

PAPER • OPEN ACCESS

The giant step of tiny toes: youth impact on the securitization of climate change

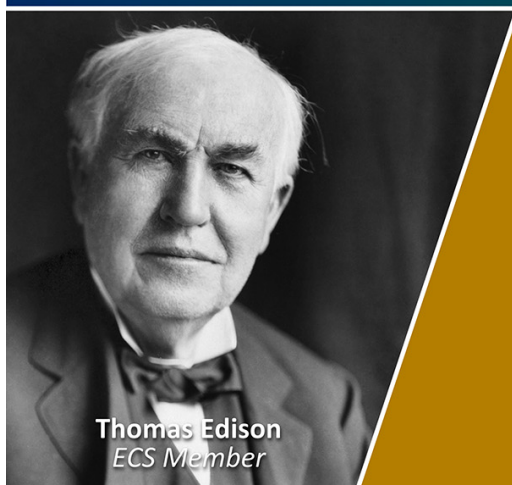
To cite this article: A Trihartono *et al* 2020 *IOP Conf. Ser.: Earth Environ. Sci.* **485** 012007

View the [article online](#) for updates and enhancements.

You may also like

- [Biogeography: A Case in Spatial Distribution Pattern of 21 *Pinus thunbergii* Populations in Japan](#)
Aziz Akbar Mukasyaf
- [Prioritizing urban trees for carbon sequestration in South Korea: a multi-criteria approach](#)
Hee-Sun Choi, Gil Sang Lee and Geunhan Kim
- [Social media interconnection between people: Greta Thunberg's influence on the climate movement](#)
S G Prakoso, I F Timorria and A P Murtyantoro

Join the Society
Led by Scientists,
for *Scientists Like You!*

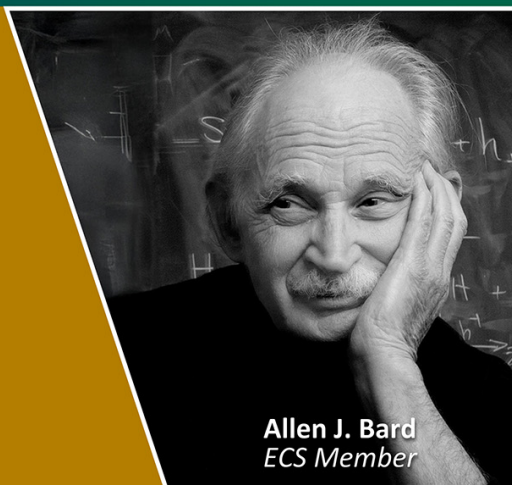


Thomas Edison
ECS Member



The
Electrochemical
Society

Advancing solid state &
electrochemical science & technology



Allen J. Bard
ECS Member

The giant step of tiny toes: youth impact on the securitization of climate change

A Trihartono^{1*}, N Viartasiwi², and C Nisya¹

¹Centre for Research in Social Sciences and Humanities (C-RiSSH), University of Jember, Jl. Kalimantan 37, Jember 68121, Indonesia.

²Pilar Data Research and Consulting, Jember 68121, Indonesia.

*email: atrihartono@unej.ac.id

Abstract. Climate change has been a global concern since the late 1800s. Responding to the problem, the world governments have been working on significant breakthroughs such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement. However, the general society is still unaware of the climate change issue. A series of youth movements are formed within a decade and creating significant impacts within the society. For the rapid growth of the youth movements all over the world, this paper aims to cover some of the movements, especially one that is led by Greta Thunberg. Thunberg's effort has moved people to prioritize the climate change issues, in a domino effect fashion. By using the qualitative descriptive method, this paper highlights the missing-link on the securitization of climate change in the world's discourse. Putting the Thunberg action as the momentum of the rising of the climate change issue in the global arena, the paper seeks to understand the securitization process of the issue that has been done. One of the results is that the United Kingdom became the first country to declare a climate emergency.

1. Introduction

Climate change is one term that has been very popular for decades, even though its definition is still being debated. At least, the term refers to 1) a change in the state of the climate that can be identified (e.g., using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer (UNFCCC, 2011); 2) the long-term alteration of temperature and normal weather patterns in a place (National Geographic, 2019); 3) a broad range of global phenomena created predominantly by burning fossil fuels, which add heat-trapping gases to Earth's atmosphere (NASA's Jet Propulsion Laboratory, 2019). However, even though the term has a long history since it was being introduced in late 1800 by Joseph Fourier, only a century later that the greenhouse effect got the recognition from the United States as a "real concern".

As a response to the climate change problem, countries have been discussing possible solutions to stop global warming. Several protocols, agreements, and laws were formed in order to minimize the production of greenhouse gases. One of them is the Kyoto protocol which demands the 5% reduction of emissions by 2008-12. However, the United States of America was not welcoming the Kyoto Protocol's plan. On the contrary, the United Kingdom (UK) was taking a different approach to the issue. In 2005 Tony Blair, the UK prime minister and the president of the European Union (EU), declared climate change as a priority of his term as the chair of G8.

The media coverage about the issue has been happening since the beginning of each action taken to solve the issue. From the National Aeronautics and Space Administration (NASA) to the United Nations Framework Convention on Climate Change (UNFCCC), along with many more writers have talked about climate change. Other than that, the media has discovered something new to be discovered among the climate change movement. Each of the movements has its central actor; usually, it is a well-known individual. One example is how Leonardo DiCaprio became the United Nations (UN) Messenger of Peace and started a movie project called "Before the Flood." The movie caught public attention as "correctly identifying the most important issue of our time, the actor uses his clout and his carbon footprint to travel the world and ponder the incongruities," as said by The Guardian.

Although climate change has been a topic of the conversation in the global meetings and movies, the issue has not yet reached the society's discourses. Suspected, there are some missing key points in raising the awareness of climate change in the global public. Climate change issue received more



significant attention from the global society after a Swedish teenager Greta Thunberg started a school strike movement by standing in front of the Swedish parliament to demand more prominent attention of her government to the issue. Currently receiving popularity as one of the activists of climate change, Thunberg shines the lights on the issue. Though the over coverage on Greta Thunberg seems to proliferate, other actors have been working on the same issues before Thunberg even begins a thing.

Though it is focusing on Thunberg, this paper does acknowledge the other movements and efforts done by other actors as in individuals, groups, and civil society, even states that might not gain the mass media coverage appropriately. Those who have given a contribution to the issue of climate change within several other sectors and regions all over the world. This paper sees the youth movement that is usually less recognized to be the essential actor in solving the climate change issue. The youth movement has been started even 30 years ago, led by Severn Cullis-Suzuki. She was first heard by the world when she spoke in the UN in 1992 [1]. American society is familiar to Xiuhtezcatl Martinez that has started speaking about climate change since he was 6. As an indigenous child to his teenage life, now 19 years old, Martinez has affected the youth and general public in the United States (US) along with other youths such as Isra Hirsi who is 16 years old (US), John Paul Jose who is 22 years old (India), Luisa Neubauer who is 23 years old (Germany), and many more. Global movements related to climate change that is led by a young individual deserve to be analyzed to understand the missing-link of the mainstreaming of the issue done by countries.

2. Methods

Within this research, the authors used the literature study method with the secondary data as the primary source of information. By using the literature study method, authors were allowed to get the data and information from books, journal articles, news, and websites. The data collected by the writer were varied but not limited to the actions done regarding the climate change issue before the youth movement led by Greta Thunberg occurred, the after match of Thunberg's school strikes movement and the comparison between the two based on the securitization model by Emmers as the baseline.

3. Results and Discussion

To be able to understand why climate change is seen as a threat to human security and national security, it is essential to explain what climate change is and how it affects society. Climate change is a problem that has been around for years and years ago. It is described as various phenomena that happened because of the high level of emissions produced by fossil fuels [2]. The idea of greenhouse effect had been introduced to the society since 1800 until more than a century later in 1955 it was found that the doubling of CO₂ will raise the temperature of the earth [3]. Since then, the study about climate change, its causes and impacts form a never-ending discussion between nations.

After finding the idea of the more CO₂ in the air, the higher the temperature will be several essential findings are leading to a seemingly vivid idea about what climate change is. By 1920s annual carbon emissions from fossil fuel reached one billion tons, followed by the rising population that was about to reach two billion [3]. The growing number of populations makes fossil fuel consumption increase every year in order to keep up with the need for energy and industry. The term refers to the warming of the earth's temperature that is caused by the high rate of fossil fuel emissions. The term global warming is also used interchangeably with climate change [2]. The temperature of the earth has increased by at least 0.9 °C and 2016 is when the earth was at its warmest temperature [4].

Other than global warming, several things show how much the earth has changed within this century. Those things are the warming of the ocean, shrinking ice sheets, glacial retreat, decreased snow cover, rising sea level and the declining of Arctic sea ice. The warming of the ocean that happened for the ocean is absorbing the heat of the earth. NASA reported that the ocean is 4F warmer it has ever been, and it is affecting the ice sheets all over the world. In 2013 NASA stated, "...Antarctic ice shelves lost 2,921 trillion pounds (1,325 trillion kilograms) of ice per year in 2003 to 2008 through basal melt, while iceberg formation accounted for 2,400 trillion pounds (1,089 trillion kilograms) of mass loss each year" [5]. The next effect of the warming of the ocean is the immediate rise of sea level. This situation, unsurprisingly, happens because of the shrinking ice sheets from melting caused by the heat. This condition becomes one of the most affecting effects of climate change since some cities, even countries, are predicted to sink soon.

The changes in the climate affect the physical condition of the earth, which affects many vital parts of the society such as health, the agriculture sector and the economy. Climate change affects human health for extreme heat may cause cardiovascular and respiratory diseases among the elderly that can lead to death. In 2003, it was found that 70,000 deaths are caused by the extreme heat all over Europe [6]. With the climate changing, it also means that natural disasters caused by extreme weather are happening all over the world. By 2018, it is reported that the number of natural disasters based on weather tripled since 1960 [7]. The natural disasters vary from the floods and landslides that are caused by the high intensity of rain to the hurricanes that can also lead to floods, drought and wildfires, all of those are causing the people losing the access to proper hygiene, food and shelter. In 2017, more than 40 million people have been affected by floods and millions are facing the food and water shortages in Africa for the prolonged drought that is happening [8].

With all the rising number of natural disasters caused by climate change, the seemingly nonstop warming of the earth also plays the most significant role when it comes to the agriculture sector. The warming of the earth means a longer period of growing plants with less water availability [9]. It is also translated as the worsening condition that may lead to decreasing crop yields. A series of natural disasters also affect the agriculture sector as some disasters like flood and hurricanes may destroy the plantation and livestock production as the drought may. The agriculture matters do not only get affected by climate change but it is also affecting the climate change itself. The food production from farming to the serving on our plates contributes to climate change as it is producing two greenhouse gases like methane and nitrous oxide [9]. Both gases are produced during the natural process of the food and the waste on the production line. The next step of the food chain production is the processing and packaging that is most likely to produce CO₂. The growing population demands much food and yet the worsening or climate change keeps cutting out the food stock and the agriculture industry is putting nature in danger with mass food production, especially livestock production [9].

The climate problems affect the economy of the nations. For example, in 2014, only the United Kingdom spent £2.3 billion or around \$2.8 billion on flood prevention [9]. In 2005, the United States had to spend more than \$120 billion to rebuild cities in New Orleans after hitting by Katrina hurricane [10]. This situation shows on how much funding spent on natural disasters, whether for its prevention and even more for the recovery. Some countries do not even see the future of themselves because they might be sinking within the next 20-30 years. One of those countries is the Maldives that has been bringing up climate change in almost every environmental forum [11]. Substantially, climate change will cost not only nations billions of dollars but also the whole country to be erased from the map.

The increasing temperature of the earth is also causing the crops yields to decrease. The declining farmland's yield is one thing that is known as the permanent loss of economic productivity [10]. While building roads and buildings are done to be paid back by the running businesses in the future, investing in agriculture can be riskier. The fact that climate change has changed the temperature of the earth and the extreme weather is inevitable; it is almost impossible to treat the less fertile farmland [10]. The declining crops yields cause the food shortage that adds up to other problems that occur as the effects of climate change may also draw a new and more significant problem of climate refugees.

Climate refugee occurs as a result of several natural disasters that hit many places on earth [11]. From drought, flood, hurricanes to water crisis would put people on edge to move away from their house to somewhere else that is safer. Around 18.8 million people moved out of their homeland caused by disasters that result from climate change in 2017 [11]. Even though it is all recorded, the number of people moving because of climate change, but the term of climate refugee is not even on international law [11]. When the land is impossible to be planted, water is not enough to cover all the needs of the people and poverty is a big problem, that is when the people would be most likely to move to places with more rain [12]. This unspecified problem may cost a country a great deal with the colossal migration causing the people to struggle during the move and the country to have an unbalanced population distribution.

Facing climate change problems, the United Nations has been consolidating efforts to minimize the impact of climate change. In 1987, the UN launched the Montreal Protocol that aims to reduce the chemical that damages the layer of the ozone [2]. The Montreal Protocol is known as the

most successful environmental protocol that has ever been signed. The protocol managed to deplete 98% of ODS or ozone-depleting substances by its end in 2014 [15]. The Montreal Protocol is seen as the best one among two other agreements signed by the United Nations later on throughout the decades like the Kyoto Protocol and the Paris Agreement or Paris Climate Deal.

Kyoto Protocol is signed precisely a decade after the Montreal Protocol has been signed in 1997 agreeing on reducing the emission of 5% within 2008-12 by the developed countries. Based on the data given by the European Union, in 2012, the countries with the Kyoto target had cut their emission significantly but on the other hand, the emissions produced by other developing countries and emerging economy countries like China has risen even more significant than that has been decreased [13]. In short, the success of the Kyoto Protocol is blurred with the rising emissions produced by the rest of the world.

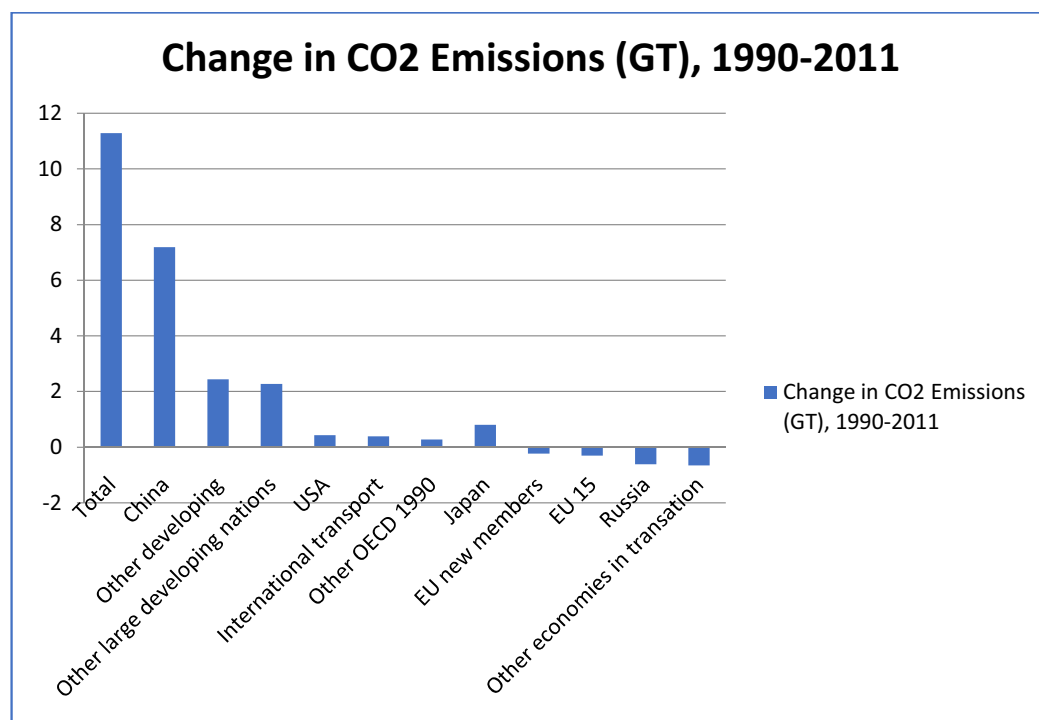


Figure 1 Change in CO2 Emissions (GT), 1990-2011

The next agreement that is signed in order to solve the limit the raising of global temperature by below 2 °C is the Paris agreement. The Paris agreement was signed in 2015 after negotiators from nearly 200 countries sat down in Paris talking about the future of the environment [14]. The anticipation and pressure were delivered through the protest held in some places like London and Paris, demanding for Paris agreement to be one binding treaty so the nations would take real action towards climate change [15]. Though the Paris protest was not held the way it supposed to be due to the protest ban after the Paris attack, those who support the Paris agreement have their way to make themselves heard. They left their shoes in the Place *de la Republique* to mark their spirit to support the agreement and their desire to walk the march [15]. The Paris agreement is agreed as the second on the line, after Kyoto protocol, of international commitment under the UNFCCC that is binding in some parts of it and some are left as non-binding factors [16]. These both binding and non-binding parts of the agreement create another backlash when the president of the USA, Trump, decided to withdraw the USA from the agreement in 2017. Trump referred to the agreement as an “economic burden” and “non-binding” agreement [17]. One of the essential binding aspects of the agreement is the provisions regarding transparency, reporting, and accountability of all parties [18]. Despite the controversy upon

its legal status, the Paris Agreement has set a road map on things nations that can be an excellent base to prevent the further warming of the earth.

After all those attempts to minimize the effects of climate change, a baseline is set. From actions, we can do to what is the outcome that we are after. In 2018 it is known that we only have 12 years to cut down the emissions by 45% and down to 0% in 2050 to stop the irreversible extreme change from happening [19]. This will take everyone to act on climate change or we are not going to be able to fix anything by 2030. Though those protocols are signed as a great starting point to the solution of the problem, the earth needs more than talk the talk and more of walk the walk when it comes to climate change. At this moment, where the people are dying from various effects of climate change, a name popped up in the society as the new symbol of environmental activism and that is Greta Thunberg.

Though Greta is now a shining star when it comes to climate change movement, some other youths are impacting society. One of them started even decades before Greta. Severn Cullis-Suzuki, a Canadian environmental activist who silenced the world in 1992 with her speech at Rio Earth Summit [1]. After her persuasive speech, Severn Cullis-Suzuki works closely with the UN and her team working on an organization called Earth Charter Commissioner that aims to continue raising the awareness towards climate change. In 2002 she was on the Special Advisory Panel for UN Secretary-General at the 2002 UN World Summit on Sustainable Development in Johannesburg.

Another big name in climate change activism before Thunberg is Xiuhtezcatl Martinez. He is an indigenous activist, singer, and also the youth director of Earth Guardians. He began his activism at the age of 6 and at the age of only 13 Obama granted him the 2013 United States Volunteer Service Award for standing for starting his very own movement demanding actions for climate change [20]. Martinez is also known as a singer with songs about the same issues. He believes that climate speech is one thing that some people understand but music is another thing that everyone can understand, hence why he is making music to deliver the message and raise awareness within society. The impact that has been caused by Martinez caused the bigger movement of the youth, especially in the US political climate nowadays that pushes him and his fellow to fight harder for the sake of the earth.

Those two names had risen before Greta even started her very own movement and now that Greta has the spotlight, she is making sure that she has her voice heard. Greta Thunberg has been the highlight of the news since 2018. She started her very own movement by skipping school for three weeks and sitting in front of the Swedish parliament demanding action on climate change with a hand-written sign [21]. Though it was a one-person show back in 2018, the school strike is now one of the most prominent environmental movement in the world where students are skipping school to take the street demanding for a change. Thunberg has moved many students and she is not stopping. The 16 years old Swedish girl traveled around Europe to demand nothing but an actual action towards climate change. The tour did not end just like that, Thunberg spoke to United Kingdom members of parliament on 23rd of May 2019 and she supported the protest done by the Extinction Rebellion then on the 1st of May 2019 the United Kingdom parliament declared the climate emergency [22].

Thunberg movement is a momentum in the climate change campaign. Before her, the movement to mainstreaming climate change concern was not as successful. The last success on climate change activism was the march held in 2015 that was pressing the world leaders to make Paris agreement legally binding. To some extent, the march did not make it to the outcome that they wanted for the Paris agreement remains to be partly not binding in some key elements. A bold move has also been taken by a politician like Tony Blair who put climate change as the concern of the EU during his term or leadership in the regional organization [2]. However, the climate change activism has not grown as big as it is right now after the world heard it like it was the first time from Greta that we only have two options, either we fix the problem of climate change or we do not [28].

One of the first appearances of Greta is when she spoke on the TED talk in November 2018. She was questioning why people do not really talk about climate change as if climate change was not a crisis at all. She was questioned about everything that does not sit right in her mind, why people do not see climate change as it was the world war happening. She pointed her fingers at the governments who do not do anything to the greatest existential threat of human history, the climate change. She is demanding restrictions, headlines, breaking news and the actions. She did address those people who tried to talk her out and stop her from striking by skipping school. She made it clear that it would be a waste of time to wait for her to grow up and fix everything in the future when we already have the data

and “future” is not a thing if we do not take an action now. Her speech resonates with the audience from all over the world and from that moment on, she is talking for an even bigger audience with a bigger impact.

Looking back to the whole series of attempts to make everyone see climate change as a danger to the human being, it seems like we have missed something that Greta caught and delivered in the best way possible. When Greta first started her school strike movement, all she has was herself with no audience, no media and not even a partner. Yet the black or white mindset that she always highlights during her speech seems to settle down in society [23]. Some people would hear what Greta said as extreme statements, one of them is “I don’t want your hope, I don’t want to be hopeful. I want you to panic” and all other phrases she uses to blame the UN and leaders of countries of their incapability of acting to stop climate change. Though some others choose to praise her and see where she is coming from. Greta always pictures herself as a kid who wants nothing but a future for the youths. She is demanding the truth to be told and actions to be taken. There is no “later” on her book, it is now, the action and a great deal of an emergency needs to be delivered.

Despite the mixed opinions about how Greta takes to get herself heard, in only six months since she started her very own school strike by herself, she could get around 1.5 million youths in 100 countries to take the street for the climate [21]. March 22nd, 2019, is going to be in the history book for that was when the most extensive climate action had taken place and everything started with one girl with her handwritten sign striking every Friday in Sweden [21]. Greta then decided to go on a tour around Europe; her mission is to speak with the leaders of European countries to take action.

“The Greta Thunberg effect” explains how Greta could affect the whole world to really look at what is going on in this earth [24]. Greta can make her audience feel specific ways possible. She makes the youth feel like it is their responsibility to go out and make themselves heard. On the other hand, she also makes those who are older than her and have the power to feel the guilt. The guilt needs to be felt since humans need a reason to take action and guilt is one of the best reasons to put pressure onto human and in this case, it works [25]. Certainly, Greta’s way to get the MPs of the UK to take action works. After giving a speech in front of the MPs, where Greta blame the parliament for lying to the youth about their future and the worsening condition of the earth by pointing out how the UK is supporting the exploitation of fossil fuel, the UK declared the climate emergency.

Climate emergency is not something we can just pass through it. It is a great deal as if it is declared by a state, party, or any actor within the government, it means that the government will put all the necessary measures to make sure it is taken care of [26]. The climate emergency declaration is essential as a form of speech act which is also the first step of climate change securitization. The declaration is also known as the first step of the radical action in a way that there will be an action taken by the UK government and the society to make sure that they can reach the goal of net-zero emissions by 2045 [26]. Though the climate emergency has been declared, it is not the one tick to all the tasks. The further action needs to be taken as soon as possible and the declaration makes it an urgent matter that the United Kingdom should put it as the first on its priority list. That, the declaration, is the promise that the parliament of the United Kingdom made to the youth which won’t ever stop putting pressure until a real change has been made.

The next step of the declaration can be varied from providing renewable energy transportation, green jobs, green and zero-waste economy and making a safe land for those workers who have been counting on the carbon-intensive sectors [27]. Regardless of what the government think needs to be done, the people are asking for nothing but to listen to the science of climate change and start to work on solving the problem according to the fact. Greenpeace, as one of the most prominent international organization focusing on the environment, has set a list of things the United Kingdom and the world need to do. From making sure of the end of fossil fuel production, planting over 700 million trees, supporting the green economy by creating jobs that are more environmentally friendly to the availability of green public transportation that will help those with low income to mobilized are on the list [28]. These things are the options that the UK should take into an account because apparently the climate movement is here and not to back down anytime soon with Greta is on the rise and all the right things that create a significant momentum of a big change [29].

Apart from Greta’s ability to connect with her audience, which is the whole world, that makes her message very powerful we cannot deny that momentum is actually another great factor in the significant impact she makes. In 2017 the elected president of United States of America (USA)

decided to make a headline that climate change is not real, a hoax. Other than that, Trump also addressed that the Paris agreement is nothing but a burden to America's economy and for that USA withdraw from the agreement for the sake of the people. The action taken by Trump creates much backlash in society and the office. One of the people who see the action as a big mistake is Alexandria Ocasio-Cortez, the U.S representative from New York. She has been speaking up about climate change and she seems to be unstoppable. She has been pressing the U.S government to take action to solve the problem of climate change. Being the congresswoman at such a young age, Cortez also holds a significant impact under her sleeves. In June 2019, Cortez and Thunberg decided to have a conversation through the video and we can tell that hope depends on no one but the youth and our action now [30]. The pair were discussing the role of media on climate change itself and how important it is to make a highlight of this particular problem so people will be more aware of the crisis [31].

From the media coverage nowadays, it becomes clear that the more some people are trying to deny the climate crisis, the louder those climate activists will be heard. Ocasio-Cortez is only one of the biggest names of pro-climate figures in the world. Thunberg is lucky enough to be able to meet the Pope on 17th April 2019, a day after she spoke in front of the EU members [32]. The Pope gave his blessing and support to Greta by saying, "continue the work, go ahead" [32]. Other than the Pope, Greta has got the support of Barack Obama tweeted about Greta Thunberg giving her nothing but words of encouragement [23]. Up until now, Greta remains to be the center of global attention and she is not stopping to talk about what she believes as a crisis and she is not stopping to open more eyes to the fact that we need to take action now or the future is a non-existence dream.

Nevertheless, the movement of the youth has been growing stronger than ever. Alongside Greta, some other activists are making quite an impact on their communities; one of them is Isra Hirsi. Hirsi is 16 years old black Muslim girl from Minnesota who is also one of the cofounders and co-executive directors of U.S. Youth Climate Strike [33]. She is the daughter of Congresswoman Ilham Omar that takes climate change as a severe problem and is taking a significant role within the movement. Hirsi has been joining the climate strike and organizing the movement to demand nothing but concrete actions from the government of the USA. Based on her background, she highlights how climate change has impacted the minority and middle to low-class communities in the US. She aims to make the movement inclusive and intersectional, making sure that everyone is heard and everything is counted in the movement she is leading. She is oppressing the government to listen to the science and demand the quick and yet smart action to protect everyone including the minority in the US.

In India and Germany, the public has John Paul Jose and Luisa Neubauer as the climate change activists. Jose has been speaking up about climate change for the public of India. The 22 years old young man is demanding India's government to declare the climate emergency. He believes that climate change has been affecting India more than it affects any other countries in the world and the people are suffering from it [34]. Just like Jose, Neubauer is also fighting for the climate crisis in Germany. Greta Thunberg inspires her and she is leading the "Fridays for Future" movement. She is now 23 years old and also a member of the German Green party [34]. She is taking her political and social role as a member of the party and youth to bring awareness towards the issues she believes to be essential to talk about.

4. Conclusion

Greta Thunberg is a teenager who shook the world with her bold speech about climate change. She has been around to make everyone realize that climate change gives humans no other option but to act now. From her one-man-show school strike that she started in August last year, she is now leading millions of youths and students to hold the politicians accountable to take action on climate change. Her success in affecting so many people to the point where the UK government declares the climate emergency is extraordinary. Though so much work is still needed to be done, we can now agree that changes are possible. Those tiny toes of the students and the youth marching for the earth show us some key points of the possible changes itself. First, we need someone brave enough to talk about nothing but the fact. Had not Greta been so brave even to skip school every Friday, the school strike movement would be a name we never heard of. Second, it does not matter the age, status or origin of the individual but we need a figure that can connect to the day-to-day people. Greta is using no beautiful word but honest and relatable ones that make it possible for her to gain the trust of the

society to lead such a vast movement. Third, every movement needs its very own momentum to spark and grow. The school strike movement comes around when we are so depressed because of people trying to turn down the idea of climate change while its effects are worsening and as Greta is open up to do both the protest on the street and speech in front of many figures with great influence she set herself on a journey to make a real action for the earth. Though there are movements before and during the rise of Greta, it shows that every movement sparks on its own time and create an impact on a different scale within the society. This paper sees that probably the change for the better life lies in those three key factors and one cannot really be neglected or change is not there to be made. Lastly, both Greta and the previous agreements and actions are binding to each other to solve the problem of climate change as one is moving and backing the other.

Acknowledgments

We would like to say thanks everyone who helped the research.

References

- [1] Chung F. 2019 Nearly 30 years before Greta Thunberg, a 12-year-old girl shamed world leaders at the United Nations. News Corp Australia [Internet] [cited 2019 Dec 20].
- [2] Eric Conwal. 2019 What's in a name? Weather, global warming and climate change. NASA
- [3] BBC News 2013. A brief history of climate change [Internet] [cited 2019 Jul 7] Available from: <https://www.bbc.com/news/science-environment-15874560>
- [4] NASA News & Feature Releases 2019. NASA, NOAA Data Show 2016 Warmest Year on Record Globally [Internet] [cited 2019 Jul 12] Available from: <https://www.giss.nasa.gov/research/news/20170118/>
- [5] Harrington JD, Garcia M-JV. 2019 Warming ocean causing most Antarctic ice shelf mass loss [Internet] Available from: <https://climate.nasa.gov/news/937/warming-ocean-causing-most-antarctic-ice-shelf-mass-loss/>
- [6] Jean-Marie Robine, et al. 2008 Death toll exceeded 70,000 in Europe during the summer of 2003. *Comptes Rendus Biologies* 2008 3312171–8. Available from: <https://doi.org/10.1016/j.crv.2007.12.001>
- [7] World Health Organization 2018. Climate change and health [Internet] [cited 2019 Jul 12] Available from: <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>
- [8] Oxfam International 2017. 5 natural disasters that beg for climate action [Internet] [cited 2019 Jul 18] Available from: <https://www.oxfam.org/en/campaigns/grow/5-natural-disasters-beg-climate-action>
- [9] European Environment Agency 2015. Agriculture and climate change [Internet] Available from: <https://www.eea.europa.eu/signals/signals-2015/articles/agriculture-and-climate-change>
- [10] Irwin N. 2019 Climate Change's Giant Impact on the Economy: 4 Key Issues. The New York Times 2019 [Internet] [cited 2019 Jul 17] Available from: <https://www.nytimes.com/2019/01/17/upshot/how-to-think-about-the-costs-of-climate-change.html>
- [11] UNHCR. 2018. Climate change and disaster displacement [Internet] [cited 2019 Jul 19] Available from: <https://www.unhcr.org/climate-change-and-disasters.html>
- [12] Aders T. Fleeing 2019 climate change - the real environmental disaster - DW Documentary [Internet] Available from: https://www.youtube.com/watch?v=cl4Uv9_7KJE&t=25s
- [13] Clark D. Has 2019 the Kyoto protocol made any difference to carbon emissions? The Guardian [Internet] [cited 2019 Jul 8]. Available from: <https://www.theguardian.com/environment/blog/2012/nov/26/kyoto-protocol-carbon-emissions>
- [14] Dembicki G. 2019 Why the Paris Climate Summit Is a Really Big Deal Vice News [Internet]. Available from: https://news.vice.com/en_us/article/xw3gna/why-the-paris-climate-summit-is-a-really-big-deal
- [15] Hayden S. 2019 Here's What We Saw at the Huge London Protest Demanding Action on Climate Change Vice News [Internet] Available from:

- https://news.vice.com/en_us/article/9kjd7/heres-what-we-saw-at-the-huge-london-protest-demanding-action-on-climate-change
- [16] Briggs H. 2019 What is in the Paris climate agreement? CNN [Internet Available from: <https://www.bbc.com/news/science-environment-35073297>
 - [17] Roberts T, Arellano A. 2019 Is the Paris climate deal legally binding or not? Climate Change News[Internet] Available from: <https://www.climatechangenews.com/2017/11/02/paris-climate-deal-legally-binding-not/>
 - [18] Bridgeman T. Paris 2019 Is a Binding Agreement: Here's Why that Matters.Just Security [Internet] Available from: <https://www.justsecurity.org/41705/paris-binding-agreement-matters/>
 - [19] Watts J. 2019 We have 12 years to limit climate change catastrophe, warns UN. The Guardian[Internet]. Available from: <https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>
 - [20] Eyen L. 2019 Xiuhtezcatl Martinez : The Next Generation - Youth "Activist" and Environmental Advocate.Markkula Center for Applied Ethics at Santa Clara University [Internet] Available from: <https://www.scu.edu/environmental-ethics/environmental-activists-heroes-and-martyrs/xiuhtezcatl-martinez.html>
 - [21] Silberman S. Greta Thunberg 2019 became a climate activist not in spite of her autism, but because of it. Vox [Internet] Available from: <https://www.vox.com/first-person/2019/5/6/18531551/autism-greta-thunberg-speech>
 - [22] Piper E. 2019 The UK has declared a state of emergency on climate change. World Economic Forum[Internet] Available from: <https://www.weforum.org/agenda/2019/05/the-uk-just-became-the-first-country-in-the-world-to-declare-a-state-of-emergency-on-climate-change>
 - [23] Haynes S. 2019 'Now I Am Speaking to the Whole World.' How Teen Climate Activist Greta Thunberg Got Everyone to Listen. Time [Internet] Available from: <https://time.com/collection-post/5584902/greta-thunberg-next-generation-leaders/>
 - [24] Watts J. 2019 The Greta Thunberg effect: at last, MPs focus on climate change The Guardian[Internet] Available from: <https://www.theguardian.com/environment/2019/apr/23/greta-thunberg>
 - [25] Branin L, Wheelock J, Long Z, Bethea N. 2019 Why humans are so bad at thinking about climate change. Vox [Internet] Available from: <https://www.youtube.com/watch?v=DkZ7BJQupVA>
 - [26] Brown L. 2019 Climate change: What is a climate emergency? BBC News[Internet] Available from: <https://www.bbc.com/news/newsbeat-47570654>
 - [27] Segalov M. 2019 The UK Has Declared a Climate Emergency: What Now? Vice News[Internet] Available from: https://www.vice.com/en_uk/article/evyxyn/uk-climate-emergency-what-does-it-mean
 - [28] Evans P. 2019 What Declaring a Climate Emergency Looks Like.Greenpeace[Internet] Available from: <https://www.greenpeace.org.uk/declaring-climate-emergency-looks-like/>
 - [29] Lucas C. 2019 Greta Thunberg's visit to Britain is a huge moment for the climate movement.The Guardian [Internet]. Available from: <https://www.theguardian.com/commentisfree/2019/apr/22/greta-thunberg-london-climate-movement-extinction-rebellion>
 - [30] Brockes E. 2019 When Alexandria Ocasio-Cortez met Greta Thunberg: "Hope is contagious" The Guardian [Internet] [cited 2019 Jul 7] Available from: <https://www.theguardian.com/environment/2019/jun/29/alexandria-ocasio-cortez-met-greta-thunberg-hope-contagious-climate>
 - [31] Richardson H. Greta 2019 Thunberg just challenged Alexandria Ocasio-Cortez on America's "climate denialism" Stylist[Internet] Available from: <https://www.stylist.co.uk/people/greta-thunberg-alexandria-ocasio-cortez-climate-crisis-interview/276739>
 - [32] Dixon E. Greta 2019 Thunberg meets the Pope after scolding EU leaders on climate change. CNN [Internet] Available from: <https://edition.cnn.com/2019/04/17/europe/greta-thunberg-pope-eu-brexist-scli-intl/index.html>

- [33] Arboine N. 2019 A Future World: How to Fights Climate Change According to Irsa Hirs. DAZED. [Internet] Available from: <https://www.dazeddigital.com/politics/article/44390/1/how-to-fight-for-climate-action-isra-hirsi-climate-strike-ilhan-omar>
- [34] Galvez-Robles I. 2019 19 Youth Climate Activists You Should Be Following on Social Media Earth Day [Internet] Available from: <https://www.earthday.org/19-youth-climate-activists-you-should-follow-on-social-media/>