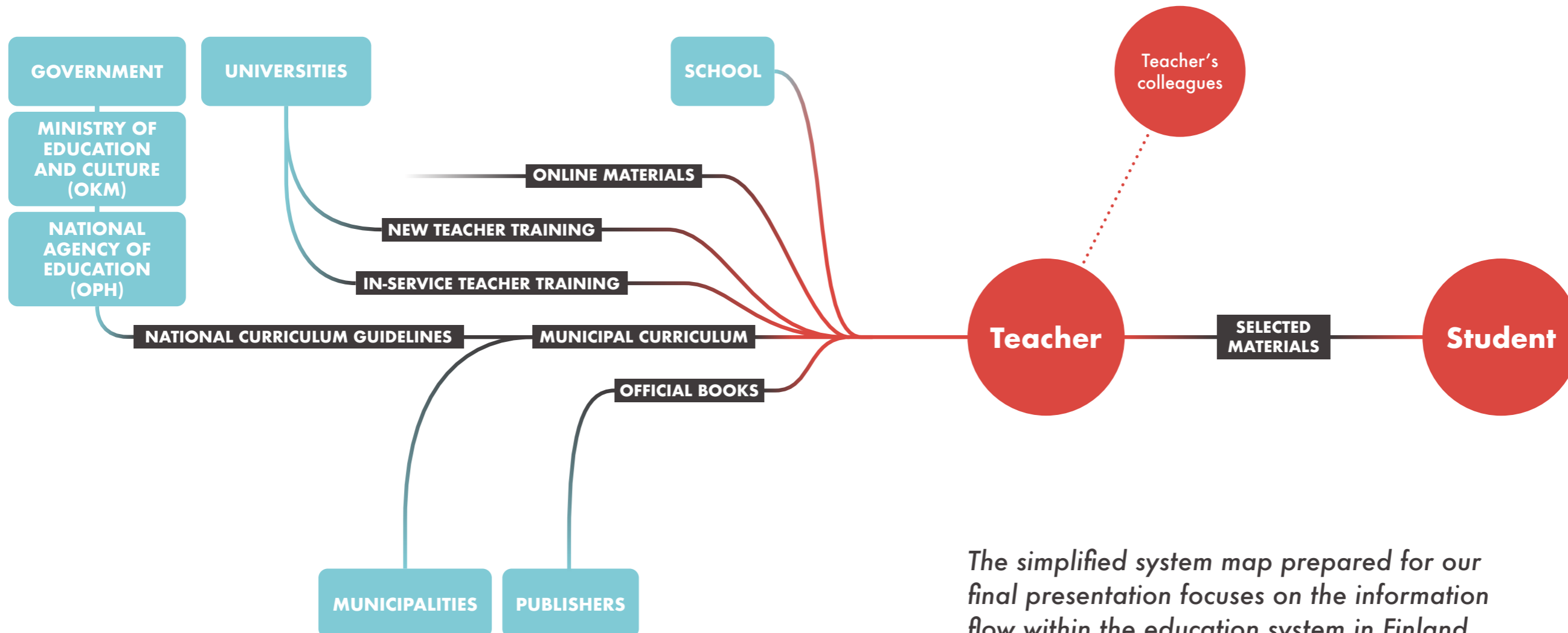
Our system map was based on the information flow from macro- (state, political, and societal institutions) to micro-level (actors involved in everyday teaching; teachers, students). Although the interviews revealed other influential informal learning channels

(such as student groups, friends, and family) outside of the official education system (via schools), we remained focused on the official education system because of its ability to reach almost every young person, and the relevant capabilities of our commissioning ministries.

In our system map, information from the macro- to micro-level is carried by national curriculum guidelines, municipal curriculum, teacher training, official books, and online materials. The teacher, together

with colleagues and principals, selects their materials and designs their teaching for students.

This visualization of the system map led us to develop the metaphor of “Teacher as a Funnel”, filtering the valuable knowledge on climate change for students. This exploratory research phase hence culminated in the realization that teachers play a pivotal role in the education system. Thereafter, we thus focused on the challenges teachers face and possible solutions.



*The simplified system map prepared for our final presentation focuses on the information flow within the education system in Finland.*

# Analysis

## DETECTING PATTERNS

We organized our research findings along different thematic clusters to detect patterns. The main themes that surfaced were teacher autonomy, different approaches to climate education, use of education materials, informal education, and the politically charged nature of climate change discussions.

The main learnings from the clustering activity helped us to develop the following main insights about the challenges of boosting climate education.

## INSIGHTS

1

**Climate change is a politically charged topic which some teachers lack the tools or confidence to discuss with students, especially as schools have traditionally been expected to be politically neutral.**

2

**Teachers enjoy a high level of autonomy in Finland. Hence, whether or not each teacher incorporates climate education into teaching depends on their time availability, personal interest, and confidence handling this complex topic.**



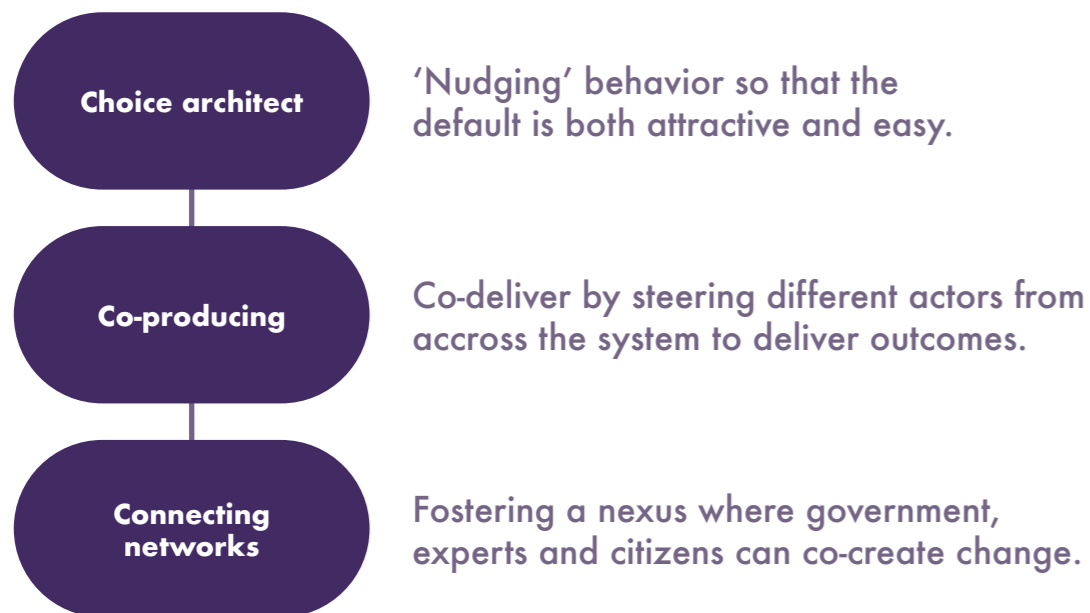
# MAPPING OPPORTUNITIES

To further explore areas of opportunity, we examined possible types of designerly-interventions using the framework of the "Government as a System" toolkit (UK Policy Lab, 2020). The activity helped us to understand possible instruments used by governments, and different types of solutions designers can develop within this framework. On the "Styles of government intervention" map on the next page, the purple areas highlight where we focused during our ideation phase. Most of our ideas involved lower or moderate level of intervention, and took a more downstream focus in policy making.

Eventually, we decided to focus our proposal within three intervention types: Choice Architecture, Co-Producing and Connecting Networks. The role of Choice Architecture is to make an action more attractive and

easy, hence nudging people's behaviour towards the desired direction. This type of intervention leverages on people's desire for positive experiences and optimization of time. Co-producing involves facilitating existing and future actors within a system to collaborate with each other, for the achievement of common goals. Joining forces of already effective players helps minimise effort across the board, and support outcomes that are of shared interest. Finally, Connecting Networks brings together government, experts and non-experts alike in order to direct change across different levels of the system, and assure balanced outcomes that consider diverse perspectives. In our proposal, these three models complement each other to deliver a strong and wide impact, allowing for an emerging transformation of climate education.

## Our proposal will focus on:



## Styles of government intervention\*

		UPSTREAM IN POLICY MAKING		DOWNSTREAM IN POLICY MAKING	
		Early stage intervention	Framing, piloting and market forming	Scaling, mainstreaming and market building	Acting in mature markets and policy ecosystems
LOW LEVEL OF INTERVENTION (SOFT POWER)	Steward	Champion	Convening power	Connecting networks	Co-producing
	Leader	Agenda setting	Strategy and skills planning	Educating and informing	Collaborating
	Customer	Catalyst	Standard setting	Intelligent customer	Consumer, and supply-chain, protection
HIGH LEVEL OF INTERVENTION (HARD POWER)	Provider	Innovator	Reformer	Service provider	Choice architect
	Funder	Early adopter	Fiscal incentives	Grants and subsidies	Platform provision
	Regulator	Encourage voluntary codes	Governance	Building regulatory environment	Compliance
	Legislator	Green papers	White papers & draft bills	Primary and Secondary Law	Amend rules

\*framework from the "Government as a System" toolkit by the UK Policy Lab

The purple area on the map shows where we focused during the ideation phase. A more detailed map can be found in the Appendix.

# Key findings



**“Teachers are really eager to do climate change education, but some are totally lost about what to do.**

- Climate Education Researcher, WWF Finland

**“Teachers have too much work and too many things on their minds. There’s no time that’s devoted only for developing climate change education.**

- Climate Education Researcher, WWF Finland

**“We don’t know everything, but we know how to find information ... These human skills – talking, speaking – are the most important skills that we need.**

- Middle School Principal, Uusimaa

The research phase provided us with insights about challenges and opportunity areas for climate education in Finland. Although we developed most of these insights from the interviews, we found that our arguments were also supported by relevant academic literature.

Due to the values of Finnish society, and the high level of education teachers have, teachers are generally trusted and respected in society (Boyer et. al., 2011, p.157; Paronen & Lappi, p.9). Trust in teachers enables teachers to enjoy a high level of autonomy when designing their teaching methods (Paronen & Lappi, p.9). Whether or not climate education is done (and done well) hence depends primarily on the agency of individual teachers.

Although sustainability has been incorporated into the Finnish curriculum for a long time, the topic of climate change is not highly prioritized on an institutional level (Wolff et. al., 2017, p.7). This results in a lack of support for teachers to incorporate climate education into their teaching. Moreover, climate change is a complex topic (National Research Council et. al., 2012 p.1-2; Wolff et. al., 2017, p.14), and can be politically charged in some contexts (National Research Council et. al., 2012, p.2). With competing demands from their regular subject teaching, some teachers

have little time available to incorporate climate education into their teaching, or update their knowledge about climate change.

Climate change is a value-dependent and complex topic (Wolff et. al., 2017, p.14). As such, discussing it with students requires a sensitive and holistic approach (Pruneau et. al., 2003, p.432). According to experts, imparting knowledge about climate change to students alone is not enough to transform them into active citizens, as holistic climate education requires “emotional and behavioral components” as well (National Research Council et. al., 2012, p.27).

Additionally, teachers may feel less confident discussing this complex topic with students, when they lack support from their colleagues, schools, and related government institutions. There is currently no comprehensive training on climate education provided to teachers (Wolff et. al., 2017, p. 5-6). The subject-based structure of Finnish education, where teachers specialise in teaching specific subjects, also hinders the interdisciplinary teaching needs of climate education (Wolff et. al., 2017, p.13). All these factors contribute to making climate education challenging for hesitant teachers.

## TEACHER TYPOLOGIES AND PERSONAS

In thinking about how to boost climate education in the most direct and impactful way, our research clearly guided us to focus on teachers, who play an important role as funnels of climate education for students. However, it would be reductive to think of all teachers in Finland as a monolithic whole. We hence identified two main typologies of teachers to focus on — the Hesitant Teacher, and the Confident Teacher.

The Hesitant Teacher is interested in doing climate education, but uninformed about how to do it well. They reflect the majority of teachers in Finland. Our interviews with educators and climate education researchers had shown us that many teachers are eager to do climate education, often because more and more students have become interested in climate change issues and ask them questions about it. However, teachers who started teaching many years ago did not receive training on climate education, and thus lack the skills and tools to do it well. They are also often already busy with their regular teaching demands. Despite the abundance of climate education resources created by experts in Finland then, these teachers have little time to sift through them and select suitable ones for their teaching needs.

Meanwhile, there also exists a minority of educators who are already actively leading climate education efforts in Finland. They are represented by the Confident Teacher, who is both interested in and informed about doing climate education. They can empathise with the hesitation of their peers, who feel they do not know enough about climate change to educate students. Yet, they also know how to overcome these obstacles, and are eager to share their knowledge and experiences.

To understand the perspectives of and challenges faced by teachers belong to these two typologies, we developed personas to represent each one. The Hesitant Teacher is represented by Jukka, and the Confident Teacher by Saara.

### TYPE 1 CONFIDENT TEACHER



Saara

“

**I would love to help other teachers gain the skills and confidence for climate education, but I don't know how to reach them.**

Jukka wants to incorporate climate education in his teaching, but is hesitant due to the daunting nature of climate change as a complex topic. While he might have some basic knowledge on promoting climate-conscious behavior such as recycling, he is not confident about doing a more forward-looking form of climate education that promotes open dialogue and active citizenship. On the other hand, Saara knows how to help teachers like Jukka gain confidence in climate education, but lacks the means to reach out to them.

### TYPE 2 HESITANT TEACHER



Jukka

“

**I want to do climate education, but climate change is such a complex topic that I don't know enough to teach it confidently!**

Our proposal, which will be detailed later in this report, hence seeks to tap on the experience and enthusiasm of the minority of Confident Teachers, to help the majority of Hesitant Teachers gain confidence in climate education. By providing the tools and platforms for Confident Saaras to reach out to Hesitant Jukkas, we can catalyse the formation of a growing network of Confident teachers, to collectively advance climate education.

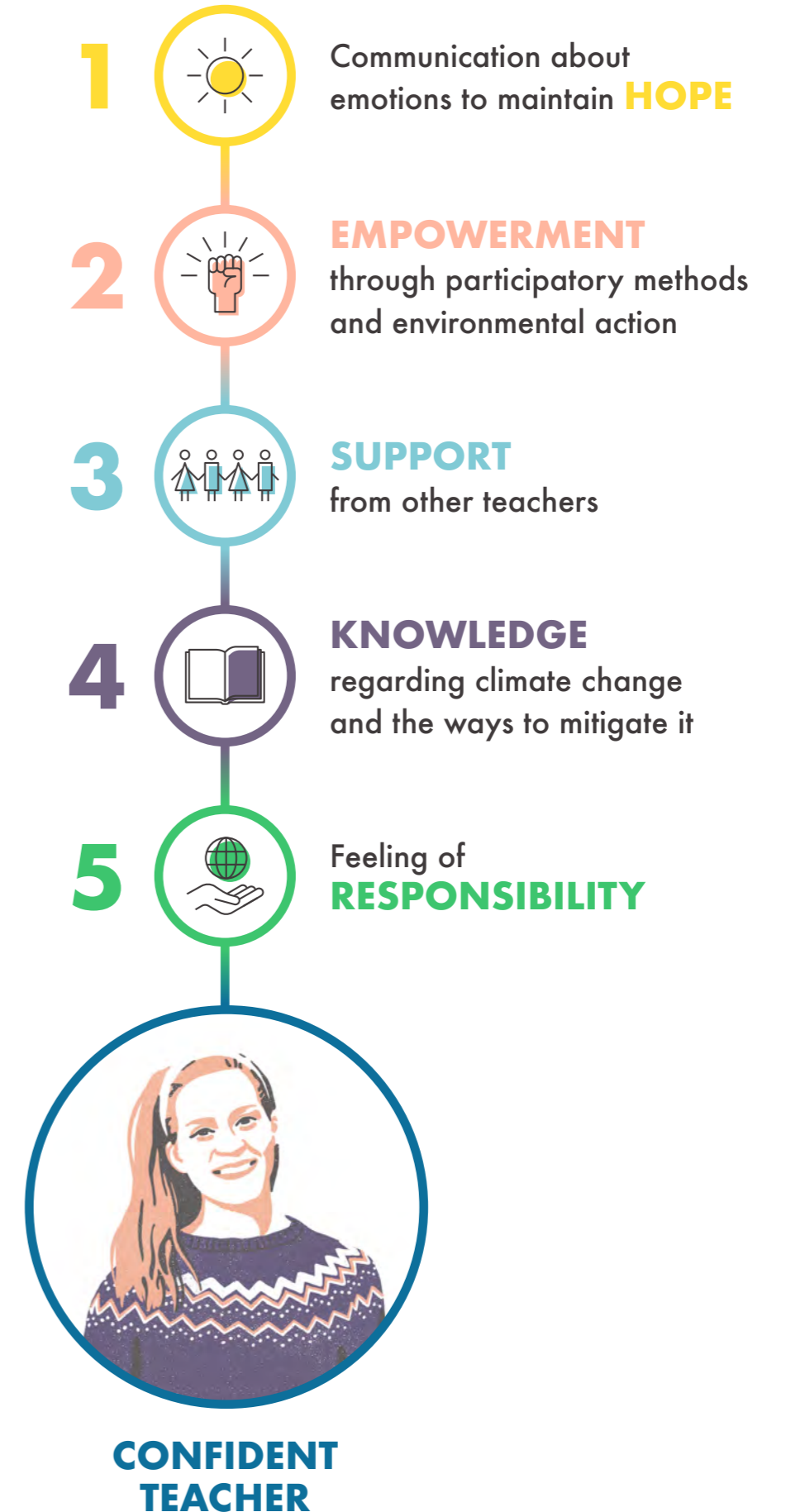
## FIVE ELEMENTS OF TEACHER CONFIDENCE

What does it mean to be a Confident Teacher, like Saara? A climate education researcher we interviewed emphasized the balance between knowledge and action. Knowledge is certainly essential, as teachers often find the problem of climate change very complex and do not have enough understanding of it. However, it is also crucial to shift the perception of climate education amongst schools and teachers towards an action-oriented one.

Our interviewee also pointed out that based on Finland's core curricula, the goal is rather to educate responsible environmental citizens who are willing to act for the environment and prioritise sustainability, not just people who know certain facts about climate change. One of our interviewees trains future teachers and has written educational books on climate education. She was part of the team who developed the climate change education model, also known as the "bicycle model" (Aarnio-Linnanvuori et al., 2018). When asked what kind of knowledge or activity is important in climate education, she emphasized the "lamp" in the bicycle model – understanding the importance of hope. When we asked another interviewee,

a middle school principal, what she thinks is the biggest obstacle for teachers in climate education, she also said "lack of hope" is the biggest. She said that in order to maintain hope, teachers should be able to talk about their feelings and anxieties and get support from their fellow teachers. Also, the climate education researcher stated that when it comes to encouraging teachers, fellow teachers are extremely important.

Based on these findings, we distilled five elements that we believe the future Confident Teacher needs to do climate education holistically. First, they should be able to communicate with students about emotions related to climate change, to promote **HOPE** over anxiety. Secondly, they will **EMPOWER** students to be part of the solution through environmental action. Third, they will be **SUPPORTED** by other teachers through peer-to-peer sharing. Fourth, they will be equipped with good **KNOWLEDGE** on tackling climate change, which they can share with students. And, fifth, they will feel **RESPONSIBLE** as influential agents in advancing climate education.



Five elements  
of teacher  
confidence

# Proposal aims

To craft a proposal for elevating climate education in schools, we relied on three main insights about the factors that influence whether or not teachers do climate education:

1. **PERSONAL INTEREST AND PRIOR KNOWLEDGE**
2. **TIME AVAILABILITY**
3. **CONFIDENCE AND SKILLS IN CLIMATE EDUCATION**

**We hence came to the conclusion that the key to boosting climate education in Finland — where teacher autonomy is so high — lies in giving as many teachers as possible the skills, tools, and networks to want to, and be able to, incorporate climate education in their teaching.**

As discussed previously under 'Teacher Typologies and Personas', we found that there is currently still a large variance in the confidence and ability of different teachers for doing climate education. While most teachers are interested in doing climate education but uninformed about how to do it well (Hesitant Teachers), there also exists a minority who are both enthusiastic about and experienced in climate education (Confident Teachers).

Many of the latter are already active players in Finland's climate education landscape, who are involved in producing climate education resources or piloting climate education programs in individual schools. Our proposal hence aims to tap on the enthusiasm and experience of this minority of Confident Teachers, to help the majority of Hesitant Teachers gain confidence in climate education.

## DRAWING ON OUR FINDINGS, WE OUTLINED A THREE-FOLD STRATEGY FOR BOOSTING CLIMATE EDUCATION:

1

*Build teacher confidence and expertise in climate education from the ground up, empowering them to be comfortable facilitating discussions about climate change with students.*

2

*Make it easier for teachers to find suitable materials and support for doing climate education, by providing them with a comprehensive resource platform and a support network of experienced fellow teachers.*

3

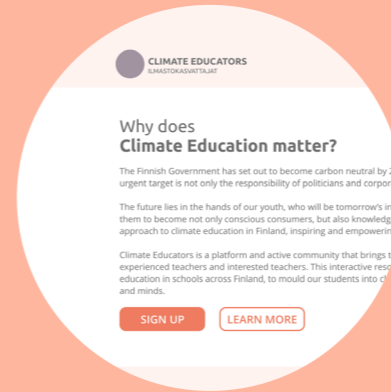
*Integrate climate education into every subject and class.*

Through this strategy, we hope to boost climate education in a way that leverages on the pre-existing strengths of Finland's present education landscape — with its high teacher autonomy, pool of passionate teachers with a wealth of expertise to share, and abundance of excellent climate education materials. In the next section, we outline the detailed individual elements of our proposal, which work together to drive a reimagination of Finnish climate education towards a more forward-looking, discussion-based approach.

# Proposal



## PART 1 Conversation Starter Kit



## PART 2 Climate Educators Online Platform



## PART 3 Climate Educators Network

The proposal consists of three parts. In order to onboard hesitant and uninformed teachers to climate education, we first recommend a Conversation Starter Kit which includes discussion-based climate education materials and a strong call to action for teachers. Next, the Climate Educators Online Platform enables teachers to find additional relevant educational materials, and access peer support from other more experienced teachers. These first

two concrete tools aim to kickstart climate education by hesitant teachers, and facilitate a growing exchange of knowledge between confident and hesitant teachers. In this way, they together catalyse the formation of the Climate Educators Network, a growing network of confident teachers which continues to drive a rich and forward-looking climate education for active citizens of the future.

## CONVERSATION STARTER KIT

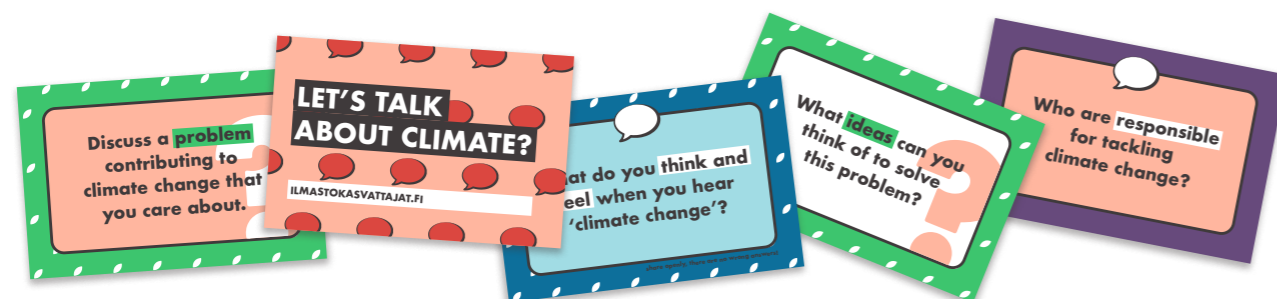
As the first touchpoint of our proposal, the Conversation Starter Kit is a concrete toolkit that will be distributed widely by Opetushallitus to teachers via schools. This toolkit should be co-produced with experienced climate educators already active in shaping climate education in Finland. Due to the complexity of climate change as a topic, three different kits should be created, with the contents each tailored for primary, middle, and high school levels.

The kits and their contents introduce and anchor the move towards a new discussion-based approach to climate education, spearheaded by Opetushallitus. Inside, teachers receive a letter addressed to them from Opetushallitus, which highlights the influential role that teachers play in helping Finland achieve its goal of becoming carbon-neutral by 2035, calling them to action.

The starter kit itself contains a set of cards with instructions and questions that enable every teacher to start a first discussion with their students on climate change. The cards prompt students and teachers to openly

discuss their emotions associated with climate change with each other, identify challenges, but also opportunities to mitigate it through personal and systemic action. It hence creates an easy entry point for teachers previously unacquainted with climate education to get started discussing climate change with students.

Through both the afore-mentioned letter to teachers, and prominent mentions of the web address in the cards' design, the Conversation Starter Kit also doubles up as an invitation for teachers to join the Climate Educators Online Platform – the second part of our proposal.



Dear Teacher,

Climate change is the greatest and most complex challenge faced by our generation, and the younger generation with whom you interact daily. We have no time to lose in this battle, which needs to be fought across all segments of society, business, and government.

Hence, **Finland is introducing a new national framework for climate education, with focus on fostering open dialogue and active citizenship.** This toolkit you are receiving, alongside our newly launched online platform, are central elements of our nationwide drive to improve the way climate education is done in Finland.

As teachers, you play an influential role in educating the younger generation in their understanding of and response to climate change. Your students are our future, and will grow up to shape our society's collective response to climate change. This is why we are calling on you to embed climate change education into your teaching, to openly discuss this topic with your students (no matter how complex it might seem), to empower them to see themselves as part of the solution now and in the future.

**Let's Talk About Climate** is a set of conversation starters for you to use with students. The questions cover a range of topics and entry points to the issue of climate change. Some will help students open up about their emotions and thoughts relating to climate change, some guide them to investigate causes and potential solutions to specific problems, while others trigger broader reflections on systemic interventions. You may need to select the cards that are most relevant to your students, based on their age, level, and subject(s) you teach. Some suggestions for how to make these selections are also included in this toolkit.

We have also launched an **online platform – Climate Educators** ([ilmastokasvattajat.fi](http://ilmastokasvattajat.fi)). The platform features more curated climate education materials and guidance on their use, and channels for you to give and receive advice to fellow teachers. We hope this interactive resource will support you in initiating climate education in your schools, and connect you with teachers doing the same in other schools across Finland.

This is just the beginning of what we hope to achieve for climate education in Finland. We hope what we have started here will continue to grow and evolve, with your involvement and support. Thank you for joining us to shape our new generation of climate active citizens!

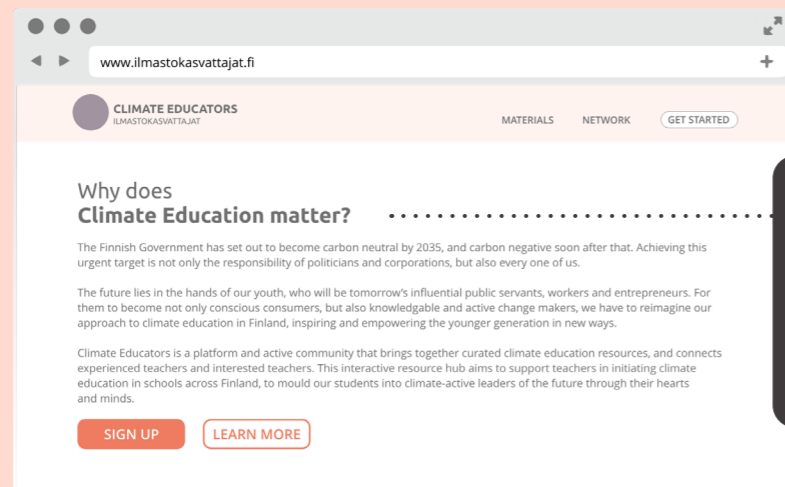
Warmly,  
Anni Miettunen  
Director, Learning and Internationalisation  
Opetushallitus

What **ideas** can you think of to solve...

# CLIMATE EDUCATORS ONLINE PLATFORM

After teachers have taken their first steps to start climate education using the starter kit, and acquired some basic understanding of climate education, the Climate Educators Online Platform facilitates teachers' ongoing engagement with the topic. Technically, it is both a digital hub for curated climate education resources, and a forum for teachers to share their knowledge, experiences and best practices. Practically, it connects experienced- with new climate educators throughout Finland in a common online space.

## Mockup: Landing page

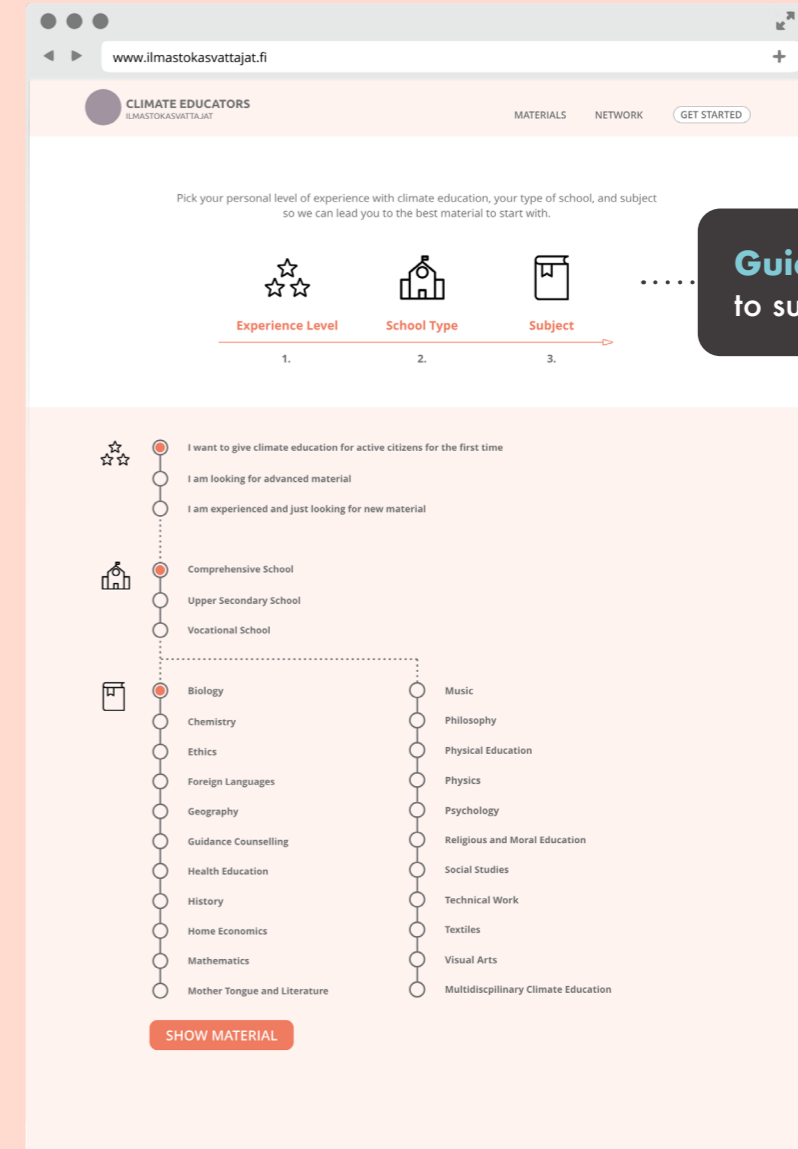


Educate teachers on the role of climate education.

The first purpose of the online platform is to further educate teachers on the importance of climate education. Therefore, the landing page highlights the role of climate education in achieving Finland's decarbonization targets, and guides teachers to access more in-depth resources.

This helps teachers new to climate education to familiarize themselves with the extensive scope of climate education. It also highlights for them the specific leverage points for incorporating climate education into the subjects they teach.

## Mockup: Material search



Guide teachers to suitable material.

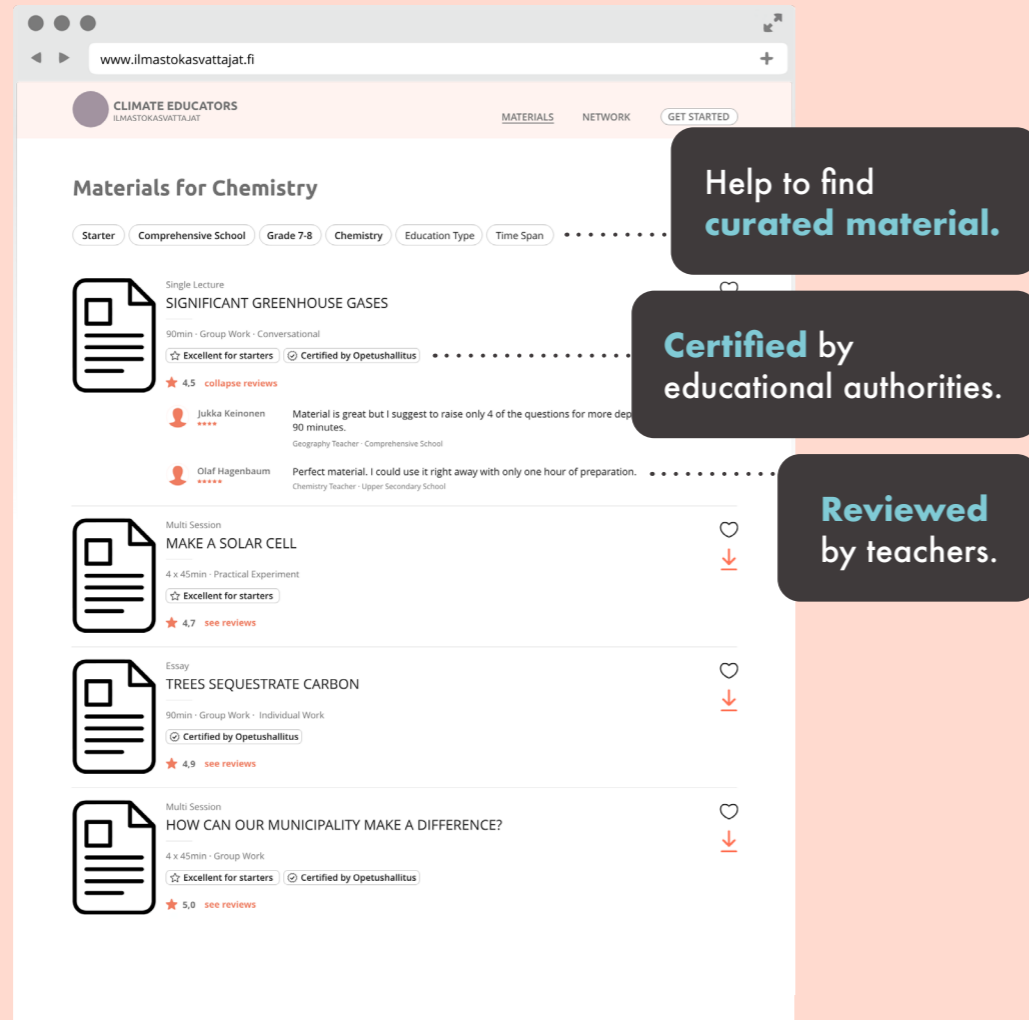
The second purpose of the online platform is to help teachers find the right materials for climate education. While many materials by experts and climate organizations already exist, there are so many different ones from different sources that it can be overwhelming for teachers to go through them. Therefore, the platform provides a guiding system to help teachers find suitable materials for their use. Via a simple search and filter query, teachers are immediately directed to material that matches their

subject, school level, and experience level in climate education.

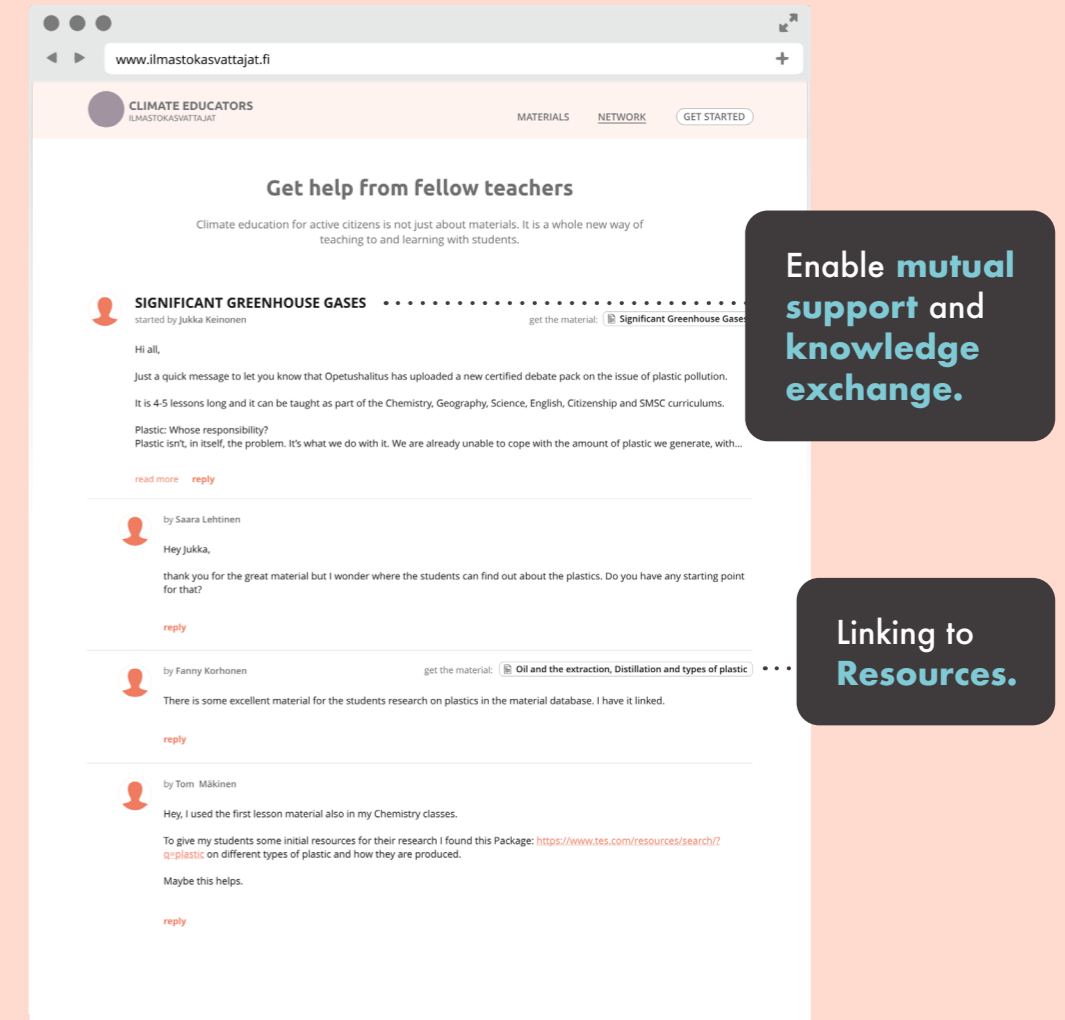
In further development of this tool, it is recommended to identify and add more filtering criteria that will help teachers find suitable materials. Subject, school level, and experience level are just three basic criteria we have used for now in our mock-up to illustrate how the guiding system could look. They will need to be further refined when developing the actual platform.



## Mockup: Search results



## Mockup: Forum



To make the process of searching even easier, the material database should feature several additional elements. First, teachers should be able to filter material at more fine-grained detail to narrow down the selection. Second, some exemplary materials can be reviewed and certified by different education authorities. Today, climate education resources are produced by countless different institutions and individuals worldwide, and may vary significantly in terms of their quality or reliability. Certification and recommendation by educational authorities can help mitigate this problem, and assure less experienced teachers that they are using the right materials.

Third, reviews by fellow teachers can make it easier for teachers to pick material that works for their own school level and subject. With a review function, teachers can share their experiences using different materials, evaluate them and suggest modifications, so that other teachers can better gauge which materials might work for their class and context. Finally, the material overview provides a range of advanced criteria like type of class work, duration, and didactics to speed up the selection of materials. Teachers who join the platform will have user accounts, which allow them to 'favorite' materials for future reference, and save their selection.

On top of providing materials and information, the Climate Educators online platform seeks to foster the growth of a peer network through its built-in Forum. This interactive channel would connect experienced with less experienced teachers in climate education, to enable mutual support and a growing exchange of knowledge amongst teachers around Finland. Further, it gives teachers a channel in which to share and discuss resources and experiences interactively. This allows both for direct feedback and improvements to climate education materials on the site, while also cultivating a stronger and wider support system between teachers overall.

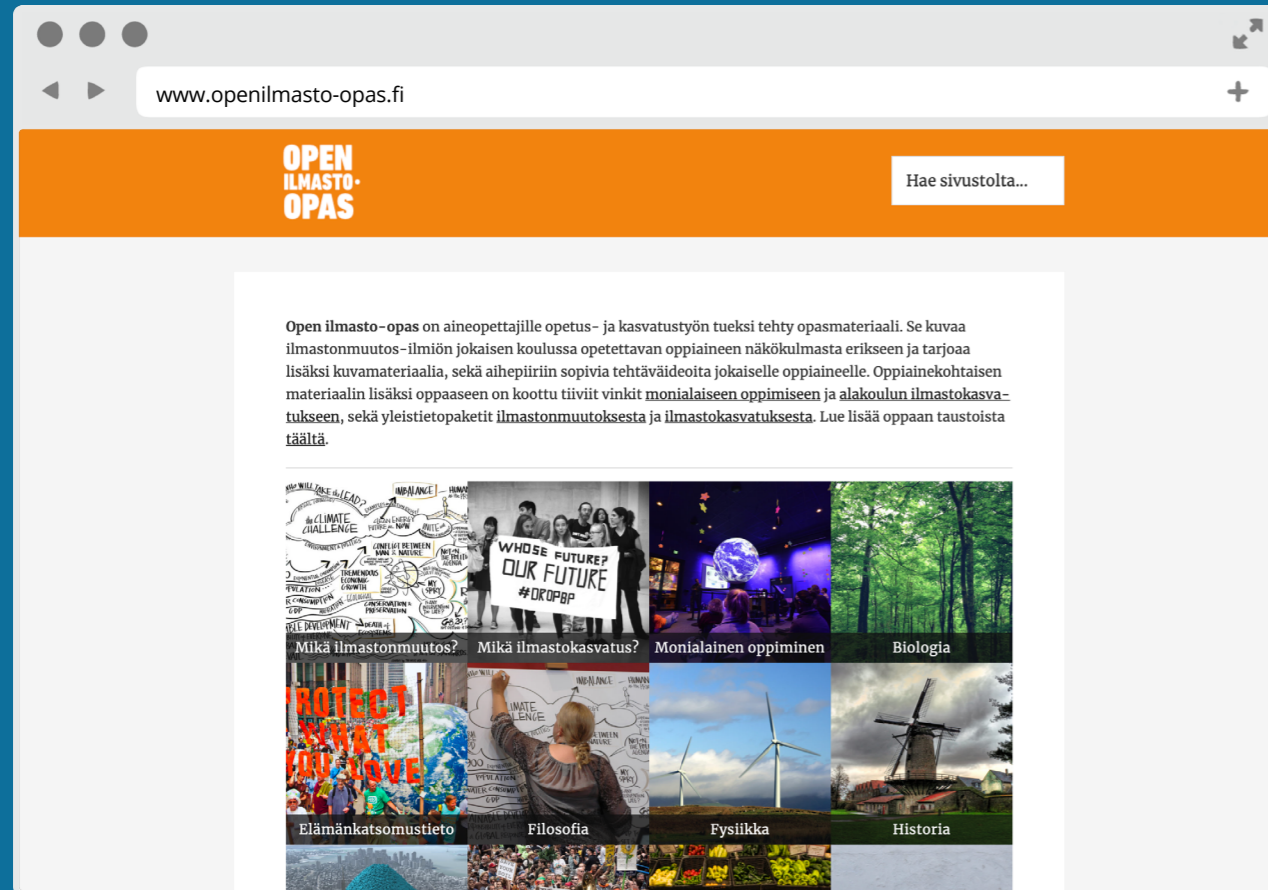
In our research, we often found teachers to be engaged in small social media groups and local networks. The value contribution of the forum is therefore to provide the digital infrastructure to unite existing smaller networks of confident teachers, with the many scattered hesitant teachers, in one common online space.

## BUILDING ON EXISTING PLATFORMS

There is no need to build this Climate Educators Online Platform from scratch. Instead, we suggest building on existing online platforms, unifying them into one platform and adding the aforementioned enhancements. The 'Teacher's Climate Guide' aka. Open Ilmasto-Opas ([openilmasto-opas.fi](http://openilmasto-opas.fi)) and the material database Mappa.fi ([mappa.fi](http://mappa.fi)) can be excellent building blocks for our proposed improved platform.

On one hand, Open Ilmasto-Opas primarily provides rich and subject-specific information on climate education for teachers.

On the other hand, Mappa.fi gives access to a large selection of climate education resources. Combined as they are, these already provide a good starting point for teachers to get familiar with climate education and find resources for their lessons. However, these platforms are not as easy to use and present a relatively high barrier to inexperienced teachers trying to find the right information and materials. Therefore we recommend incorporating a step-by-step guide, stronger curation of materials, and a forum to facilitate a social network in the new platform.



### What is already there:

- ✓ rich information
- ✓ subject insight
- ✓ material

### What is missing:

- ✗ step-by-step guide
- ✗ material curation
- ✗ teacher network

## CLIMATE EDUCATORS NETWORK

The final part of our proposal, the Climate Educators Network, sits at the core of our vision for boosting climate education in Finland. It is for this reason that our proposal is also named after it. While the first two parts provide concrete resources that make climate education easier and more attractive for initially hesitant teachers, the third part harnesses the power of peer-to-peer learning and collective action.

Virtual connections between teachers forged through the online platform should be solidified into a professional and social network of climate educators. The organisation of regular in-person events, and communication of updates on community happenings can unite the network, facilitating organic interactions, knowledge sharing and collaboration.

Through the network, the efforts and influence of confident teachers elevates the formerly hesitant teachers' individual

dedication into collective behavior. The network creates a pool of teachers eager to lead or take part in future co-creation processes, to continually revise and enhance future curriculums. Previously limited knowledge is enriched, and contributes to a continuous reimagining of climate education. Over time, this engaged network of active climate educators can evolve into a powerful community of practice, which sustains pressure from within the Finnish education system for continuing to advance climate education in the long run.

### Climate Educators Network



### TAKEN TOGETHER, THE THREE PARTS OF OUR PROPOSAL BOOSTS CLIMATE EDUCATION IN SEVERAL WAYS:

1

Firstly, Hesitant Teachers are **NUDGED** to start climate education, as it is made easy and more attractive through a concrete toolkit in the form of the Conversation Starter Kit, as well as an online hub to access further resources and connections.

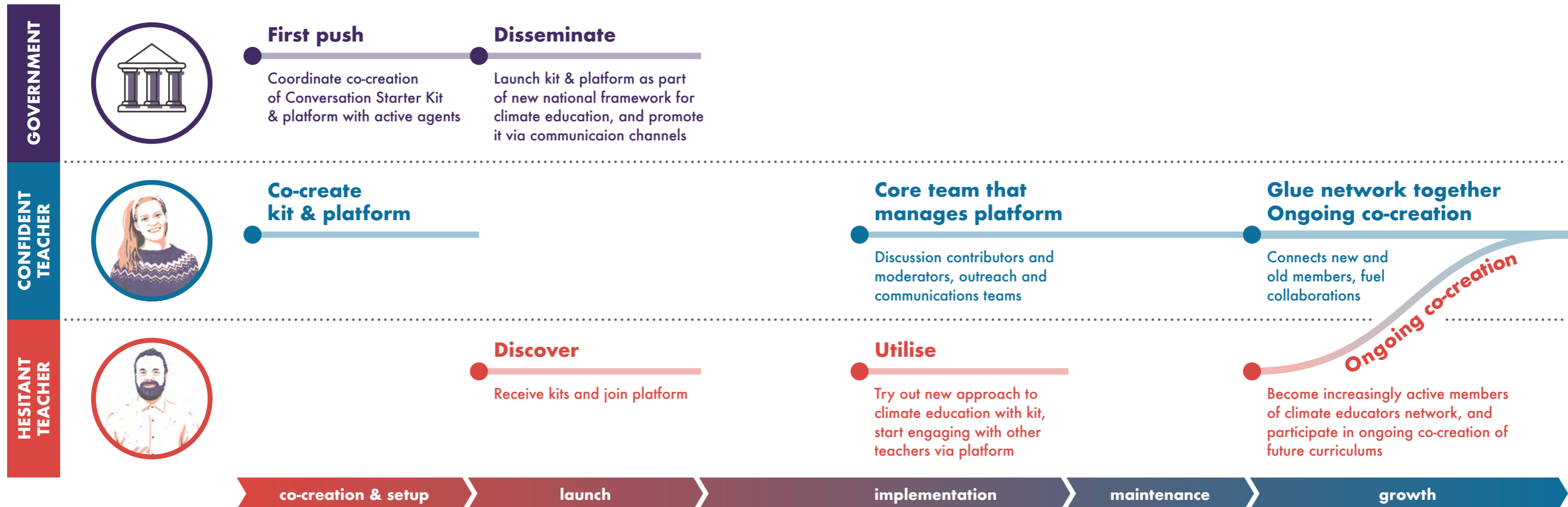
2

Secondly, the interactive online platform **CONNECTS** confident and hesitant teachers as an influential network of climate educators, fuelling peer-to-peer sharing of knowledge and experiences.

3

Finally, the growing pool of confident teachers is involved in **CO-PRODUCING** the kit, platform, and future curriculums, enriching the creation of any new tools or resources with teachers' domain expertise.

# ROADMAP



The roadmap for the realisation of our proposal can be broken down into five phases – (1) Co-creation and setup, (2) Launch, (3) Implementation, (4) Maintenance, (5) Growth, and will involve actions by the government, confident teachers, and hesitant teachers at different points.

In the initial Setup phase, the government creates a first push by coordinating and facilitating the co-creation of the Conversation Starter Kit and Climate Educators Online Platform. As the governmental body that works most closely with schools, principals, and teachers, Opetushallitus has the legitimacy, connections and resources

needed to bring together active teachers, who have already been championing climate education, to co-create this new tool and platform. Beyond relying on these teachers’ enthusiasm to advance climate education, we recommend that they receive some amount of financial remuneration for sharing their time and expertise. The exact value of the reward should be determined by Opetushallitus, based on what is considered fair compensation for these teachers’ extra contributions beyond regular teaching work.

In the Launch phase, Opetushallitus also disseminates the kits and invitations to join

the platform to teachers. Through the wide communication channels Opetushallitus has with schools, principals and teachers, it can help as many Hesitant Teachers discover these new tools as possible. Teachers who receive the kit begin using it to kickstart climate education in their classrooms, while joining the platform to access more resources and connections to other teachers.

After launch, the Confident Teachers who had been involved in the initial setup continue to form the core team that manages and maintains the online platform, as content contributors, discussion

moderators, outreach and communications responsables. As the network of climate educators grows, this pioneering group of Confident Teachers remain pivotal. As the glue between old and new members, they bridge connections and facilitate ongoing co-creation efforts to continually advance climate education. As the formerly Hesitant Teachers become more and more engaged in the climate education movement, they too take on increasingly active roles within the network, and contribute to the development of future curriculums with their peers.



# Next steps

The urgency of tackling climate change compelled us to design and present our proposal in a way that makes it concrete, and feasible for implementation in the immediate term. Nevertheless, it is still worth suggesting some future directions we envision for it in the longer term.

If the Climate Educators Online Platform proves successful, it can be made scalable, expanding into other education areas like democracy and social or natural sciences education. As the network of climate educators grows, strong leadership from within by an active core, with the support of other members could make the network

powerful enough to reshape how education policy and curriculums are created in Finland. While our present proposal frames it as the government's role to provide a first push, they are merely laying the groundwork for greater decentralization and direct participation from teachers in future.

## POSSIBLE FUTURE DIRECTIONS:

1

*The platform can be made scalable, expanding into other areas like democracy or social and natural sciences education.*

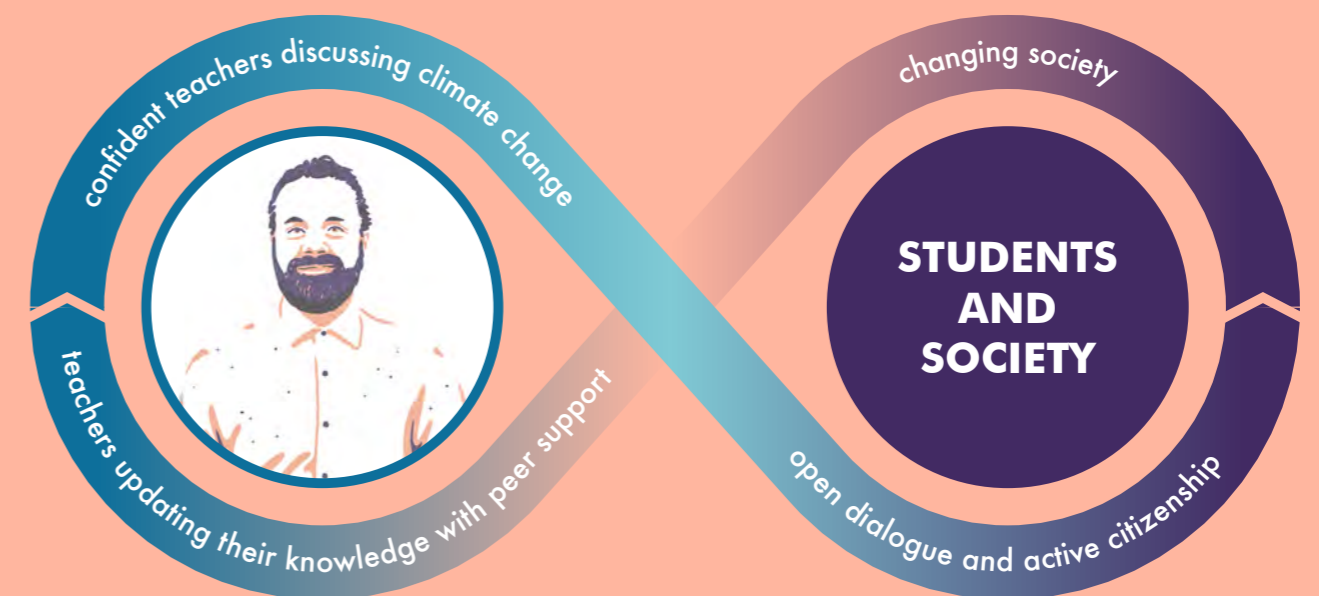
2

*The network can grow to be powerful enough to reshape how education policy, materials and curriculums are created in future, towards greater decentralization and participation from teachers.*

# Conclusion

From the beginning of this report, our research insights showed that Finland already has many conditions which put it in a good position to boost climate education. It has a small pool of teachers who have been actively leading climate education work, albeit through mostly discrete and uncoordinated efforts. Most other teachers also believe in the need for climate education, even if they do not yet feel confident doing it themselves. There is also an abundance of climate education resources already developed by experts specifically for Finland's context.

Our proposal acknowledges these existing strengths, and seeks to unite and direct them towards a common goal. By providing the tools and platforms that make climate education easy and attractive for teachers, we can ensure that as many students are touched by and benefit from it. The growing network of confident teachers drives a rich and forward-looking climate education, which moulds students to grow into influential adults who consider the urgency of tackling climate change when making their private and professional decisions. Collectively, this next generation of increasingly climate-active citizens fuels a culture of open dialogue and active citizenship on climate issues in Finnish civil society.



*Climate educators network drives a richer, more forward-looking climate education, shaping this generation of students into climate-active citizens of the future.*

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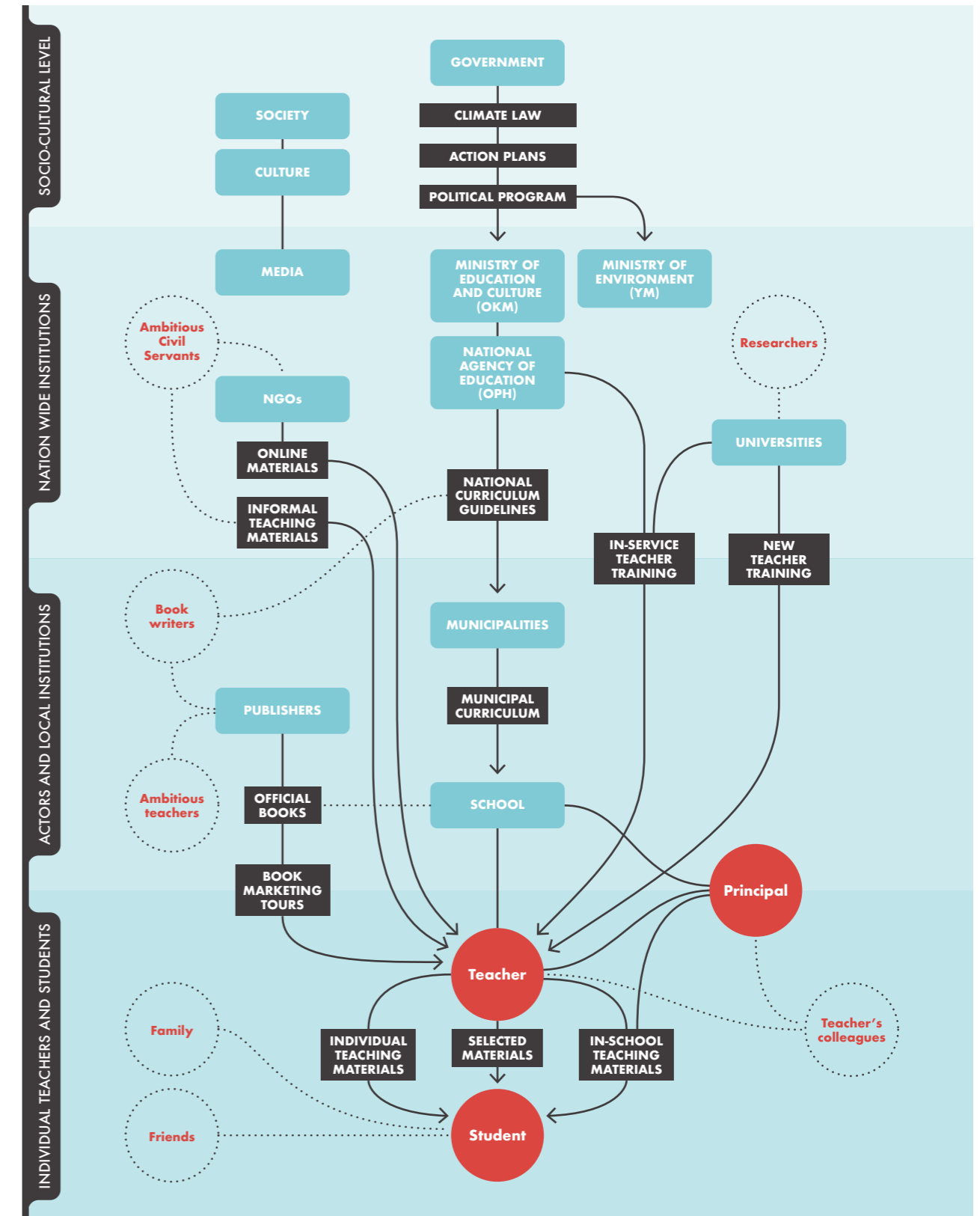
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# APPENDIXES

## Detailed System Map



## Intervention Map & Ideation

		UPSTREAM IN POLICY MAKING		DOWNSTREAM IN POLICY MAKING	
Styles of government intervention*		Early stage intervention	Framing, piloting and market forming	Scaling, mainstreaming and market building	Acting in mature markets and policy ecosystems
Government as a... LOW LEVEL OF INTERVENTION (SOFT POWER) HIGH LEVEL OF INTERVENTION (HARD POWER)	Steward	<b>Champion</b> Build a case for change and alliances for action. ●	<b>Convening power</b> Applying government's convening power to draw together expertise.	<b>Connecting networks</b> Fostering a nexus where government, experts and citizens can co-create change.	<b>Co-producing</b> Co-deliver by steering different actors from across the system to deliver outcomes. ●●●
	Leader	<b>Agenda setting</b> Build awareness and confidence in new opportunities by providing thought leadership.	<b>Strategy and skills planning</b> Prepare for changing workforce demands and consequences of change.	<b>Educating and informing</b> Ensure regulation is sufficiently agile and permissive to enable innovation.	<b>Collaborating</b> Providing platforms for citizens to protect vested rights and interests.
	Customer	<b>Catalyst</b> Review, identify and prioritise key opportunities with strategic value.	<b>Standard setting</b> Develop standards for data collection and presentation.	<b>Intelligent customer</b> Utilise public procurement to encourage investment and innovation.	<b>Consumer, and supply-chain, protection</b> Protection of consumer rights and upholding of standards.
	Provider	<b>Innovator</b> Create test beds, sandboxes and trials in real world settings.	<b>Reformer</b> Establish legitimacy, harnessing political will for change. ●●	<b>Service provider</b> Provide services directly or indirectly through funding and target setting. ●●	<b>Choice architect</b> 'Nudging' behaviour so that the default is both attractive and easy. ●●●
	Funder	<b>Early adopter</b> Explore, experiment and trial new opportunities with strategic value.	<b>Fiscal incentives</b> Direct finance to stimulate new thinking that can drive future opportunities. ●●●	<b>Grants and subsidies</b> Incentivise behaviour change through grants or other incentives. ●●●	<b>Platform provision</b> Scale up proven ideas through existing infrastructure and public services. ●●
	Regulator	<b>Encourage voluntary codes</b> Self-regulation, without legislating, allowing for greater flexibility.	<b>Governance</b> Ensure regulation supports the conditions for change and delivers the policy intent.	<b>Building regulatory environment</b> Ensure regulation enables the intended policy outcomes. ●	<b>Compliance</b> Support enforcement and harmonise regulatory compliance environment. ●
	Legislator	<b>Green papers</b> Publish proposals for discussion with stakeholders and the public.	<b>White papers &amp; draft bills</b> Publish proposals for consultation and pre-legislative scrutiny.	<b>Primary and Secondary Law</b> Support a bill through parliament and enact legislation.	<b>Amend rules</b> Statutory Instruments: rules, orders, created by delegated authorities (e.g. Secretary of State).

\*framework from the "Government as a System" toolkit by the UK Policy Lab

Other ideas we initially came up with while developing our proposal:

### QUESTION

**How may we help "hesitant" teachers to carry out CE?**

### Champion

Enabling students to insert CE into the agenda, because teachers are already keen to learn.

### Co-producing

Nominate 1-2 CE teacher-ambassadors per school to participate in free training program. Afterwards, they go back to their schools and mentor other hesitant teachers.

Hesitant teachers experience a CE lesson (taught by an experienced teacher) "as students". Afterwards, they co-create ways to adapt/improve the lesson they went through.

Foster campaigning by/through leading CE teachers.

### Reformer

Establishing a "new type" of CE on governmental level: concession towards active citizenship.

Formulate general, non-political guidelines and teaching objectives (such as when teaching ICT skills).

### Service Provider

Create Website "CE for Dummies".

CE101 Toolkit.

### Choice Architect

Create a conversation Starter Kit handed to every teacher & link to further sources/network.

Enable personal (emotional) connections to CE (hobbies, live events).

Making CE benefiting to daily life activities or other school activities.

### Grants and Subsidies

Ministry to fund schools' initiatives for teacher training on CE via co-pay grants (50% subsidy).

Make attractive! CE 101 teacher trainings (excursion to north-pole... ;)

Awarding not only experts but also beginners.

### Platform Provision

Film and document example CE lessons conducted by experienced teachers, upload on open website.

A channel/network where enthusiastic teachers and experts could share their ideas to each other and to hesitant teachers.

### Building Regulatory Environment

Make CE training mandatory/part of 3 "veso" days per year that teachers need to take.

### Compliance

Reinforce communication of importance contributing to CE.



# Contact information

## Paula Ikonen

paula@ikonen.fi  
+358 40 0621899

## Aybars Senyildiz

aybarssenyildiz@gmail.com  
+358 46 6148130

## Zhiwen (Wen) Yap

zhiwenyap94@gmail.com  
+358 46 6806818

## Felix Zelck

dialog@felixzelck.de  
+49 1732323460

Design for Government  
course website:

**[dfg-course.aalto.fi](https://dfg-course.aalto.fi)**