

# Publizierbarer Endbericht

Gilt für Studien aus der Programmlinie Forschung

## A) Projektdaten

Allgemeines zum Projekt	
<b>Kurztitel:</b>	cli-MATES
<b>Langtitel:</b>	Exploring the role of social norms, self- and group-efficacy for mainstreaming climate action among young adults
<b>Zitiervorschlag:</b>	Chiari, S., Shaw, S., Doyle, J., Völler, S., Hezel, B. (2019): Exploring the role of social norms, self- and group-efficacy for mainstreaming climate action among young adults
<b>Programm inkl. Jahr:</b>	ACRP 9 <sup>th</sup> Call for Proposals (2016)
<b>Dauer:</b>	01.04.2017 bis 30.06.2019
<b>KoordinatorIn/ ProjekteinreicherIn:</b>	University of Natural Resources and Life Sciences, Vienna, Centre for Global Change and Sustainability (BOKU gWN)
<b>Kontaktperson Name:</b>	Dr. Sybille Chiari
<b>Kontaktperson Adresse:</b>	Peter-Jordan-Straße 76/I
<b>Kontaktperson Telefon:</b>	0680/2138498
<b>Kontaktperson E-Mail:</b>	Sybille.Chiari@boku.ac.at
<b>Projekt- und KooperationspartnerIn (inkl. Bundesland):</b>	Environment Agency Austria / Wien / AT Climate Outreach / UK University of Brighton / UK Climate Media Factory / DE
<b>Schlagwörter:</b>	Climate communication, social norms, group efficacy, peer influence, climate activism, co-design
<b>Projektgesamtkosten:</b>	249.660 €
<b>Fördersumme:</b>	249.660 €
<b>Klimafonds-Nr:</b>	B670280
<b>Erstellt am:</b>	29.09.2019

## B) Projektübersicht

### 1 Kurzfassung

#### Motivation des Projekts

Die zukünftigen Spielräume junger Menschen werden ganz maßgeblich davon beeinflusst, wie Klimaschutz heute betrieben wird. Aus den Ergebnissen des Vorprojekt AUTreach schälten sich verschiedene Aspekte heraus, die für das Klimabewusstsein und Engagement jungen Menschen besonders relevant sind, z.B. soziale Faktoren.

Vor dem Hintergrund, dass gerade junge Menschen in enger Interaktion mit Freunden und Altersgenossen handeln, erscheint es wichtig die Rolle sozialer Normen, Selbstwirksamkeit und Gruppenwirksamkeit genauer unter die Lupe zu nehmen um Klimaengagement in dieser Altersgruppe zur Breitenwirksamkeit zu verhelfen.

Ziele des Projekts cli-MATES

- neue Erkenntnisse über die Rolle sozialer Normen und über Einflüsse seitens Gleichaltriger generieren
- Erkenntnisse zu fördernden und hemmenden Faktoren vertiefen
- Wirkung eines Co-design Prozesses auf junge Erwachsene untersuchen
- kreative Klimakommunikationsformate in Co-design Prozess entwickeln

#### Projekt Struktur und Methode

Der inter- und transdisziplinäre Forschungsansatz richtete sich dabei an junge Erwachsene im Alter von 18 bis 29 Jahren, die sich in der Phase der "emerging adulthood" (des entstehenden Erwachsenseins) befinden (siehe Arnett 2014). Eine Literaturrecherche wurde durchgeführt, um Treiber und Barrieren für junges Klima-Engagement zu identifizieren, wobei der Schwerpunkt auf dem sozialen Kontext lag. Im nächsten Schritt wurden 33 qualitative Interviews mit jungen erwachsenen Klima-AktivistInnen aus elf Ländern weltweit (WP2) durchgeführt. Die Umfrage untersuchte welche Rolle soziale Faktoren wie soziale Normen, Selbst- und Gruppenwirksamkeit, die Inspiration durch Gleichaltrige aber auch Bildung auf dem Weg hin zum Klimaaktivismus spielen.

Darüber hinaus wurde ein fünftägiges "Climate Action Retreat" (WP3) mit 20 jungen Erwachsenen abgehalten, die unterschiedlich weit sind auf ihrem Weg des Klimaaktivismus (beginnend bis sehr erfahren). Durch eine Pre-Post-Evaluierung wurde erfasst welche Wirkung und Inspirationseffekte durch die Interaktion mit gleichaltrigen Klimaaktivisten entstehen können.

Mit dem Retreat wurde ein Co-Design-Prozess gestartet, um neue Klimamedienformate für diese Zielgruppe zu entwickeln. Nach dem ‚Retreat‘ wurde der Co-Design-Prozess im virtuellen Raum fortgesetzt, um die Entwürfe der neuen Klimamedienformate (WP4) weiterzuentwickeln, vorab zu testen und professionell umzusetzen.

#### Ergebnisse und Schlussfolgerungen des Projekts

Die erste Interviewreihe (WP2) zeigte, dass die meisten Befragten in der westlichen Welt einen jahrelangen Prozess hin zum Klimaengagement durchlaufen haben, der mit kleineren Momenten des Erwachsenseins (z.B. durch Dokumentationen, Veranstaltungen, Begegnungen mit Vorbildern) gesät ist. Einige der Befragten jenen Weltregionen, die besonders betroffen von den Auswirkungen des Klimawandels sind (z.B. Pazifische Inseln, Karibik, Indonesien, Afrika), hatten durch aufrüttelnde direkte Erfahrungen mit Folgen von Klimawandel und Umweltzerstörung Abkürzungen auf dem Weg zum Klimaaktivismus genommen (z.B. Hurrikane, Meeresspiegelanstieg, Ölpest usw.).

Ein Thema, das sich als vorherrschendes Motiv für Klimaaktivismus herausstellte und vor allem von Befragten in Österreich und anderen europäischen Ländern besonders betont wurde, war der Begriff der Gerechtigkeit. Klassische "Umwelt"-Motive wie z.B. der Schutz von Wildtieren oder der Natur wurden von sozialen Motiven wie z.B. der Klimagerechtigkeit häufig übertroffen bzw. abgelöst.

Bevor sie die Befragten klimaaktivistisch tätig wurden (z.B. Beitritt zu NGOs, Kampagnen etc.) engagierten sie sich vor allem im globalen Norden durch die Wahl klimabewusster Lebensstile. Diese individuellen klimafreundlichen Alltagsentscheidungen fungierten fast immer als Vorläufer oder Sprungbrett für Klimaaktivismus.

Diese Studie zeigt auf, dass Klimaaktivismus bislang ein Nischenverhalten einer gut ausgebildeten, sozialen (Mittel-)Klasse weltweit war. Mit einer Ausnahme hatten alle an diesem Projekt beteiligten jungen Menschen einen akademischen Hintergrund. Während die meisten von ihnen ihr Schulleben nicht als prägend für ihre Wege zum Klima-Engagement bezeichneten, ebneten der Auszug aus dem Elternhaus, der Studienbeginn, der Austausch mit inspirierenden Mitstudierenden und die Übernahme neuer sozialer Normen innerhalb dieses neuen Sozietops schließlich den Weg hin zum Klimaaktivismus.

Die Ergebnisse deuten darauf hin, dass der Einfluss von Eltern und umweltfreundlichen Familienhintergründen im Vergleich zu anderen Studien weniger stark ausgeprägt war. Die überwiegende Mehrheit der Interviewten berichtete jedoch, dass sie sich auf ein wohlwollendes soziales Netzwerk von Familien oder Gleichaltrigen verlassen können, das ihr Engagement unterstützt. Darüber hinaus hat der Austausch mit, das Hören oder Lesen von inspirierenden Menschen und Gleichgesinnten den Wunsch junger Menschen, sich mit dem Klimawandel auseinanderzusetzen, erheblich gefördert. Deutlich wurde, dass soziale Beziehungen zu Gleichaltrigen in den meisten Fällen eine Schlüsselrolle auf dem Weg zum Klimaaktivismus spielten.

Die Ergebnisse des Climate-Action Retreats (WP3) untermauern weiter das Potenzial der gegenseitigen Inspiration Gleichaltriger, wenn es darum geht die Begeisterung für Klimaschutz bei anderen zu wecken. Die TeilnehmerInnen gaben an, sich zutiefst von den anderen TeilnehmerInnen inspiriert zu fühlen, einerseits durch Aktionen und Kampagnen an welchen andere beteiligt waren (z.B. Protest gegen Braunkohle, Kampagnen zur Rettung des Ozeans), aber auch durch die Tatsache, dass andere TeilnehmerInnen einen ganz anderen Herangehensweise an den Klimaaktivismus hatten und dabei dennoch das gleiche Ziel (Dekarbonisierung der Welt) anstrebten.

Die Projektergebnisse und die Erfahrungen aus dem Climate-Action-Retreat zeigten, dass es neben der Begeisterung junger Menschen für den Klimaschutz auch viel Frustration, Erschöpfung und emotionalen Stress gibt. Das Öffnen von Vertrauensräumen (wie dem während des Climate Action Retreats abgehaltenen "truth circle" nach Joanna Macey), bietet die Möglichkeit Emotionen mit Gleichaltrigen zu teilen. Diese Erfahrung wurde von den Teilnehmenden im Nachhinein besonders hervorhoben und als durchwegs positiv und stärkend beschrieben.

Die Resilienz junger, engagierter Menschen zu stärken, zeichnet sich als entscheidende Herausforderung ab, wenn es darum geht das Momentum der globalen Jugendklimabewegung langfristig auf hohem Niveau halten zu können.

## **Ausblick**

Die Ergebnisse dieses Projekts könnten vor dem Hintergrund des derzeit rasanten Anstiegs der Jugendklimabewegung weltweit besonders relevant sein. Daher wird die Verbreitung der Projektergebnisse auch nach Abschluss des Projekts fortgesetzt, wobei darauf aufbauende Folgeaktivitäten geplant sind. Die Projektergebnisse werden online über die Website <http://www.climates.boku.ac.at> sowie über Newsletter und Websites der Projektpartner zur Verfügung gestellt.

## 2 Executive Summary

### Motivation of the project

The future of young people will strongly depend on climate action taken today. Within the pre-project AUTreach we already shed light on drivers and barriers relevant in the context of communicating climate issues towards young audiences, pointing at the particular role peer influence and social factors could play to engage wider audiences with climate engagement.

Given the fact that young people act in close interaction and comparison with their peers, it is essential to clarify the role of social norms, self-efficacy and group-efficacy for mainstreaming young climate action. Taking this angle, the project cli-MATES aims to:

- learn more about the role of social norms and peer influence for youth climate action
- deepen scientific insights about beneficial and hindering factors
- evaluate the impact of a co-design process on young adults with regard to peer influence and empowerment for taking climate action
- and develop new creative communication formats in a co-design process

### Project structure and methodology

Choosing an inter- and transdisciplinary research approach the project targeted young adults aged 18 to 29 undergoing the phase of 'emerging adulthood' (see Arnett 2014). A literature review was conducted to identify drivers and barriers for young climate engagement with an emphasis set upon the social context. In the next step, 33 qualitative interviews were carried out with young adult climate leaders from 11 countries world (WP2). The survey explored the role of social factors for climate engagement pathways along the themes of social norms, efficacy, role models, peer inspiration and education. Further a five-day 'Climate Action Retreat' (WP3) was hosted, to observe and evaluate the impacts of peer-inspiration through a pre-post-evaluation carried out among the 20 young adult participants, that represented different levels of climate engagement. A co-design process was kicked off with the retreat, to develop new climate media formats to foster collective climate action. After the retreat, the co-design process was continued in the virtual sphere to further develop, pre-test and professionally implement the drafts of new climate media formats (WP4).

### Results and conclusions of the project

#### Pathways towards climate action

The first interview series (WP2) showed, that in the western world most interviewees underwent a yearlong process of awakening to climate action paved with several smaller moments of realisation (e.g. through documentaries, events, encounters with role-models). Whereas, some of the interviewees from regions that are particularly vulnerable to climate change impacts (e.g. Pacific islands, Caribbean, Indonesia, Africa) had taken shortcuts towards climate action after experiencing environmental degradation or climate change impacts (e.g. hurricanes, sea-level-rise, oil spill etc.).

One theme that emerged as predominant motive for taking climate action stressed by interviewees in Austria and other European countries was the notion of justice. Classical 'environmental' motives e.g. protecting wildlife or nature were outweighed by the predominance of social motives e.g. climate justice.

Particularly in the global North young people engaged with climate conscious lifestyle choices before engaging with collective climate action (e.g. joining NGOs, campaigns etc.) – these individual choices obviously act as precursor and springboard for climate action.

### The role of education

This study adds to the growing body of evidence that points at climate activism being a niche behaviour of a well-educated, social (middle) class worldwide. With one exception, all of the young people involved in this project had an academic background. While most of them did not describe their school life as formative to their pathways towards climate engagement, leaving home, entering academia, exchanging with inspiring peers and adopting new social norms within this new social surrounding finally led to climate action.

### The role of social norms, peer influence and role models

The results suggest that the influence of parents and pro-environmental family backgrounds was less pronounced compared to other studies in this field. However, the vast majority of interviews reported to rely on a rather benevolent social network of family or peers that support their engagement. What is more, exchanging with, listening to or reading from inspiring persons and peers considerably nurtured young people's wish to engage with climate change. Most evidently, social relationships with peers -mostly peers who were already involved in the climate movement - played a key role in most cases on the pathway towards climate action.

The observation and post-evaluation of the climate action retreat (WP3) underpinned the potential of peer inspiration to kindle enthusiasm for climate action in other peers. According to the retreat participants, the key take away from this intervention was that they felt deeply inspired by the fellow participants they met. Inspiration was drawn from climate action other fellows' involved with (e.g. protest against lignite, campaigns to save the ocean) but also from the fact that some of the fellows took a completely different angle to approach climate action, yet aiming at the same goal of a decarbonised world.

### Maintaining the momentum of youth climate action

The project results and the experiences gained through the climate action retreat revealed, that besides all the enthusiasm of young people involved in climate action, there is also a lot of fatigue, exhaust and emotional stress they have to cope with. Opening up safe spaces of trust to share emotions with peers might help to cope with negative feelings and impacts. As part of the retreat a "truth circle" (after Joanna Macey) was held in order to open up such a space. In the post-evaluation the participants described the experience as "unique", "excellent", "empowering", "cathartic", "inspiring" or expressed they felt "understood in a different way".

Increasing and maintaining young people's resilience emerged as crucial challenge with regard to maintaining the momentum of the global youth climate action movement.

### **Outlook**

The outcomes of this project might be particularly relevant against the background of the current rapid rise of the youth climate movement worldwide. Hence, the dissemination of the project will be continued also after the reporting period, with a variety of future follow-up activities and projects planned. The project outcomes are made available online, using the website <http://www.climates.boku.ac.at> as well as newsletters and websites of the project partners.

### 3 Project motivation and objectives

The future of young people will strongly depend on climate action taken today. However, necessary deep behavioural transformations that are needed to limit global warming well below +2°C as adhered to with the Paris Agreement (UN-FCCC 2015) did not yet occur, not even in the age group most concerned by the consequences of climate change – young people. Within the pre-project AUTreach (ACRP 6<sup>th</sup> call) we already shed light on drivers and barriers relevant in the context of communicating climate issues towards young audiences, tested existing climate communication formats together with young people and captured their perspective on what specifies effective climate messages and target group-oriented media choices (Corner et al. 2015, Chiari et al. 2016).

However, most climate communication methods and formats clearly aim at individualistic messages and behaviour changes and somewhat neglect the fact, that young people act in close interaction and comparison with their peers and that youth climate action clearly does not occur in a social vacuum. With this project we aimed to shed more light on the social context of taking climate action and climate communication respectively.

#### **Overall project aim**

The project aims to clarify the role of social norms, self-efficacy, peer inspiration and group efficacy in mainstreaming climate action among young adults.

#### **Sub-aims**

- Explore and deepen scientific insights about beneficial and hindering factors for taking collective climate action
- Analyse the role of social norms, self-efficacy, peer inspiration and group efficacy among young people engaged with existing climate action initiatives
- Derive implications for strengthening existing climate action initiatives and incubating new ones
- Organise a “co-design retreat” to develop new climate communication formats and methods (targeted at young adults that reflect the whole range between early journey and experienced climate activists)
- Evaluate the impact of the co-design process regarding empowerment and climate engagement
- Contribute to the diversification of young climate communication
- The overall research aims have been translated into research questions guiding the research process within WP2, 3, and 4:

#### **WP2 Investigate underlying mechanisms that drive collective climate action among young adults**

- Which general factors did the founders of such initiatives perceive as beneficial or hindering in the process of getting started and implementing their climate initiative?
- What are the core motivations and interests of the young adults taking over responsibility for climate action initiatives?
- Which role do they attribute to social norms, perceived self-efficacy and group efficacy regarding their own history of getting vocal and active about climate issues?

### **WP3 Evaluating the effect of a one-week climate co-design retreat on young adults using pre-post assessment**

- Which social norms limit or foster climate action within the sub-groups of early journey, in-between and experienced climate activists?
- What is the impact of a one-week co-design intervention on these sub-groups involved, particularly with regard to their perceived self-efficacy and group efficacy?
- What do social comparison and peer-to-peer interaction contribute to this impact?

### **WP4 Participatory pre-testing and professional implementation of co-designed climate communication formats**

- How are co-designed climate communication formats perceived by young adults not yet engaged in climate activism?
- Which messages, media and designs work for not yet engaged young adults?
- What are the lessons learnt from the co-design process - from the scientific perspective and from the participants' perspective? (e.g. regarding the quality and potential outreach of specific co-created climate media products, or of the dialogic collaboration process)?

## 4 Project content and results

The project results have been disseminated through scientific publications that are currently still under review. In the following we provide a rough overview on the key findings, described in depth in the publications (Chiari et al. under review, Shaw et al. under review, Doyle et al. under review).

### 4.1 Results from the literature review (WP2)

Although the following results refer to the specific age group of 18-29year old young adults, it is important to note, that there can be great variation in the engagement with climate change mitigation even inside a limited age range (Korkala et al. 2014).

#### Defining and framing youth climate action

Emmons (1997) defined environmental action as a deliberate strategy involving decisions, planning, implementation and reflection by an individual or group that intends to achieve a specific environmental outcome.

It seems important to differentiate 'behaviour' from 'action', suggesting the term *action* to describe activities that are intentional or consciously undertaken with reference to motives and reasons. They argue that action is also targeted at solutions for the root causes of a problem, which makes it different from individual behaviour change (Reimer et al. 2014).

What is more, many young people perceive climate change as a moral or ethical issue (Flöttum et al. 2016, Mäkinemi & Vainio 2013, Markowitz E. 2012), which is often closely linked to (national or global) politics. However, many young people exhibit strong local and individualised tendencies in expressing politics. They are bounded by the 'micro-territories of the local'; that is, their political thinking and acting takes place within the spaces of home, friendship groups, school and neighbourhood (Harris & Wyn 2009). Hence, campaigns tailored towards the social and geographical context to which young people relate and identify, increased their responsiveness (Adams & Gynnild 2013, Birmingham & Barton 2014).

#### The role of early nature and outdoor experiences

Positive experiences in nature and 'key outdoor moments' in childhood and adolescence have been linked to pro-environmental attitudes and behavior in later life (Buttigieg & Pace 2013, Degenhardt 2007, Arnold et al. 2009). Tanner (1980) tried to identify significant life experiences in conservation activists and leaders and claimed that youthful experience of outdoors and relatively pristine environments emerges as a dominant influence in these lives (see also Chawla; & Palmer 1993, Palmer et al. 1999).

The age-stability theory assumes that social and political attitudes are already strongly developed by the time young people finish secondary school (Alwin & Krosnick, 1991; Sears & Funk, 1999). Therefore, the shaping of pro-environmental attitudes during childhood seems closely linked to shaping behaviors in later life (Ballantyne et al. 2006; Chawla 1999; Meinhold & Malkus, 2005, Christensen & Knezek 2015).

## The role of social norms

Social norms are understood as accepted rules and expectations about how to behave within a social group or culture.

Parents' actions, views, and attitudes become a sort of descriptive social norm for how one should think and act (see Thøgersen 2006 Strandbu, Å., and K. Skogen. 2000). Descriptive social norms concern perceptions of what important others do or think, and have been found to be very influential important when it comes to explaining pro-environmental behavior (Cialdini 2007 Cialdini, R. B. 2007, Nolan et al. 2008, McCright & Dunlap.2011). A number of studies performed in different countries such as the United States, Denmark, Belgium, Austria, and Germany, have confirmed that the immediate family, foremost parents, matters when it comes to young people's general environmental attitudes and concerns as well as pro-environmental behavior (Allen et al. 2013, Grønhøj & Thøgersen 2009).

During adolescence, peer influence becomes more and more important. Communicating and interacting with peers seem to influence young people's relation to both climate change and other environmental issues (Öhman & Öhman 2013, Senbel et al. 2014). As such, peer networks and social media are important sources of information on climate change for young people (Corner & Roberts, 2014). Communicating about climate change in an online community, seemed to enable young people to develop a sophisticated and complex conversation around this issues (Stevenson et al. 2016)

Overall, however, parental influence remains strongest determinant for young people's sense of concern about climate change (Geiger & Swim, 2016).

## The role of education and class

Class emerged as another determinant for pro-environmental attitudes, as young people with less power in society are also less environmentally interested (Ojala 2015, Skogen 1999). In addition, Bynner and colleagues (2003) found a significant positive relation between environmentalism and tolerance toward immigrants and gender equality in a group of British youth, giving further support to a connection between attitudes toward the environment and tolerance.

## The role of self-efficacy

Several other youth studies pointed at the relevance of self-efficacy, which is often compromised by feeling powerlessness and not able bring about change (Thielking & Moore, 2001, Ojala, 2012). This low sense of efficacy might be also rooted in young people's feelings of political and economic powerlessness (Ballantyne et al. 2016).

Individuals with an internal locus of control are more likely to engage in pro-environmental behaviours (Hines et al., 1987; Smith-Sebasto & Fortner, 1994; Hwang et al., 2000; Bamberg & Moser, 2007). Self-efficacy seems crucial for both pro-environmental behavior change and collective youth climate action (Chiari et al. under review, Buttieg et al. 2013, Devine-Wright et al. 2004, Fielding & Head 2012, Mead et al. 2012, Payne 2005).

## 4.2 Results of the interview series (WP2)

In a second step, the pathways of 33 climate young adults engaged with collective climate action worldwide (e.g. founders or leaders of climate initiatives) have been tracked back to investigate key influences and potential transformative moments (Chiari et al., under review). It seems important to note that the interviews had been carried out from Aug to Dec 2017, roughly one year before the global school strikes began.

The following characteristics for climate action pathways could be derived from the data of the qualitative interviews:

Among the core motives to enter the pathways of climate action the notion of injustice was predominant, particularly among young adults living in industrialized countries. Motives related to justice and social issues outweighed motives that were related to the love of nature or animals in general.

Most interviewees, particularly those living in the Northern Hemisphere, described their way towards climate activism not as a sudden change triggered by a strong transformative experience, but rather as a year-long process paved with small moments of realisation. Along this way both media (e.g. specific documentaries) and inspiring people and role-models played an affirmative role.

Only view interviewees reported on shortcuts they took towards climate action, triggered by directly experiencing loss or damage that was somehow related to climate change issues e.g. hurricanes, clear-cut of rainforests, oil spill, heat waves. (Chiari et al. under review)

The role of parents seemed to vary. About one third of the interviewees described their family background overall as pro-environmental. Besides that, 7 interviewees reported on imbalances within their family regarding pro-environmental worldviews, where mostly mothers held stronger pro-environmental worldviews. However, the vast majority of interviewees stated, that their decision to engage with climate change is independent of benevolent

parental attitudes. However, the support of family and friends was much valued and appreciated. (Chiari et al. under review)

The findings suggest that peer influence and inspiration is the key determinant to trigger and maintain climate action among young adults. Many interviewees were helped along by influential peers, that were already involved in collective climate action (e.g. climate action campaigns, environmental clubs, NGOs, start-ups or other organisations).

Further, most interviewees stated, that climate change was not a big issue during their school time. Most felt it was either not (really) part of their curriculum, or just picked up if their teachers were interested in the issue. Only two interviewees out of 33 reported that their time at school contributed to their pathway towards climate action. (Chiari et al. under review)

Although most interviewees reported on a latent interest in climate issues earlier on in their teenage years, most of them did not adopt a climate activist identity before entering academia. Through the specific surrounding provided by student life, through inspiring activist student peers, new social norms and novel insights provided through their study courses they finally ended up joining (or founding) climate action campaigns. (Chiari et al. under review)

Speaking to potential barriers toward climate action, most interviews pointed at the following themes: lack of self-efficacy, lack of tangible / realistic goals and disengaging framings dominating climate communication (loss frames or over-moralizing frames).

(please see Chiari et al. under review for more details)

## 4.3 Impact of one-week intervention (“Climate Action Retreat” / WP3)

Whereas the results in WP2 represent climate activist pathways of experienced climate leaders only, the 20 young adults engaged in the co-design process represented the whole range from early journey to very experienced climate activists. (More details on the summarised results below are found in Doyle et al., in prep.)

### 4.3.1 Retreat as transformative experience

Most participants talked rather enthusiastically about the experiences they gained during the Climate Action Retreat. Participants valued the holistic approach (comprising co-design activities, science inputs, music, creative games, personal reflections etc.). Many described it as an (unexpectedly) emotional experience and felt a space was opened to connect with others on a really deep level. In line with this, many participants stated to have made new friendships. Many of the interviewees mentioned that the setting of St. Gilgen contributed to the experience (“really amazing, magical setting”).

### 4.3.2 Impact of social norms and peer inspiration

All of the participants stated to feel much inspired by other peers they met at the retreat (Doyle et al., in prep.). The strongest sense of admiration was expressed around issues of courageous climate actions (e.g. protests actions, civil disobedience) or successful campaigns run by other participants.

Independent from their level of experience, many participants felt inspired by other participants' attitude, worldviews or philosophical thoughts on the transformation ahead. Several participants felt kindled by the enthusiasm of their fellows. In many cases peer inspiration seeded continuing, long-term friendships among the participants. (Doyle et al., in prep.).

### 4.3.3 Impact on self and group efficacy

Particularly when asked about their take-aways from the retreat, most participants reported about a changed sense of efficacy and felt a "boost" of confidence regarding the actions they take. Early journey participants felt more confident to be vocal on the issues and share content (in their surrounding, social networks etc.). But also some of the experienced participants reported on a higher confidence with regard to being more vocal about on their climate engagement outside their "bubble" of people, supporting their work.

*"So I think the difference it has made, is that the retreat has actually made me go outside the traditional climate change activisty people to try to talk to more and more different groups of people."* (quote of a participant, Doyle et al., in prep.)

Others linked the empowerment they gained to experiences of group-efficacy:

*"I felt empowered definitely and I think the whole community made us feel that we are not alone in this topic."* (quote of a participant, Doyle et al., in prep.)

More experienced activists expressed a sense of affirmation for the pathways they have taken in the past with climate action:

*"What the retreat helped was like encourage belief in the work I am doing."* (quote of a participant, Doyle et al., in prep.)

*"what I have done in recent years is somehow relevant, the experience and the knowledge that I have collected in recent years is somehow valuable or even asked."* (quote of a participant, Doyle et al., in prep.)

### 4.3.4 Sense of belonging and empowerment through group efficacy

Additionally, to their increased perception of group-efficacy, many participants reported after the retreat that they still feel a strong sense of belonging to the group. During the retreat they had agreed upon the group name 'St. Gilgen

Collective' and got connected via social media. The feeling of belonging to this collective was mentioned in several interviews.

Others felt they could easily catch up with everyone of the group again and perceived the others to be only one click or one phone call away from them. Staying connected via social media seems to play a key role in maintaining that sense of group identity. Most of the participants follow each other on facebook and/or Instagram.

### 4.3.5 Impact on behaviour choices

The participants all had a very high awareness of climate protection and climate-conscious lifestyles. An online survey among the participants on everyday behaviour (in climate-relevant fields) showed that low-carbon behaviour choices are already being implemented to an above-average extent before the retreat (regarding issues like mobility, food and diet and consumption). This was also observed with the group of early journey activists, where some took very conscious, climate-friendly lifestyles choices before the retreat (e.g. not eating meat, avoiding flying). This finding underpins the observation in WP2 (chapter 4.1.), that low-carbon lifestyle changes act as precursor for more ambitious, collective climate action.

#### Mobility

Before the retreat two of 20 participants owned a car, two were registered for car sharing. On the other hand, 15 participants owned a bike and three and registered for bike sharing. After the retreat six interviewees mentioned that the retreat had an influence on their travel behaviour and awareness. Some recently opted for the bus or train instead of a flight and/or the retreat changed their view on how to travel (in Europe). One interviewee stated that the retreat opened here mind to check for alternative travelling options, but there are still the difficulties of time and money. Two interviewees stated that the discussions about mobility and flying at the retreat did not change but reaffirmed their choice not to fly.

#### Food and diet

Most of the participants ate mostly vegan or vegetarian before the retreat (more than 80%). Five participants stated to eat less meat and more plant based (vegan) since the retreat. Some stated that they are now more convinced about the importance and one said that he is now talking more about the "climatarian diet".

All interviewees agreed with the statement of eating regional food, and the statement of buying seasonal food. Eating organic food and buying fair trade also had a very high approval. Buying organic and fair-trade food ranked slightly lower compared to the other criteria for food choices (regional, seasonal).

## Consumption

The pre-retreat questions on consumption revealed, that environmental consideration were particularly relevant when buying domestic needs, clothes and body care and cosmetics. When purchasing electronics, furniture and assurances/banking it was less of an issue for the participants. As most participants were already conscious consumers before the retreat, no significant changes of consumptions patterns could be observed.

### 4.3.6 Reflecting the design of the intervention

According to the participants the mixed program of the retreat opened up a safe, trustful and creative space for them, where they felt valued for what they wanted to contribute.

Particularly the early journey participants further mentioned to feel upskilled by the inputs and scientific updates provided by the project team at the retreat. Many of the participants referred to the team's suggestions for effective climate communication in the post-retreat-interviews and reported on how they tried to apply those suggestions (e.g. to use humour in a climate campaigns).

The experience that was reflected upon most frequently within the post-retreat-interviews was a truth circle (after Joanna Macey). 12 out of 20 participants explicitly talked about this experience, stating that they "personally really got a lot out of the truth circle", "felt understood in a different way" or perceived it as "definitely something unique, that went deeper" and felt amazed "to see everyone so open and vulnerable, yet so committed, that was inspiring" (Doyle et al., in prep.)

## 4.3. Pre-testing and implementation of new climate media formats (WP4)

The co-design process was kicked off on the third day of the retreat. Together the participants supported by the project team brainstormed on new ideas for climate communication formats.

Out of this process five thematic clusters emerged (low carbon travelling, free public transport, saving the oceans, reframing low-carbon lifestyles, global climate justice). After the retreat a voting process was set up to choose the three final formats that received funding. All 20 participants took part in this process. Additionally, a representative of the Austrian Youth-Environment Platform was invited to the voting process as external jury member. The following three projects have been selected:

- 1) Vojo – a low carbon travelling platform
- 2) Young humans of climate change (the former climate justice group)
- 3) No time to waste

In the following months the groups were co-designing the final production plans together with members from the project team and multi-media professionals.

The pre-test of the draft implementations of formats (workshop held on 1.4.2019 in Vienna) provided valuable feedback related to the design, the usability and potential uptake of the formats by the target group. The feedback collected informed the final implementation of the formats. Short project briefs of the three formats implemented are found below:

<b>Title:</b> Vojo
<b>Format:</b> animated video & web platform (vojo.me)
<b>Aim:</b> promote low-carbon travelling through an attractive, informative web-platform set up to expand into an inter-modal, low-carbon route planner
<b>Key message:</b> Alternatives to flying are not out of reach (budget- and time wise) for young adults
<b>Target group:</b> Concerned young adults at with an above average level of climate consciousness
<b>Media choice:</b> Animation video & website

<b>Title:</b> Young humans of climate change
<b>Format:</b> web platform (younghumansofclimatechange.com)
<b>Aim:</b> Use narratives of young climate leaders around the world to inspire followers
<b>Key message:</b> You can make a difference, you are not alone, others have done it before
<b>Target group:</b> concerned young adults that do not know how to engage with climate change yet
<b>Media choice:</b> Storytelling website

<b>Title:</b> No time to waste
<b>Format:</b> Postcard campaign ( <a href="#">Link</a> )
<b>Aim:</b> provide a new angle for conversations about "climate" related issues through inducing deep thoughts about the way we use our time, what we value most in life and how we frame success

<b>Key message:</b> There is something out there: low-carbon happiness. You just need to re-think some time-consuming, expensive and unsustainable behaviour traps.
<b>Target group:</b> Successful, hedonistic, consumption-oriented young adults
<b>Media choice:</b> Postcard & social media campaign

## 5 Conclusions and recommendations

Some other studies that also took an empirical angle to investigate climate activism, suggested that so far climate activism represents a niche behaviour of a well-educated, social (middle) class (Arnold et al. 2009, Buttieg & Pace 2013, Wahlström et al. 2019, Ojala 2015, Skogen 1999). The findings of the prevalent study strongly support this claim, both from a national and international perspective on this issue.

Given the current momentum of climate protests and school strikes around the world there might be a window of opportunity opening up now to broaden the conversation and reach out to groups outside of this social niche. The findings derived from this project could help to facilitate the process of stimulating new target groups to join in with climate action.

The project investigated to what extent social norms and particularly peer influence play a role in youth climate action. The findings provide various strands of empirical evidence illustrating the significance of these determinants for climate action.

The results showed that youth climate action never takes place in a social vacuum. Without the support of peer (or family) networks, the youth climate activists involved in this project would not have been able to follow the winding, often yearlong pathways towards climate action. The results showed that exchanging with like-minded peers - particularly also with peers that happened to be one step further down the pathway of climate action – was often the final push they needed to identify with and finally join the – recently rapidly growing – global community of young climate leaders. The Fridays for Future movement is the best example to illustrate to what extent young climate leaders have the ability to kindle enthusiasm among other young people.

On the other hand, this study suggest that the role of parental influences could be less pronounced compared to other studies (Arnold et al. 2009, Buttieg & Pace 2013, Ojala & Bengtsson 2018, Ojala & Lakew 2017). However, these studies focussed more broadly on pro-environmental engagement and partly on slightly younger age groups. Pro-environmental family backgrounds were not perceived as a precondition for climate action. Nevertheless, they seemed to strengthen and nurture climate activists. However, in most cases peer influence seemed to outweigh parental influences somewhere along the way towards climate activism.

Vice-versa, climate activists clearly induced changes in attitudes and behaviours in their social surrounding, particularly among other family members, regarding low carbon behaviour choices (e.g. not eating meat or rethinking mobility).

Formal education was ranked rather low as determinant for climate action by the interviewees. Most interviewees did not perceive school time as utmost formative on their pathways towards climate activism. This might also be related to the fact that most curricula did not cover climate change issues in a comprehensive and interdisciplinary manner up to now. Similar to other studies, those school moments that have been shared as formative milestones were mostly out-of-classroom experiences (excursions, projects) or movie screenings (Arnold et al., 2009, Buttieg & Pace 2013).

Further, our findings showed that low-carbon lifestyle choices (often picked up in the teenage years) are a precursor to climate action. Individual lifestyle changes seem particularly important to increase the sense of efficacy and agency among early journey climate activist. This is also reflected by the fact, that even those participants of the "Climate action retreat" that considered themselves rather early on in their journey towards taking climate action, proved to have an above average commitment regarding low-carbon behaviour. But also most of the experienced activists considered their commitment for an individual low- carbon lifestyle as integral part of their activist identity.

Another novel finding was, that the life stage transition between teenage years and emerging adulthood provides a relevant window of opportunity to enter the pathway of climate action. This seems particularly true for young people entering the academia during this life stage (Buttieg & Pace 2013). What allow young adults to overcome the gap between individual behaviour change and collective climate action with this step, seems closely linked to meeting like-minded people engaged with climate action and adopting new social norms (Chiari et al. under review).

We further observed a significant gender bias in climate activism towards female acitivists, validated by the gender biased response rate to both the interview series in WP2 and the application process for the retreat in WP3. A similar gender bias was observed by Wahlström's analysis of the the current school strikes (64% female strikers, Wahlström et al. 2019).

Peer influence will play a key role in order to mainstream climate action, particularly among young people (see also Arnold et al. 2009). Further it seems key to address those sub-groups not yet involved in climate engagement. The results showed, that building on peer inspiration and role-models could help to detach climate activism from high-level education pathways only (Chiari et al. under review).

Although, the influence of education was not ranked very high by the young adults involved in this study, the future potential of formative educational settings as arena for peer inspiration across diverse social groups is not to be

underestimated – particularly against the background of the Fridays for Future movement. Therefore, re-issuing the curricula of (compulsory) formal education might help to increase the carbon literacy (Ballantyne et al. 2006).

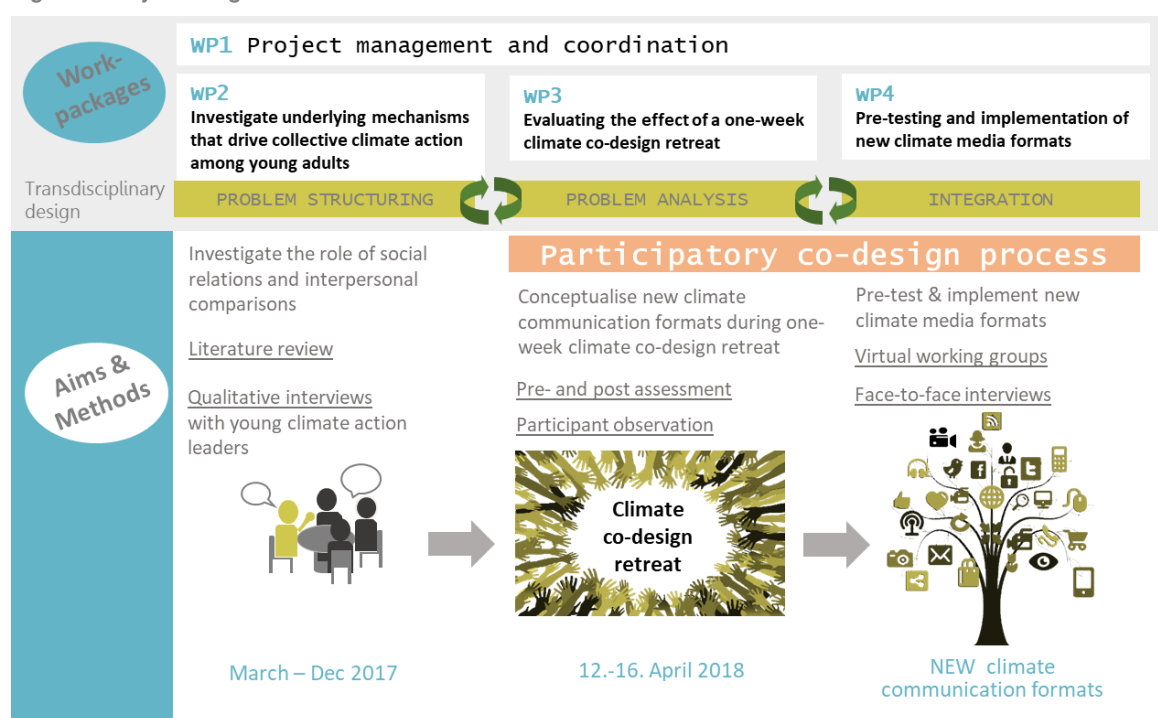
Overall, the results of this study will hopefully add to a better understanding of drivers and barriers relevant to youth climate actions and the social mechanisms shaping climate engagement and activism.

## C) Project details

### 6 Methods

Building on a transdisciplinary research approach, the projects involved a variety of stakeholders (young adult reflecting different levels of climate activism) throughout the research process, leading to a co-production of knowledge and new climate communication formats (see Figure 1).

Figure 1: Project design



The project particularly targeted young adults aged 18 to 29 undergoing the phase of 'emerging adulthood' (see Arnett 2014). Young people in this age range act as independent agents of their own behaviour (Osbaldeston and Schott 2016), and constitute an important target group for climate communication and climate action initiatives.

#### **WP2 Investigate underlying mechanisms that drive collective climate action among young adults**

Taking the angle of young adults' climate engagement, the literature review (n=151) used a combination of academic and grey literature to address existing knowledge on the role of self-efficacy, group efficacy and social norms with regard to climate engagement. For the literature a combinations of the terms 'Young people'; 'Young adults'; 'Youth'; 'climate change'; 'Efficacy'; 'Group efficacy'; 'Self efficacy'; 'Campaigns'; 'Social norms' was used. The method for the literature review was drawn from recommendations provided by Nielsen and D'haen (2013).

In the next step, in depth qualitative interviews have been conducted with 33 international young climate leaders (Table 1). This inquiry primarily focussed on the role of social norms, self-efficacy and group efficacy, social media as well as aspects of culture and class when tracing back the climate engagement pathways of the interviewees. Within the survey national and international climate leaders (leaders of climate initiatives / NGOs / campaigns

/ start-ups etc.) aged 18-29 have been interviewed using qualitative face-to-face interviews.

The interview questions were structured around the issues of motivation for engagement, peer influences / social norms, identity and efficacy issues.

*Table 1: Focus of selected interview case studies and gender distribution (WP2) (Chiari et al., in review)*

Interview case study	No. of interviews	Interview ID	female	male
Educational focus	4	4, 21, 22, 33	3	1
Practical focus	4	9, 10, 11, 15	2	2
Political focus	8	18, 25, 26, 27, 28, 29, 30, 31	6	2
Campaign focus	13	3, 5, 6, 7, 13, 14, 16, 17, 19, 20, 23, 24, 32	11	2
Entrepreneurial focus	4	1, 2, 8, 12	3	1

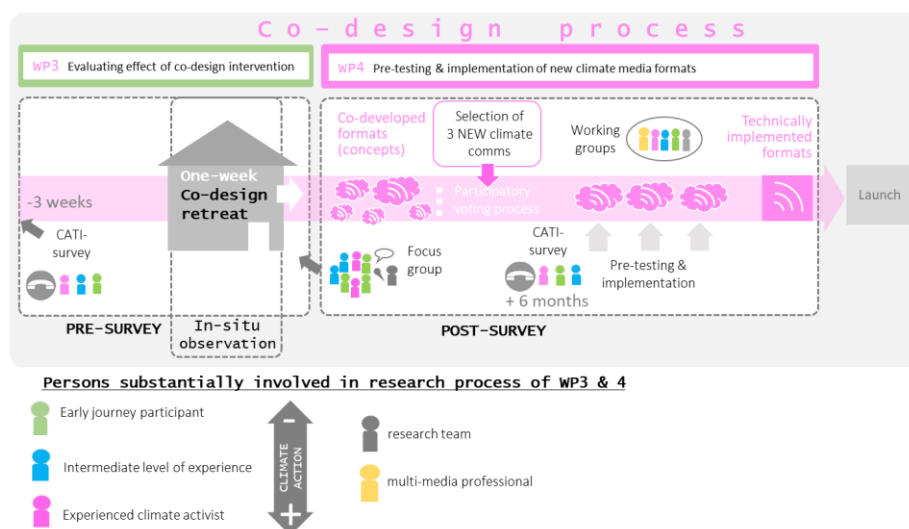
### WP3

WP3 followed two main strands: A) an empirical test of social norms, perceptions of group efficacy and peer influence and B) the co-design of new climate communication formats (see Figure 2).

For the empirical testing a five day intervention was designed and framed as “climate action retreat”<sup>1</sup>. The retreat was held April 12<sup>th</sup>-16<sup>th</sup> 2018 in St. Gilgen / Austria. 20 young adults participated in the intervention. Participants were selected based on a short application text we asked them to submit. More than 400 young adults applied to take part in the retreat.

With the selection of the final 20 participants (average age 26), we tried to constellate a diverse group reflecting different levels of climate engagement (early journey, intermediate and experienced climate activists, details see Table 2).

*Figure 2: Overview of co-design process linking WP3 and WP4*



*Table 2: Overview of retreat participants (gender, level of engagement, affiliation, co-design group)*

Interview ID	Country	Gender	Climate engagement	Affiliated with
--------------	---------	--------	--------------------	-----------------

<sup>1</sup> Although the intervention was described as a “climate communication retreat”, participants were informed about the accompanying research activities, aims and methods, and full transparency will be maintained throughout the project, meeting ethical requirements.

1	UK / Scotland	M	early journey	-
2	UK / Scotland	F	early journey	-
3	Finland	M	early journey	Climate KIK
4	Barbados / UK	M	early journey	-
5	UK / USA	F	intermediate	Scotland 2050
6	Belgium	F	intermediate	Climate communication science
7	UK / Zimbabwe	F	intermediate	Friends of the Earth UK
8	Austria	F	intermediate	-
9	Austria	F	intermediate	Roots & Shoots program
10	Germany / Romania	M	intermediate	Environmental campus group / Ende Gelände
11	Austria	F	intermediate	-
12	UK / China	F	intermediate	Renew rebels
13	Germany	F	experienced	True cost of coal campaign
14	UK	F	experienced	Ocean Generation
15	Sweden	M	experienced	Sustainable Entrepreneurship
16	Finland	M	experienced	Global shapers / Sustainable Entrepreneurship
17	Austria	M	experienced	Generation Earth / WWF
18	UK / Belgium	F	experienced	CAN Europe
19	Germany	M	experienced	Ende Gelände
20	Netherlands	F	experienced	Friends of the Earth Netherlands

The interactive retreat program was designed to provide an arena of peer learning and peer inspiration. Professional facilitators experienced with group dynamic processes guided through the retreat. The all day program featured scientific inputs, pitches on the participants' favorite campaigns, group work to co-create new formats, a circle of truth (after Joanna Macey) and a framework program (e.g. journaling, walks, games, music and yoga units).

An impact analysis using pre-and post- interviews with participants, and a focus groups discussion after the event documented the effects of the co-design process on perceived self-efficacy, group efficacy and social norms. This assessment allowed to capture mid- and long-term changes in attitudes and behaviour. The pre-interviews took place 2-3 weeks before the retreat (March and April 2018), the post-interviews (as part of WP4) more than 6 months after the intervention (Oct '18-Jan '19).

A strong focus was set upon the co-creation process. The process started by choosing topics, targeting specific audiences, framing messages for each group. The progress of each step was mirrored and fed back by the whole peer group and supported by scientists and media professionals from the Climate Media Factory (B. Hezel and E. Broschkowsky) in order to continuously sharpen the emerging new climate communication formats. The second phase of the co-creation process started after the retreat with the professional implementation of the formats (WP4).

#### **WP4: Participatory pre-testing and professional implementation of co-designed climate communication formats**

This work package focused on the message testing, pre-testing the draft formats as well as on the final technical implementation of the formats co-created in WP3 (see Figure 2).

As young adults marked the main target group of the newly created formats, representatives of this group were also chosen to evaluate the new formats.

### **Peer- evaluation of newly designed climate communication formats**

After the retreat the groups have been invited to submit their final project briefs and take part in a voting process. In line with the project's participatory approach the retreat participants' were invited to self-evaluate the submitted project briefs, in order to

- a) decide which projects (three out of five) would receive the funding to be professionally implemented and
- b) how the budget should be allocated.

### **Pre-testing new climate communication formats through peer- evaluation**

Professionally implemented prototypes of the three projects have been tested in a three-hour workshop in Vienna with the help of 23 peers (young adults studying at the University of Natural Resources and Life Sciences, Vienna taking part in the selective subject "Sustainicum").

The students evaluated the formats in facilitated group discussions (4 groups, each discussing all formats) in a narrative manner along the following issues brought up by the facilitators:

- Is the intention of the format clear to you?
- To what regard does the key message appeal to you?
- What should the format provide in order for you to use it (on a regular basis)?
- What about design and language of the format?
- Where do you spot room for improvement?

The outcomes of the group discussions have been documented, summarised and sent back to the working groups.

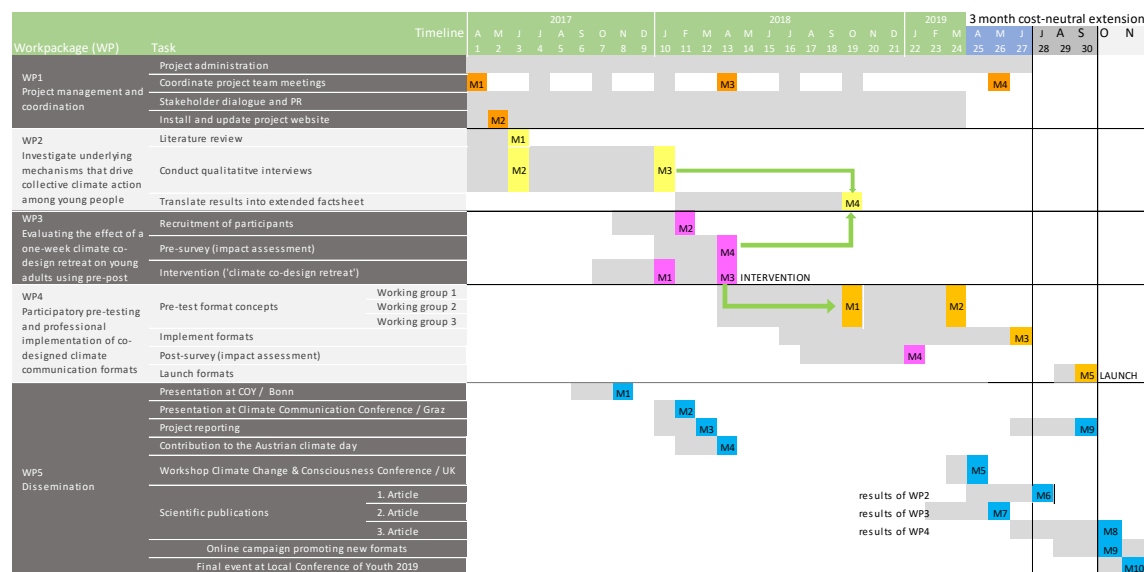
### **Post-interview series**

Within WP4 the second series of telephone interviews was carried out, based on selected items used in the pre-interviews and some additional items.

### **WP5: Dissemination**

Dissemination activities addressed the target group (young adults and climate action initiatives) as well as the scientific community (please see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** for details on conference contributions, publications and events). The key findings and the newly developed methods and formats will be further presented in a final event involving the target group at the Local Conference of Youth (held in November 2019 in Vienna, program see [Link](#)). An extended factsheet was elaborated to summarise key findings of WP2 and 3 and to disseminate these findings amongst stakeholders. English versions of the main project outcomes, and the international constellation of the project team allows to disseminate the results in Austria, UK and Germany. The project outcomes are made available online, using the website [www.climates.boku.ac.at](http://www.climates.boku.ac.at) as well as newsletters and websites of the project partners.

## 7 Work and time schedule



## 8 Publications and dissemination

Chiari, S., Shaw, C., Doyle, J., Völler, S. (in review): "Climate activism: the role of social norms, perceived efficacy and education in facilitating young people's engagement".

(Journal: Global Environmental change)

Chris, S., Chiari, S. (in review): "The individualistic focus of climate change campaigns led by young adults: a case study": (Journal: Frontiers in Communication Science and Environmental Communication)

Doyle, J., Chiari, S., Völler, S., Shaw, C., Hezel, B. (in prep.): "Incubating climate activism: outcomes of a transformational learning experiment designed to nurture the climate advocacy of young adults"

Shaw, C., Chiari, S., Doyle, J., Völler, S., Hezel, B., Pearl, P. (2019): Recommendations for engaging young people with climate change campaigns - Insights from new European research. URL: [http://climates.boku.ac.at/wp-content/uploads/2019/09/Factsheet\\_cli-MATES\\_2019.pdf](http://climates.boku.ac.at/wp-content/uploads/2019/09/Factsheet_cli-MATES_2019.pdf)

News Paper Article

Doyle, J. (2019): "How the media can help young people create zero carbon societies". The Conversation, URL: <https://theconversation.com/how-the-media-can-help-young-people-create-zero-carbon-societies-123558>

## **Project workshops, presentations and external events:**

### **COY13 – Conference of Youth, Bonn, 02.-04.11.2017**

*Workshop: Sybille Chiari, Sonja Völler, How to be(come) a climate activist?*

### **World Climate Communication Conference, Graz, 07.-09.02.2018**

*Talk: Sybille Chiari, Exploring the role of social norms and group-efficacy for climate communication*

### **Climate Action Retreat, St. Gilgen, 18.-22.04.2018**

*5 day project workshop: Sybille Chiari, Sonja Völler, Chris Shaw, Julie Doyle, Persephone Pearl, Bernd Hezel, Ephraim Broschkowski*

### **Austrian Climate Day, Salzburg, 24.-25.04.2018**

*Poster: Sybille Chiari, Sonja Völler, Chris Shaw, Julie Doyle, Persephone Pearl, Keith Ellis, Ivo Offenthaler, Bernd Hezel, Ephraim Broschkowski "(How) is climate engagement affected by social norms?"*

### **Climates international Summit, Vienna, 8.6.2018**

*P11ry discussion: Sybille Chiari, Empowering and educating the next climate generation*

### **Annual Workshop Doctorol School Climate Change, Graz, 20.06.2018**

*Workshop: Sybille Chiari, Leading a half-day workshop on climate communication with pHD students,*

### **Workshop YouX, Regional Youth Center, Vöcklabruck, 29.07.2018**

*Workshop on drivers and barriers to mainstream youth climate action, Sybille Chiari*

### **Local Conference of Youth, Vienna, 16.11.2018**

*Workshop: Sybille Chiari, How to seed Youth Climate Engagement*

### **Climate communication & media uptake: Do's and dont's from the perspective of media, science and practioneers, Event organised by the CCCA working group on climate communication, Vienna, 6.11.2018**

*Talk: Sybille Chiari "Exploring the role of social norms and group-efficacy for climate communication"*

### **Sustainicum Lecture, Vienna 1.4.2019**

*Sybille Chiari, Sonja Völler: workshop with 23 students to test draft communication formats developed within the co-design process*

***Climate Change and Consciousness Conference, Findhorn 20.04.-26.04.2019***

*Workshop "Youth Climate Action" together with Joelle Moses / Canada*

***Climate Hackaton, Science Center Network, Vienna, 02.07.2019***

*Key note: Sybille Chiari "Climate communication"*

***Final virtual meeting of the St. Gilgen collective, 18.09.2019***

*Virtual reunion of the 20 retreat participants and the research team*

***Week for future – Climate Coach Training, Linz, 27.09.2019***

*Talk: "Climate activism- Lessons learnt from pathways of climate engagement around the world". Workshop in cooperation with 'Klimabündnis' for members of the Fridays for Future and Parents for Future movement in Upper Austria.*

***Upcoming events:***

***Local Conference of Youth 2019, Vienna, 9.11.2019***

*Workshop: Sonja Völler, Sybille Chiari: Final project workshop to present co-designed climate communication formats*

## 9 Literature

- Adams, P. C., & Gynnild, A. (2013). "Environmental messages in online media: The role of place." *Environmental Communication: A Journal of Nature and Culture*, 7(1), 113–130.
- Allen, M., Wicks, R. H., & Schulte, S. (2013). Online environmental engagement among youth: Influence of parents, attitudes, and demographics. *Mass Communication and Society*, 16(5), 661–686.
- Alwin, D. F., & Krosnick, J. A. (1991). Aging, cohorts, and the stability of sociopolitical orientations over the life span. *American journal of sociology*, 97(1), 169–195.
- Arnold, H. E., Cohen, F. G., & Warner, A. (2009). Youth and environmental action: Perspectives of young environmental leaders on their formative influences. *The Journal of environmental education*, 40(3), 27–36.
- Ballantyne, A. G., Wibeck, V., & Neset, T.-S. (2016). Images of climate change: A pilot study of young people's perceptions of ICT-based climate visualization. *Climatic Change*, 134, 73–85.
- Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of environmental psychology*, 27(1), 14–25.
- Birmingham, D and Barton, A. (2014) "Putting on a Green Carnival: Youth Taking Educated Action on Socioscientific Issues". *Journal of Research in Science Teaching* 51 (3), 286–314
- Buttigieg, K., & Pace, P. (2013). Positive youth action towards climate change. *Journal of Teacher Education for Sustainability*, 15(1), 15–47.
- Bynner, J. M., Romney, D. M., & Emler, N. P. (2003). Dimensions of political and related facets of identity in late adolescence. *Journal of youth studies*, 6(3), 319–335.
- Chawla, L. (1999). Life paths into effective environmental action. *The journal of environmental education*, 31(1), 15–26.
- Chiari, S., Völler, S., Mandl, S. (2016): How to foster climate aware behaviour among young people? Barriers and drivers in climate communication towards young people. (German language) In: GW Unterricht. 141 (1). S.5–18.  
Doi:[http://www.gw-unterricht.at/pdf/gwu\\_141\\_05\\_18\\_chiari\\_voeller\\_mandl.pdf](http://www.gw-unterricht.at/pdf/gwu_141_05_18_chiari_voeller_mandl.pdf)
- Chiari, S., Shaw, C., Doyle, J., Völler, S. (under review): Climate activism: the role of social norms, perceived efficacy and education in facilitating young people's engagement. Submitted to *Global environmental change*.
- Christensen, R., & Knezek, G. (2015). The Climate Change Attitude Survey: Measuring Middle School Student Beliefs and Intentions to Enact Positive Environmental Change. *International Journal of Environmental and Science Education*, 10(5), 773–788.
- Cialdini, R. B. (2007). Descriptive social norms as underappreciated sources of social control. *Psychometrika*, 72(2), 263.
- Corner, A., Roberts, O., Chiari, S., Völler, S., Mayrhuber, E. S., Mandl, S., & Monson, K. (2015). How do young people engage with climate change? The role of knowledge, values, message framing, and trusted communicators. *Wiley Interdisciplinary Reviews: Climate Change*, 6(5), 523–534. Evenson 2019
- Corner A, Roberts O. (2014). *Young Voices*. Oxford: Climate Outreach and Information Network.
- Degenhardt L. (2007). *Pioneers of sustainable lifestyles*. Doctoral Thesis, Kassel University Press, 211.

- Devine-Wright\*, P., Devine-Wright, H., & Fleming, P. (2004). Situational influences upon children's beliefs about global warming and energy. *Environmental Education Research*, 10(4), 493-506.
- Doyle, J., Chiari, S., Völler, S., Shaw, C. (in prep.): Incubating climate activism: outcomes of a transformational learning experiment designed to nurture the climate advocacy of young adults.
- Emmons, K.M. (1997). Perspectives on environmental action: Reflection and revision through practical experience. *The Journal of Environmental Education*, 29(1): 34–44.
- Fielding, K. S., & Head, B. W. (2012). Determinants of young Australians' environmental actions: The role of responsibility attributions, locus of control, knowledge and attitudes. *Environmental Education Research*, 18(2), 171-186.
- Flöttum, K., Dahl, T., & Rivenes, V. (2016). Young Norwegians and their views on climate change and the future: Findings from a climate concerned and oil-rich nation. *Journal of Youth Studies*.
- Geiger, N., & Swim, J. K. (2016). Climate of silence: Pluralistic ignorance as a barrier to climate change discussion. *Journal of Environmental Psychology*, 47, 79–90
- Grønhøj, A., & Thøgersen, J. (2009). Like father, like son? Intergenerational transmission of values, attitudes, and behaviours in the environmental domain. *Journal of Environmental Psychology*, 29(4), 414–421.
- Harris, A and Wyn, J (2009). Young People's Politics and the Micro-Territories of the Local". *Australian Journal of Political Science*. 44: 2, 327-344.
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *The Journal of environmental education*, 18(2), 1-8.
- Hwang, Y. H., Kim, S. I., & Jeng, J. M. (2000). Examining the causal relationships among selected antecedents of responsible environmental behavior. *The journal of environmental education*, 31(4), 19-25.
- Korkala, E. A., Hugg, T. T., & Jaakkola, J. J. (2014). Voluntary climate change mitigation actions of young adults: A classification of mitigators through latent class analysis. *PloS one*, 9(7), e102072.
- Mäkinen, J.-P., & Vainio, A. (2013). The moral intensity of climate friendly food choices. *Appetite*, 66, 54–61.
- Markowitz E. (2012). Is climate change an ethical issue? Examining young adults' beliefs about climate and morality. *Climatic Change*, 114:479–495.
- McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global environmental change*, 21(4), 1163-1172.
- Mead, E., Roser-Renouf, C., Rimal, R. N., Flora, J. A., Maibach, E. W., & Leiserowitz, A. (2012). Information seeking about global climate change among adolescents: The role of risk perceptions, efficacy beliefs, and parental influences. *Atlantic journal of communication*, 20(1), 31-52.
- Meinhold, J. L., & Malkus, A. J. (2005). Adolescent environmental behaviors: Can knowledge, attitudes, and self-efficacy make a difference? *Environment and behavior*, 37(4), 511-532.
- Nolan, J. M., Schultz, P. W., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2008). Normative social influence is underdetected. *Personality and social psychology bulletin*, 34(7), 913-923.

- Öhman, J., & Öhman, M. (2013). Participatory approach in practice: An analysis of student discussions about climate change. *Environmental Education Research*, 19(3), 324–341
- Ojala M. (2012). How do children cope with global climate change? Coping strategies, engagement, and well-being. *Journal of Environmental Psychology*, 32:225–233.
- Ojala, M. (2015). Climate change skepticism among adolescents. *Journal of Youth Studies*, 18(9), 1135–1153.
- Ojala, M., & Lakew, Y. (2017). Young people and climate change communication. In Oxford Research Encyclopedia of Climate Science. Östman, J. (2014). The influence of media use on environmental engagement: A political socialization approach. *Environmental Communication*, 8(1), 92–109
- Ojala, M., & Bengtsson, H. (2018). Young people's coping strategies concerning climate change: relations to perceived communication with parents and friends and proenvironmental behavior. *Environment and Behavior*, 0013916518763894.
- Palmer, J., Suggate, I. Robottom, and P. Hart. (1999). "Significant Life Experiences and Formative Influences on the Development of Adults' Environmental Awareness in the UK, Australia and Canada." *Environmental Education Research* 5 (2): 181–200.
- Payne, P. G. (2005). Families, homes and environmental education. *Australian Journal of Environmental Education*, 21, 81–95.
- Reimer, M. Lynes, J and Hickman, G. (2014). A model for developing and assessing youth-based environmental engagement programmes. *Environmental Education Research* Volume: 20 Issue: 4 Pages: 552–574.
- Shaw, C., Chiari, S. (under review): The individualistic focus of climate change campaigns led by young adults: a case study. Submitted to *Frontiers*.
- Sears, D. O., & Funk, C. L. (1999). Evidence of the long-term persistence of adults' political predispositions. *The Journal of Politics*, 61(1), 1–28.
- Senbel, M., Ngo, V. D., & Blair, E. (2014). Social mobilization of climate change: University students conserving energy through multiple pathways for peer engagement. *Journal of Environmental Psychology*, 38, 84–93
- Skogen, K. (1999). Another look at culture and nature: How culture patterns influence environmental orientation among Norwegian youth. *Acta sociologica*, 42(3), 223–239.
- Smith-Sebasto, N. J., & Fortner, R. W. (1994). The environmental action internal control index. *The Journal of Environmental Education*, 25(4), 23–29.
- Stevenson, K. T., Peterson, M. N., & Bondell, H. D. (2016). The influence of personal beliefs, friends, and family in building climate change concern among adolescents. *Environmental Education*,
- Thielking, M., & Moore, S. (2001). Young people and the environment: Predicting ecological behaviour. *Australian Journal of Environmental Education*, 17, 63–70.
- UNFCCC (2015): Adoption of the Paris Agreement. United Nations Framework Convention on Climate Change, 31 p.
- Wahlström, M., Kocyba, P., De Vydt, M., De Moor, J. (Eds.) (2019). Protest for a future: Composition, mobilization and motives of the participants in Fridays For Future climate protests on 15 March, 2019 in 13 European cities. Retrieved from: [https://protestinstitut.eu/wp-content/uploads/2019/07/20190709\\_Protest-for-a-future\\_GCS-Descriptive-Report.pdf](https://protestinstitut.eu/wp-content/uploads/2019/07/20190709_Protest-for-a-future_GCS-Descriptive-Report.pdf)



Diese Projektbeschreibung wurde von der Fördernehmerin/dem Fördernehmer erstellt. Für die Richtigkeit, Vollständigkeit und Aktualität der Inhalte sowie die barrierefreie Gestaltung der Projektbeschreibung, übernimmt der Klima- und Energiefonds keine Haftung.

Die Fördernehmerin/der Fördernehmer erklärt mit Übermittlung der Projektbeschreibung ausdrücklich über die Rechte am bereitgestellten Bildmaterial frei zu verfügen und dem Klima- und Energiefonds das unentgeltliche, nicht exklusive, zeitlich und örtlich unbeschränkte sowie unwiderrufliche Recht einräumen zu können, das Bildmaterial auf jede bekannte und zukünftig bekanntwerdende Verwertungsart zu nutzen. Für den Fall einer Inanspruchnahme des Klima- und Energiefonds durch Dritte, die die Rechteinhaberschaft am Bildmaterial behaupten, verpflichtet sich die Fördernehmerin/der Fördernehmer den Klima- und Energiefonds vollumfänglich schad- und klaglos zu halten.