

# Global Forum

For Environmental Education  
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33rd Caretakers of the  
Environment International Conference

June 30 - July 6, 2019  
Istanbul, Turkey

**Sustainable Living  
In A Big City**



Caretakers of the Environment International  
A global network for teachers, educators, and students

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# CEI President's Message

Dear all caretakers – students, teachers and friends

Summer conference is near. This year the 33rd CEI annual is taking place in Istanbul, Turkey and is hosted by TED Istanbul College Foundation Private High School and the Turkey Branch of CEI. From my visit in February where I saw both the school and the conference site and met the host, Nurten Mersinlioglu and some of her team – including very dedicated young students from the school – I am very confident that we'll have a wonderful conference.

The conference theme this year is: "Sustainable living in a big city". The theme is based on the Sustainable Development Goals of the United Nations from 2015 – and the goals of CEI: To promote environmental protection, to promote environmental education and to shape awareness and training within sustainable development. Participating students from all over the world have prepared projects to the theme. These projects will be presented at the conference and there will be responses, discussions and possibilities to learn from other students and teachers from many cultures and with many different experiences.

The cities of our globe are responsible for about 70% of the CO2 emission, so they have a key role in the fight for better climate. It seems more and more important that countries all over the world will face reality and act together for a healthier and more sustainable future. The need for action is more and more evident and especially the latest year we have seen young people taking action and demanding governments and parliaments – leaders in the world to act – to make responsible decisions. The Swedish girl, Greta Thunberg, has become well known all over the world with her strike demonstrations and her speeches to leaders of the world. She has had many followers in many countries – other young people that felt the need to try to fight for a better future. It gives hope for a better future when so many people together will fight for better conditions on our common globe. We are really depending on people all over the world to fight for that goal together. Now is the time to act – and together we can make a change.

The CEI annual conference is a forum where young people from all over the world can come together, discuss and learn and develop tolerance and understanding. This forum is a way to come a step forward – to make a better future for diversity of life – for sustainability on our common globe.

CEI is very thankful to TED Istanbul College Foundation and Turkey branch of Caretakers to have made it possible to have a conference in Turkey for the first time. Especially many thanks to Nurten Mersinlioglu and her team of teachers, young students and all other helpers and sponsors. Because of all their hard work we are going to have an inspiring and wonderful conference.

Looking forward to learn and experience – and to meet many of you in Istanbul.



*Elisabeth Brun, Denmark*

President of Caretakers of the Environment International

# Welcome Letter from 2019 Host

Dear Caretakers Family,

It is with great pleasure that we welcome you to Istanbul for the 33rd Annual Caretakers of the Environment International Conference. The theme, "Sustainable living in a big city," is inspired by our unique location, Istanbul. Istanbul has always been one of the biggest cities in the world. Along with the magic and variety that its grandeur and history bring into the citizens' lives, which we hope that you will also experience during your stay here, it is also a challenge to survive in Istanbul. This challenge is a part of our lives and therefore we have always been aware that although sustainable living is much more crucial in the big cities, it is that much more difficult to implement in the big cities. For this reason, we are very excited to explore this theme with you, the Caretakers Family.

Sub-title of the conference is Goal number 11 from UN Sustainable Development Goals. Goal 11 is aiming to make cities inclusive, safe, resilient and sustainable all-around world by 2030. Specific targets of Goal 11, that we also hope to discuss in our conference are as follows:

Ensuring basic housing, public transportation and public space needs of people all around the world are met, decreasing the effects of disasters, and climate change on humans, adversing environmental impacts of cities such as air pollution and waste, encouraging use of local materials in buildings and all in all enhancing inclusive and sustainable urbanization.

We are very excited to work around all these issues and learn from each other.

This is an amazing opportunity; we will get to collaborate with people from all around the world and further the proud tradition of Caretakers of the Environment International Conference in a beautiful location surrounded by nature. For the past year, we have worked very hard to provide you with an inspiring and enriching atmosphere. We encourage all our participants to be open-minded inquirers, balanced risk-takers, reflective thinkers, principled communicators but most importantly to be caring.

We wish you a wonderful conference full of happy memories.

Cordially,

CEI 2019 Turkey Organization Team

FÜSUN ERSOY: PRINCIPAL OF TED İSTANBUL COLLEGE FOUNDATION  
HIGH SCHOOL

NURTEN MERSİNLİOĞLU: CONFERENCE HOST, CEI TURKEY  
PRESIDENT

LALE PİŞKİN : CONFERENCE HOST, CEI TURKEY

DİDEM DEMİRCİ : CONFERENCE HOST, CEI TURKEY

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BURCU ÇİNLİ : CONFERENCE HOST, CEI TURKEY

MARIA ALI : CONFERENCE HOST, CEI TURKEY

BEGÜM HATİP : CONFERENCE HOST, CEI TURKEY

JENNİFER ŞENER : CONFERENCE HOST, CEI TURKEY



Organization Team



Youth Team

## Host School

The network of TED schools dates back to 1928 when the Turkish Educational Society (to become later in 1946 the Turkish Educational Association) was set up to carry forward the guiding principles of modern, technological, investigative, innovative and collaborative education in the light of the founder of Turkish Republic, Mustafa Kemal Atatürk. TED Ankara Koleji was the first school to be established in the early thirties and there is now a network of 40 TED schools throughout Turkey, sharing these common principles and providing quality education in a contemporary, democratic structure. TED İstanbul Koleji was the ninth co-educational TED high school to be founded in September 1998 and has grown into a fully-fledged educational establishment, with its first graduates in June 2003.

Current TED İstanbul facilities include computer labs, a campus network with internet access, two libraries, science labs, performing arts center, dormitory, outdoors tennis and basketball courts,

multi-court sports hall, and several academic and nonacademic buildings. TED İstanbul campus, occupies a land area of approximately 40,000 square meters (10 acres) and an indoor area of 28,000 square meters (311,000 square feet) on the Asian side of the Bosphorus.

There are 184 full-time teachers, 17 academic administrators including the deans, one overseas college counselor, two librarians, and 74 administrative staff. Turkish teachers make up roughly 80% of the faculty, while the remaining teachers are native-English speakers

School website : <http://www.tedistanbul.k12.tr/ENG/>



## Sponsors



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# Reiview of CEI 2018 Austria

## Let's Experience Nature

July 8 - 14, 2018 CEI Austria, BG/BRG Judenburg, Styria, Austria

**Conference Chair Ilse Prenn and Bernd Fiechtl**

After a preparatory time of one and a half years the 32nd CEI conference took place in Judenburg/Austria from the 8th - 14th July 2018. The conference was organised by the CEI Austria team represented by Mag. Bernd Fiechtl, Mag. Ilse Prenn, Mag. Silke Felfer and Mag. Eva Tatschl and the academic grammar school "Bundesgymnasium und Bundesrealgymnasium Judenburg", represented by HR Mag. Johann Mischlinger. Additionally, the Austrian CEI board cooperated closely with the Austrian Armed Forces at the military training base "TÜPL Seetaleralpe", represented by Commander Manfred Hofer.

Approximately 35 teachers, 50 students, 9 graduates from the BG/BRG Judenburg and 2 international CEI alumni were involved in the preparation and implementation of the conference.

The Austrian hosts welcomed 260 international delegates from 15 different countries such as Denmark, France, Hongkong, Indonesia, Japan, Mexico, Austria, Poland, Portugal, Russia, Scotland, Taiwan, Turkey, Hungary and the USA.

All participants were accommodated at the Military Base "TÜPL Seetaleralpe". Without the excellent facilities at the base and the

professional knowledge of the military crew in accommodating large groups of people, the organisation of the conference would not have been possible to carry out.

At the opening ceremony all delegates were welcomed by a number of Austrian guests of honour, local, regional and national politicians as well as representatives from cultural and economic institutions.

The rest of the week was filled with a wide range of social, scientific, cultural and sport activities. The first highlight of the week were the project presentations. All delegations presented their projects related to the conference's theme "Let's Experience Nature" with a 8 - 10-minute oral presentation. In total, delegates had prepared 58 project presentations about the most different topics concerning environment. These 58 presentations were divided into 8 groups, so that every delegate had the opportunity to participate in a minimum of 14 presentations. Furthermore, participants had the opportunity to join project exhibitions.

A principal focus of the conference was on the ongoing changes in ecosystems which have been caused, especially during the last 150





years, by industrialisation and climate change. The presentation of each delegation showed a wide range of sustainable opportunities and adaptation strategies to reduce the overconsumption of resources as well as environmental pollution and the effects of climate change. The main organisation of ecological activities was carried out by the headmaster of the BG/BRG Judenburg HR Mag. Johann Mischlinger and Mag. Dr. Eva Gergely.

International scientists of Austrian universities and economic representatives presented already observable and possible environmental changes which can be expected particularly in alpine ecosystems in the future. They also pointed out the costs for national economy and illustrated the advantages of sustainable production processes, describing a local paper mill and pulp factory.

Laboratory workshops in the field of limnology, botany, zoology and chemistry, where different analytical methods, microscopes, Q-scopes and a wide range of techniques for water analysis were applied, showed the high diversity and sensitivity of regional ecosystems.

These workshops were followed by excursions to a protected alpine

creek and a geo-cache track, which had been created by Austrian students close to a paper mill.

Even at an altitude of approximately 1800 m the conference set an example for sustainability. Each international delegation was invited to plant an arolla pine tree marking it with a badge in the shape of their country. So, in the future mountain hikers can enjoy the new forest comprising approx. 600 new arolla pine trees at the "Seetaler Alpe"

Another major highlight at the conference were two cultural activities. Firstly, all delegates could get a taste of different specialities from all over the world at the "Food and Fun Market" and secondly, all delegates sent special cultural greetings from their home. With cultural performances, dances and songs, delegates got an impression of different cultures and traditions from all over the world.

Another important event was the visit of the regional capital Graz. The delegates had been invited by Dr. Bettina Vollath, the president of the regional government.

The 32nd CEI conference was round off with a closing ceremony and a buffet with Austrian specialities.



CEI 2018 webpage : <https://cei2018at.wixsite.com/cei2018>

Facebook Link : <https://www.facebook.com/groups/1923510601223178/>

Twitter address : [https://twitter.com/CEI\\_AUSTRIA2018](https://twitter.com/CEI_AUSTRIA2018)

Instagramm : <https://www.instagram.com/cei2018at/>

YouTube : <https://www.youtube.com/channel/UCy2BLrZ5S1UohEq0IKvIz2w>

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# 2018 Austrian Volunteers

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## Judith Steinwiddler



"Let's Experience Nature" – an idea came true for many participants at the CEI conference in Judenburg 2018. After attending previous conferences (2014, 2015) as a student, I was thrilled to have the chance to help out at the conference as an Austrian volunteer. Thrilled, because it was the first conference in my hometown – but also because I could experience the special "CEI-spirit" once more. During the conference, I had many opportunities to catch up with old friends, get to know new people and to improve my intercultural competences. What is more, I realized again how crucial it is to exchange information about environmental problems we face in our own countries. Sometimes finding a solution (that we maybe didn't think of) can start with a small step that leads to living an eco-friendlier life. I was equally overwhelmed and inspired by the effort the students put in their projects. I enjoyed listening to the presentations and discussions while thinking about possibilities to implement changes in my personal life. Spending time outside hiking, playing our planting trees with people that are not surrounded by nature everyday made me realize that I often take the beautiful landscape for granted and should definitely appreciate my surroundings more. Finally, I would like to thank everyone for their great participation and courage to try out new food, unknown sports, games, activities and to experience nature in theory and practice. I will never forget the experience, and I hope everyone enjoyed it the way I did.

## Ilona Berger



My first experience with CEI was in Hungary, where I attended as a student. So, the Conference in Austria was my first experience as a student volunteer, and I was really looking forward to this event. I had very good memories of my first conference and therefore I was super excited to help.

I believe that these conferences are a great opportunity for young students to communicate, exchange and share opinions with other people. For this reason, I was looking forward to meeting all the people from different nations and show them our beautiful country. Also, the motto "Let's Experience Nature" was well implemented, since we set up our camp directly in the mountains. This created a lot of possibilities and so we explored the biodiversity in the Arolla Pine region.

One of my favourite activities was the tree planting, where each delegation planted one for their country. When I'm up there and see the trees, I always look back and remember the fun we had while planting the trees. We also visited the "Wipfelwanderweg" which is a hiking trail approximately 20m above the ground. There you have a great view over all the mountains, woods, hills and small cities in the area.

However, we were not only exploring the nature, there were also a lot of social activities and cultural events. I really enjoyed the culture evening and I admired the different traditional clothing, dances and performances. I also attended different presentations and I was honestly impressed with the work the students put in their projects.

All in all, the week in Austria was a lot of fun, I made a lot of different experiences and I hope that the students also enjoyed their stay in Styria, made friends and had the opportunity to exchange their ideas concerning nature and preservation.

## Mag. Stefanie Kothgasser

As it is known, CEI stands for "Caretakers of the Environment International". When I joined the voluntary subject BEE (= Biological Environmental Experiences in English) at school and got to know CEI, I was immediately convinced that it's a fantastic organisation and that I want to spend my future life as a caretaker! When I participated in the conference in Debrecen (Hungary) in 2011 it was an incredible experience. There were so many people, some younger and some older than we were, and they were all convinced that our environment and our planet need to be saved and protected. I still remember the slogan which we first painted and then presented in a group picture: "WE WANT OUR FUTURE!" And that's the message which still needs to be carried to various countries and to (young) people around the world. It's our future and our planet that needs to be protected, because we won't get a second one. What I also remember is our trip into the Pannonian Steppe where I was impressed by the wide fields and the incredible landscape. It was a once-in-a-lifetime experience – or so I believed back then.

As I stayed in touch with my former school during my studies, the Austrian organisers of the CEI conference 2019 in Judenburg (Austria) asked me to become a member of the CEI team again. I immediately agreed and volunteered to assist the organising

team. This conference was even more intense than the first one. During this conference which started just two days after I had finished my teaching degree for English and Geography & Economics I was even more aware of environmental issues than back at school. For this reason I was even more impressed by the diversity of students' projects and by their genuine interest in sustainability. It is so important to motivate young people to find ideas for saving our planet and the CEI conferences show that students care. There are pupils who want to change the system. There are young people who are aware of the world's problems. There are ideas on how to save our planet. And this is impressive as well as it's essential. I am convinced that only action will lead to a better and brighter future. CEI combines all of these important aspects: It gives young people a chance to start their journeys towards saving our planet. We are all part of this development towards a better future and that's what makes me really proud to be a member of the big CEI family!



# Being a “CARETAKER” for the First Time

## Berke Özcan

TED İstanbul College Foundation Private High School, Turkey

In 2018, I had a huge chance to attend “Caretakers of the Environment International” Conference which was held in Judenburg/Austria. It was such a great opportunity for me to be a part of this incredible conference and broaden my horizon more and more each day. Even though it was my first time experiencing an international conference with lots of delegates from all around the world, I never felt like a freshman. Instead, it was such a grateful experience for me with lots of people in my age who I feel the most comfortable with and form sincere bonds easily. During the conference, I had lots of hard work and also so many memories that I am very grateful for. In this letter, I would like to express my feelings and gratefulness in being a part of such an important conference.

To begin with, during the semester, we worked so hard on our project about harvesting rainwater to make sure we did our best and created a project which fits perfectly to the missions of CEI. By doing so, we tried to emphasize one of the riskiest environmental problems in our country and raise awareness by sharing our knowledge with our close environment. Secondly, Caretakers of the Environment Conference was a great platform for us to interact with teenagers around our ages carrying the same aim with us. During the conference, we did not only have a chance to share



our knowledge on the environment phenomenon in our country, but also learned so many new things from other delegations' presentations boarding our world of knowledge. Also, besides all the educational process, we had so many great memories that we are thankful for. We made so many friends from all around the world carrying the same aim with us. I think, it is so promising to have such an important conference in the world which gathers teenagers to protect the environment while strengthening social bonds and developing communication skills. As a caretaker of the environment, I can say that CEI is one of the most important conferences in the world which has a huge effect on saving the future by raising conscious generations.

We, as students of TED İstanbul College, feel so honored to be hosting the 33rd annual CEI Conference in 2019. Early last semester, as soon as we learned that the next conference will be held in our country and we will be the host, we created a very big team including nearly 50

members and started working very hard to make sure it will be as well as the previous conferences. Although, there are so many students in our team who have never experienced a Caretaker of the Environment Conference, I can truly say that they work harder and harder each day thanks to the strong and inspiring spirit of being a caretaker.



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# The Mexican experience in Judenburg, CEI 2018 Conference.

## Mexican Team

Instituto Escuela del Sur

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The opportunity to participate in a Conference like those organized by Caretakers International is a privilege for any student in the world. Since the Encounter in Portugal in 2015, the Instituto Escuela from México has taken this experience as an important part of adolescent development to address the environmental care that is so urgent for the conservation of the planet, while obtaining a global vision of the way in which the challenges in each region are faced. Not only do students who attend the Conference participate, but our entire school cooperates with the preparation and capitalizes on the results.

Knowing Judenburg and participating in all the activities we shared was wonderful. The Conference was a very enjoyable opportunity to make friends from all over the world, with whom we still maintain contact. We enjoy the beautiful place in the mountains, the work in the magnificent school, the presentations of all the countries, the cultural night, the conferences, the games, the international market and the excursions.

The entire Mexican delegation thanks the Austrian organizers for the warm welcome and the excellent organization and we will participate in the following meetings with our best effort so that this experience continues to bring results and engaging the new generations with the care of our common home.



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## Never In My Whole Life...

### **Karen Garcia**

Early College High School Salem, Oregon  
CEI USA Oregon Chapter

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Never in my whole life did I think I could accomplish an ambition beyond my wildest dreams! I have always been scared to take risks and had low confidence in the work I put in.

I got the opportunity to change the status quo when I attended the Caretakers of the Environment International conference. This year, in 2018, the conference took place at a military base in Judenburg, Austria. As a U.S. delegate this was my second conference so far and my first conference out of the country. Furthermore, I have never taken a plane overseas so the thought of such an experience felt surreal to me. It wasn't until I got off the plane into Vienna, that I truly processed what was happening.

Even though I've had the experience of presenting at a conference the year before, I was still quite nervous about what the dynamics of this year had to offer. It would be my first experience as a foreign delegate, and I just wanted to represent the USA in the best way that I possibly could. Our group project consisted of creating hands-on environmental lessons for elementary school kids in our county. Prior to the conference, we spent week after week practicing how to give our presentations about this project and perfected our delivery to the very night before the morning of presentation day. In the end, it all payed off and I was very relieved to



receive a generous amount of praise for the work that we put into.

Throughout the week, there were a lot of field trips, games, tours, and celebrations as opportunities to get to know many of the delegates better. My favorite event was when we went to Graz to spend the day exploring the city. We got to visit parliament together and then my group went to visit the well distinguished Kunsthaus art museum.

Overall, I felt empowered by my peers. Even though we came from vastly different places, we all shared the same vision, which was to contribute in any way we can to make our environment a better place. I never thought I would have the privilege of attending an overseas conference, but my teacher and delegation made it all possible. It took me about 220 hours of work to prepare for this conference and I've never been prouder to say that it's been worth it. Getting to do something bigger than myself was one of the most rewarding parts of the process; it was not only a reminder that there were greater endeavors that spanned beyond my life in Salem, Oregon, but a reminder that those endeavors were attainable and within my reach.

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## Fond Austrian Reflections

### **Wayne Schimpff**

CEI USA Illinois Chapter

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The friendly welcome of the conference organizers and the volunteer staff, the ever pleasing base staff, and the beauty of the site added to the conference's unique memorable takeaway experiences for Gail and me. Who can forget the planting of out legacy trees for future visitors to enjoy? As usual, friendships were renewed and more important, new ones were made. Looking forward to our next CEI unique conference.



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# CEI 2018 – USA Delegation Debriefing

## Dan Hoynacki

CEI USA Oregon Chapter

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About mid-August, after our delegates could settle back into their homeland, Tony and I got them together to elicit some honest feedback on their Austria conference experience. Here are the standout comments:

### ● Was this conference life changing?

**Ben :** I got more mature. I realized that I could act more mature. This is my 3rd conference, so I decide to just put myself out there. I gained conference to build stronger relationships with others. I think now I'll be more of a leader in college. I'll be stronger team player. CEI has helped me build a personal relationship with someone on the other side of the planet.

**Karen :** Yes. It was my first time out of the country. Just being there made me realize that there are bigger and things in the world. Everything that I felt had gone wrong, (like the one B) or inconvenienced in my bubble of my life prior to this experience all vanished. Now I am able to see beyond my own horizon. Coming back, I am now caring less about what other people think about me. I've gained self- respect. One of the biggest regrets was not learning German, am inspired to learn more languages. Now I'm using more platforms to connect with more people. I'm inspired to build relationships. After CEI, I become a little more confident in approaching people. I was assigned a new trainee and she was complimentary of how I taught her, which built my confidence that I am able to teach people. I now have more cultural awareness.

**Andrew :** Yah. It did make me more outgoing. For example, during the conference I sat next to the Japanese teacher, it was easier for me to start conversation to see what happens, and it went well. For next year, going to Europe, I am less fearful. It will be easier for me to interact with others. I feel I am now more independent, and not as dependent on brother Ben.

### ● What is the worm on the hook to engage others in CEI?

**Ben :** I'd tell them this won't be easy, but if you stay engaged and learn from your experience it will be the best experiences of your life. My number one fear was communicating with people.

**Karen :** It is a lot of work but worth it in the end.

**Andrew :** The more you put in the more you get out of it.

### ● What do you think we should add, take away, what is right wrong, what can we do better?

**Ben :** Good job but add little classes about social skill building. Liked the family vibe we had. We could have been stricter. I did feel treated like an adult. Too open ended. More guidance with how CEI fits into our priorities.

**Andrew :** Projects need to be developed earlier. Less cramming.



# 2019 Alumni Team



**Deniz Kayserilioğlu**

**Turkey**

2015 Portugal  
2016 Denmark

**Duru Börü**

**Turkey**

2012 The Netherland  
2015 Portugal

## Role Of Zinc Nutrition in Root Cadmium Uptake

**School :** Sabanci University

**Teacher :** Nurten Mersinlioglu



Health has been the most valuable wealth for every living being; the top priority action each living being does is staying alive. However, there are some threats to our lives. Cadmium poisoning is one of these threats. Cadmium is one of the most poisonous heavy metals and cadmium accumulation in our bodies may lead to kidney damages, lung diseases, liver injuries, cancer and many other problems which would eventually lead to death. The majority of cadmium intake for non-smoking people is provided by food intake and zinc has an inhibitory effect on both cadmium intake on plants and neutralizing the poisonous effects of cadmium in our bodies. It is well-documented that these two metals are antagonistic during uptake and transport. In our project we will study the cadmium uptake in different plants depending on zinc concentration of the soil and plant's itself. We will separate experimental test groups with two plant species (canola, corn and wheat) grown in soil with different concentration of zinc and phosphorus. Aim is to examine the relationship between the zinc and phosphorus concentration of soil and root cadmium uptake.



**Alberto Garcia Martinez**

**Mexico**

2015 Portugal, 2016 Denmark, 2018 Austria



## Micro Tunnels: a Way to Help Those inside the City

**School :** Insituto Tecnológico y de Estudios Superiores de Monterrey (ITESM, Tec de Monterrey)

**Teacher :** Irma Salgado Escobar

The village Jardines de San Juan is located in the Ajusco mountains in the borough of Tlalpan, in southern Mexico City. San Juan is a poor community with fertile soil for farming; the average daytime temperature is 20 °C and the average nighttime temperature is 6 °C. The population grows vegetables for their own consumption with the support of a nonprofit association. Sixty students participated in a social activity to build and set up micro tunnels on the fields to protect the vegetables from the low nighttime temperatures and to help/cooperate with the daily diet of the families that live in the community. All of the students were enrolled in a second-semester Chemistry class in various engineering majors at Tec de Monterrey. The students formed teams and contributed some of the money to buy the materials. Fourteen micro tunnels were installed on different fields in the form of a horseshoe. The main difficulties were the rocks underground and the surface irregularities of the field. However, with the support and interest of the families the work was done perfectly. In conclusion, we hope that with the help of micro tunnels, the families can grow vegetables of better quality.





**Andrew Bond**

**United States**

2016 Denmark, 2017 USA, 2018 Austria



**Muhammad Haroon Zahid**

**Pakistan**

2015 Portugal, 2016 Denmark



## Teaching and Encouraging Environmental Action through Technology

**School :** VU Amsterdam

**Partner organization :** CEI Oregon

A common problem that occurs with environmental issues is that not many people are aware of all the problems going on, and even if they do and want to help, they don't know how to get involved. It was with this in mind that I started my project to create mobile apps, with two main goals. Firstly, educate people about the problem in a simple and concise way, without requiring a science background to understand. And secondly, provide a way to connect people with environmental activities that they would like to participate in. My goal is to initially implement this second goal in a single city, while developing a framework to add more cities in the future, and eventually allowing organizations to add events/activities by themselves. The final part of this app, which is a potential future feature I am looking into, is to provide a way for users to keep up to date on recent environmental news, both on a global scale, and more locally. This local news would follow the same rollout as the framework mentioned above, starting in a single city initially, and expanding as time/capabilities allow. I have planned for this app to be developed and rolled out over a long time, so it will continue long past the end of the conference. It will also contain the ability to add new features as necessary, in order to prepare for any necessary future changes.

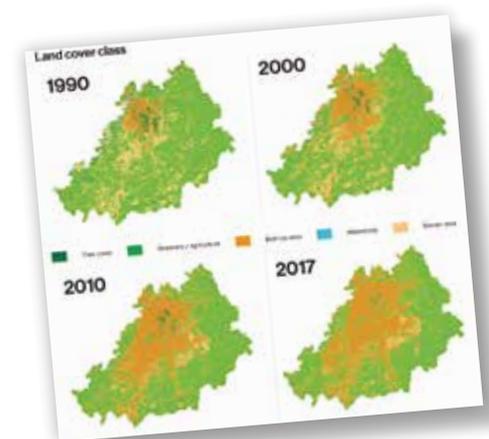


## Urban Sprawl in Lahore, Pakistan

**School :** Lahore College of Arts and Sciences

Urban sprawl is the unplanned, uncontrolled spreading of urban development into areas adjoining the edge of a city. The sprawls have been taxing on the city of Lahore heavily. The outskirts lost their charm and were no longer green with lush fields, sanitation problems were on their peak, it was difficult to keep the city clean, and traffic was a major annoyance for commuters. However, the sprawls also brought positivity's such as cheaper land for houses and a clean and pollution free environment to live.

The public agreed with me to a good extent voicing out their concerns about traffic problems, waters supplies, sanitation, and filth around the city. However, some were of the view that the outskirts were offering a better life in terms of a slow paced and cleaner lifestyle. Many people also agreed that the city was at a point where it was unmanageable and it should only grow if the ministers and governors in charge were able to control the city. LOA (Lahore Development Authority) were also of the view that the sprawls were not carefully managed and have therefore, brought negative externalities to the city. However, the sprawl allowed more people to be accommodated in the city and they were able to get employment.



# 2019 Student Projects



## TURKEY

### Journey Of Cotton

**Schools :** Notre Dame de Sion and Saint Michel French High Schools

**Teachers :** Seval Erol, İnci Kimyonşen

**Students :** Lara Makal, Mehmet Barış Avkovan , Aysu Köse, Mehmet Hamza Ulutaş

The development of agriculture and the industrial sector is a key element for self-sufficient societies.

Agricultural products pass through many stages from field to city. Therefore, sustainability in agriculture affects the sustainability of the cities. Many factors such as energy efficiency, waste management, environment and food safety are effective in the sustainability of cities. Last September we went to Adana, Çukurova to participate in the cotton harvest. We saw cotton in its natural habitat and joined the cotton harvest. We collected cotton, filling sacks and taking them to the factory. We saw the separation of cotton from its fibers witnessed its transformation into fabric in the factory.

Cotton with high economic value is used in many areas.

Global warming also have on direct effect on agriculture, therefore planting areas are decreasing day by day.

Researchers indicated that long term storage and distribution process may have hazardous effect on the product itself, thus potentially cause health issues on consumers.

As we have seen the difficulty of the whole harvesting process of cotton and its voyage to our daily lives we had to take an active role in our school to raise the awareness among our friends.

Therefore, in the name of sustainable cities. We started a campaign for recycling our used textiles. We collected those at school and gave it to authorities for recycling.



## Natural Food Workshops

**Schools :** Notre Dame de Sion and Saint Michel French High Schools

**Teachers :** Seval Erol, İnci Kimyonşen

**Students :** Aslı Ünlüer, Zehra Zor-Mert Çağdaş



Nowadays, because the access to natural organic products is difficult and the city life encourages people to consume processed products, natural nutrition habits are decreasing day by day and the diseases are increasing rapidly. It is very difficult for us to reach such organic products because we live in a big city like Istanbul. So as we decided to produce our own organic products.

Our first workshop was about making some healthy pickles. We used some organic products like cabbage, radish, carrot, cauliflower ... We produced cheese and kefir which are really important for our body and our immune system. Finally we ate our cheese and drank our kefir. They were really delicious.

Our third workshop was making a natural vinegar workshop. We

used natural apples but vinegar can be made from many fruits such grapes and citrus fruits. We put the apples in the glass jar. We added drinking water, some sugar and chickpeas. We left our jars closed with cheesecloth on a dimly lit atmosphere. After waiting for the natural fermentation process to take about 2-3 months, we then our delicious natural vinegar got ready to be used.

After all of that we made natural soap which cleans the acidic structure of the skin using honey, natural olive oil soap, glycerin, olive oil and lavender / rose essences. They smelled so good.

After we have gained the habit of making and using healthy, clean, cheap products and we have added natural cream and toothpaste to the workshops where we aimed to protect the natural environment.



*Journey of Cotton and Natural Food Workshops are both joint projects of Notre Dame de Sion School and Saint Michel French High School*

## Public Water Fountains

**School :** Robert College

**Teacher :** Erol Şahin

**Students :** Ashı Çelik, Tuna Cengiz, İlayda Koca, Ayşegül Şahin



In Turkey, water from household taps is not fit to be drunk. Drinking water is therefore purchased. Water companies distribute their products by unsustainable means, emitting great amounts of greenhouse gas in this process. For this reason, a changeover in the commercial distribution of

water should take place in order to better our industry, transportation, and environment.

Bringing water with pipes directly to households is not a viable solution in this regard because the pipes are not near qualified to carry drinking water. Moreover, the water pipes are chronically fractured due to rapid urbanization and their weak composition.

Building water reservoirs throughout large cities could be a rather plausible option, however. The reservoirs will be built near population centers and contain a sufficient amount at all times

to satisfy the demand of water. Water will be brought by water companies to these reservoirs from their water plants.

Our project aims to substantially decrease carbon emission in the transportation sector and decrease plastic usage both in 5 gallon sized (for a typical household) and in daily used water bottles. For the latter, these reservoirs will also be used as public water fountains, providing for people while disincentivizing purchase of plastic water bottles. Thus, tackling the enormous amounts of gasoline consumption due to water distribution and the excessive plastic usage in such commercialized water containers are the two focal points of our project.



## Sustainable City Index

**School :** Uskudar American Academy

**Teacher :** Sedat Toy

**Students :** Begum Atasoy, Defne Gulluoglu, Yaprak Su Akın, Alin Deniz Kutan

**Partner Organization :** Arcadis



The purpose of our project is to analyse Istanbul's sustainable city index based on "Sustainable Cities Index" data. Istanbul is the 14th most populated city as of now, which brings along major problems. We researched the top 100 most sustainable cities and their sustainable city indexes. With the information we collected, we then proceeded to collect data from our own city. We analysed the population density, transportation, improvements done by

the government, water/air/noise pollution, construction and the environmental pollution of Istanbul in detail by researching in the field and online. We also analysed the effects of these problems on the welfare of citizens, the ecosystem and natural resources. Furthermore, we suggested solutions for dealing with the issues and methods of prevention to arising problems.

Why did we select these topics? We believe that if people can

measure the items of the sustainable city index including People (social), Planet (environmental) and Profit (economic), the society can act together to make the world a more sustainable planet. Arcadis, the company which provided our data is also supporting



us on this journey. In the last two years we have been working on this topic. Our long-term purpose is to improve the awareness of people who live in the cities. If they can be aware about these measurements, they can also be part of the solutions. On this note, we want to integrate these measurements into our initial research project and then, raise awareness by trying to educate those around us according to these three pillars of sustainability. We've been working with the İstanbul Metropolitan Municipality on our projects to improve our city's long-term sustainability.



## Stepping into a Sustainable Future in School

**School :** Istanbul Saint-Joseph French High School

**Teacher :** Şükran İnce Toy

**Students :** Öykü Candaş , Şirvan Garod Horozoğlu

**Partner Organization :** Municipality of Kadıköy and Cafe Nero



We are also trying to create joint awareness programmes with other clubs at our school on reusing and recycling, and their effective implementation by the wider society.

The full recycling and reusing of our waste not only benefit the economy but also allow us to leave a liveable world to future generations. This is why we take our duty to contribute to the promotion of these very seriously.

Time has come for us to take action against global warming, which is caused mainly by increased levels of industrialisation and construction in larger cities. It is possible to leave a better world to future generations by taking a number of simple precautions both at home and at work.

We have raised awareness for the carbon footprint and water consumption at our school, which has 1200 students and continue to do so. If we assume the students will talk to their parents and friends outside of school, the impact of our efforts would have reached almost 5000 people.



## Zephyr Wall

**School :** Istanbul Saint-Joseph French High School

**Teacher :** Şükran İnce Toy

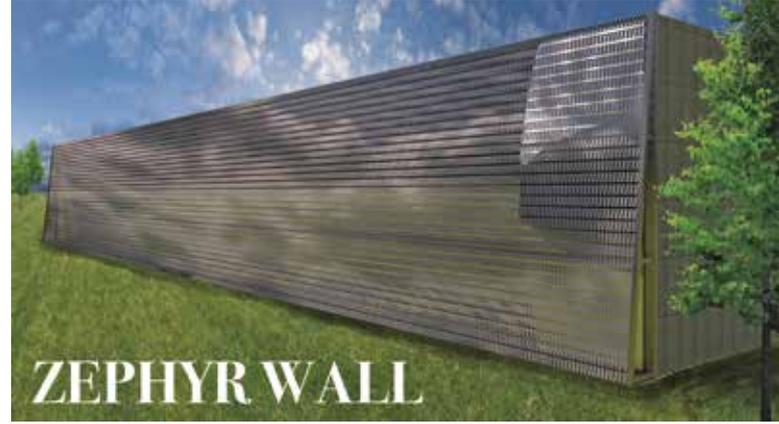
**Students :** İrem Duru, Karya Erdoğan



The problem our world is facing currently is quite obvious and becoming much more important with every day passing: usage of fossil fuels. In order to make an effort to eliminate current and future problems, Zephyr Wall proposes a wall that will generate electricity to the building using wind energy convertors and solar panels. Electricity is clearly important for everything in today's world. If it is generated from natural resources such as our solar panels or kinetic energy convertors, this will be beneficial for both the environment and the economy. Moreover, with this project we also try precluding our cities from becoming uninhabitable places

due to uncontrolled and unorganised urbanization and their ugly consequences. Aesthetic pleasing is considered as the least important of our issues however pleased people means pleased minds and well-being.

Zephyr wall will transform the cold and concrete image of Istanbul into a soft and dynamic image. The city will begin to produce electricity that it needs by itself. Thus the use of fossil fuels will be minimized and the costs to produce the electricity will decrease.



## The Contribution to the Sustainable Life in Cities

**School :** Uğur High School

**Teacher :** Sibel Özten

**Students :** Şükran Selin Petekçi, Alp Aksu, Lalem Anita Bayraktar, Gamze Akarsu, Ada Özten



With this project of our school, we do not only try to give environmental awareness theoretically, but we also try to show our students what they could do working actively to find the solutions to these problems out of the class, in

the school corridors, school canteen or lunch hall. We additionally create some working spaces for them to discover what they could do and we try to show them with these studies and changes they do, lots of things could change in global scale.

We let them see what they could do with a lot of materials which they think that they are waste in our recycling workshop that is opened for this purpose.

In our ecology workshop, we try to explain why soil and water are

important and show them how to grow or cultivate our natural seeds without using any chemical drugs or fertilizers in the greenhouse we built in our school yard.

We teach them how to make use of a lot of waste or unwanted materials of any type with the studies we do together. We have been conducting various actions to raise awareness of the school community and ensure that they are sensitive to the environment. we do some school trips and field studies.

Our belief is that with such educational and implementation projects to be developed at schools, cities will be transformed into places where future environmental problems and related problems may be reduced.



## Sustainable Bond between People in Need and Volunteers

**School :** TED İstanbul College

**Teacher :** Didem Demirci

**Students :** Şevval Tunar, Öykü Çirak, Hatice Ekin Akpınar,  
Zeynep Şuğle, Duru Topaloğlu

**Partner Organization :** TİDER



İstanbul is the biggest city of Turkey. 15 million people live in İstanbul. Unfortunately, not every person can afford their basic needs. That's why non-profit organizations that work for level playing field are important to sustainability in a big city.

TİDER is a non-governmental organization which works to prevent waste and help people who can't afford their basic needs. It is a non-profit organization which tackles poverty in Turkey. They established Food Bank Association in 2010, İstanbul.

Their aim is to find a permanent solution instead of just providing support. Therefore, these volunteers meet people in need and provide them with their basic needs, provide jobs for them, go to disaster areas

to help people there, and support women for development projects. Their values are based on transparency, objectivity, and sustainability.

We as TED İstanbul College students went to their food markets and participated in package, sale, and donation parts. We introduced TİDER to the whole school, collected basic needs for the people who can't afford them and sent them to Maltepe Supporting Centre. When we have time, we work in Maltepe Supporting Centre and find new sources for them.

We, as young people, should work for sustainability in a big city. Our first goal is make this wish come true in İstanbul, then in all the big cities in the world.





# PORTUGAL



## Sustainability behind Urban Gardens in Lisbon

**School :** Agrupamento de Escolas de Benfica

**Teacher :** Maria Emília Martins

**Students :** Maria Teresa de Oliveira Dias Marques, Sofia de Sousa Alves, Tiago Manuel Peres Dinis

**Partner Organization :** Câmara Municipal de Lisboa



We are a group of students from Agrupamento de Escolas de Benfica - Lisbon, Portugal. In the last few months, the question we have been trying to answer is "What benefits urban gardens can bring to our city Lisbon in terms of sustainability and preservation of biodiversity?".

Urban gardens are small areas designed for the production of vegetables, fruits and flowers. Urban gardening is integrated in the city's economic and ecological system. Therefore, it is built in the urban ecosystem.

This type of agriculture brings us many advantages related to "Sustainable Living in a Big City". It contributes to a better lifestyle, supports biodiversity, improves the environmental conditions, improves the food access and security, as well as allowing the

maximization of the soil's efficiency and waste management.

Our work is based on the collection and analysis of data from entities that are responsible for the Urban Gardens Project in Lisbon, aiming to know which efforts are being made in our city to develop new projects.

In order to collect information on how gardening affects sustainability, we inquired some gardeners in Lisbon about the way they manage their gardens. We also celebrated School Agriculture National Day, showing to kindergarten children our school garden. With this activity, we raised awareness on the importance of gardening among younger generations.



## Citizen Scientist : Biodiversity in Lisbon - Knowing to Preserve

**School :** Agrupamento de Escolas de Benfica

**Teacher :** Maria Emília Martins

**Students :** Gustavo Lucena Duarte da Silva Manso, Inês Sofia de Barros Castanheira

**Partner Organization :** Centro Interpretativo de Monsanto - Câmara Municipal de Lisboa



We are a group of students from José Gomes Ferreira High School - Lisbon, Portugal. In the last months, we have worked on our project related to the main theme: "Citizen scientist:

Biodiversity in Lisbon - Knowing to preserve".

In the last century, human activities have caused an extinction rate of about 1000 times higher than the natural rate. The extinction of species leads to changes, sometimes irreversible, on the balance of ecosystems, thus implying a break in the food chain and, consequently, in the survival of other species.

This lead us to the main question: "How can Biodiversity and its preservation contribute to a more sustainable life in big cities?". A sustainable city is one that meets all Man's needs in terms of habitat, shelter, food, working conditions and respects the ecosystem where it is installed. Lisbon, as a sustainable city, is developing a few projects in order to preserve and increase the existing biodiversity. These projects aim at conserving certain habitats and species and raise awareness for the public to enjoy and protect it. Good levels of biodiversity in a city contribute directly to human well-being. Another aspect approached was the citizen scientist and the importance that he has in the preservation and cataloging of species. To facilitate this cataloging, several applications have been developed, the one we used was iNaturalist. Moreover, to achieve



this, an exhibition was organized, including various activities to raise awareness of pre-school children and 8th grade students. In order to preserve, we must be aware of the life that exists around us: their names, physical aspects and their differences throughout the year. Observe and formulate questions, like a scientist. At CEI 2019, we will present more aspects on the Portuguese Biodiversity, as well as its benefits to increase world's Biodiversity.



## MALAWI

### Environmental Conservation Education

**Organization :** NatureKit.org

**Teacher :** Steven Makumba

**Student :** Chinsinsi Miracle Chauluka



NatureKit offer environmental advocacy and awareness to residents of Malawi by offering environmental services through environmental education. We are committed to providing the best environmental service to different communities. NatureKit works with school on environmental education in areas of organic farming, tree planting, climate change, waste management and plastic upcycling. Our projects aim to instill a culture of environmental protection amongst the citizens and revitalize Malawi to a state where the populace has sufficient knowledge to preserve and conserve the environment from environmental degradation. It is an organization dedicated to help in dealing with

numerous negative impacts to the environment degradation. Through its different sectors NK will work to maintain nature through implementation of different projects of which some will aim at building environmental education capacity to communities and schools. The main focus is to provide advocate on environmental education through actions on integrated and environmental management systems. NatureKit works to help move practices away from landfill disposal and to promote prevention, preparation remove, recycle, recovery and proper disposal. It possess advancement and dissemination of information relating to all aspects of the environment in areas related to conservation and sustainable management.

We focuses and uses education as eeducation has the power to modify the society and present better knowledge to its populace. Education can stand as proper solution to solve different sorts of problems exist in a society and therefore, education has a big role to play to save environment. It's time for a cleaner and healthier environment.





# HONG KONG



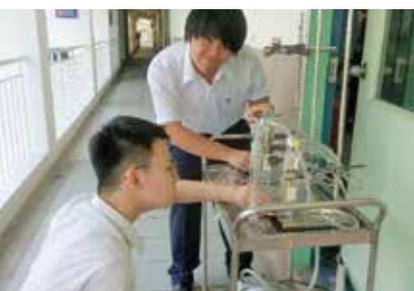
## Air Quality In Hong Kong

**School :** SKH Tang Shiu Kin Secondary School

**Teacher :** Ms CHAU Yuk Lin

**Students :** LO Wing Kai, HUI Chun Sing, CHAN Siu Kin, LAU Chun Wang, LIU Cheuk Heng

**Partner Organization :** The Hong Kong University of Science and Technology



In Hong Kong, the air quality seems to be improved. Over the past decade, the emissions of major air pollutants, such as nitrogen oxide (NO<sub>x</sub>), sulphur dioxide and particulate matter dropped steadily. The ground-

level ozone concentration remained almost unchanged. However, at times there can be episodes of serious air pollution which may threaten our health. There are several factors that may affect the air quality. Also, ozone is not a 'primary' pollutant. It is formed from the chemical reactions of nitrogen oxide - released from thermal power plants and vehicles - and volatile organic compounds under strong sunlight. This makes the issue of air pollution more complicated.

Air pollution is monitored at 16 general and roadside stations throughout Hong Kong, but they do not cover many densely-populated areas, including our school district. In order to help the public to know how clean the air they

breathe in, we, as secondary school students, have participated in a project known as 'Community EXPLORE: Science to Action' organized by the Hong Kong University of Science and Technology (HKUST). In the project, we have installed the necessary equipment and measured the concentration of nitrogen dioxide, ozone and black carbon in the school environment using the EXPLORE platform developed by HKUST. Based on the data collected in our school environment, a study of the effects of weather conditions on the air quality will be conducted, so that the people can identify the places with clean air according to the predicted weather condition and plan their trips.



## Marine Conservation Programme - Reduction of Marine Litter

**School :** SKH Tang Shiu Kin Secondary School

**Teacher :** Ms CHAU Yuk Lin

**Students :** LUO Tsun Ming Karlton, CHOI Lok Hin, LI Chun Man, YIM King Sum, LEE Long Kwan

**Partner Organization :** Environmental Association in Hong Kong



Since a mass of litter was washed ashore on the beach or on the ground in the urban

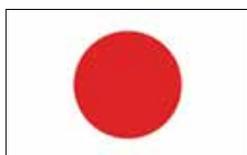
area by the super-typhoon in September 2018, many local people have become aware of the issue of marine litter and helped to clean up the shoreline actively. However, the removal of marine

litter does not really help to conserve the coastal and marine environment. Our coastlines are still awash with marine litter. To minimize this problem, there should be a reduction of waste generation at source. In this project, a research has been conducted to know the extent to which the citizens understand the issue and their perception of the need to reduce marine litter.

The data was collected from 107 respondents through an online questionnaire or a face-to-face interview between 9th March and 31st March 2019. The results showed that they just had an average understanding about marine litter. Also, around 80% of the respondents reflected that most people did not care about marine litter because of three reasons. First, some perceived that the problem did not cause lasting damage. Also, it was not an imminent environmental



threat. Third, it was only a problem to the coastal communities. Since they do not feel an urgent need to reduce marine litter at source, we set up an educational booth to spread the message of the importance of protecting the environment and teach the public how to upcycle the plastic waste in the Marine Conservation Carnival organized by the Environmental Association on 31st March 2019.



## JAPAN

### Environmental Conservation Education

**School :** Daimon Senior High School

**Teachers :** Oda Tatsuro, Takeguchi Yoko

**Students :** Asai Mao, Ishida Hitomi, Iwamura Rika, Kadoshima Kyosuke, Kanayama Taisuke, Kaneba Kiko, Teari Rino

**Partner Organizations :** Toyama Prefectural Government, Imizu Municipal Government



A city is not sustainable where a lot of trash is dumped. In order to make a city sustainable, we must reduce the amount of trash. What has become a big problem in Japan in recent years results from plastic bags such as supermarket

checkout bags. These bags are light, strong and waterproof enough to carry goods we have bought without any stain. Ironically, however, plastic bags are so durable and easy to use that they have led to serious environmental pollutions and huge waste of petroleum. As a countermeasure to these problems, in Toyama Prefecture, some supermarkets started charging extra fees on plastic bags in 2008. In 2009, the students at our school in those days conducted a research on how many plastic bags each household used. The research said that the amount of the bags each family used per

week was around half as much as those in another prefecture. Hence they concluded that charging some fee on a plastic bag is somehow effective to reduce the amount of those bags.

Today, ten years after this study, our new research shows that the amount has dramatically reduced to fewer than 10. While the charging has undoubtedly contributed to this outcome, is there any other factor for reducing the amount? If there is, we assume, we can use it to further decrease not only the usage of plastic bags but also other kinds of trash, leading to a sustainable living in a big city.





# INDONESIA

## Used Baby Diapers Utilization As a Planting Medium

**School :** SM Sekolah Alam Bogor

**Teacher :** Okwan Himpuni

**Students :** Dzikru Amrullah, Ghietrief Fawwaz Kurniawan, Landry Azmiraisza Irawan, Muhammad Luthfi Alif Sandy, Muhammad Ridwan Fadillah

**Partner Organization :** Jaringan Sekolah Alam Nusantara (JSAN)



Our project is based on processing used diapers. The goal is to find an alternative solution in processing from used diapers into planting medium and nutrition for plants.

The birth rate in Indonesia reaches 4.87 million per year. In 2018, 9,7 million children under two years old. which nearly 97.1% of children under two years old used disposable diapers (sigma research, 2017). The average use of disposable diapers in one day is three. If the weight of a used diaper is around 125 gr, that means the diapers waste produced is 1,289,184 tons per year. The weight of the used

diapers produce per year is equivalent to 24 RMTitanic.

One of the materials in the diaper is hydrogel (Sodium Polyacrylate). Hydrogel has the ability to absorb water well, so it can maintain soil moisture. In addition, used diapers containing urine are also useful for plants as liquid organic fertilizers that provide nutrients for plants because they contain water, urea, sulfate, chloride, although in relatively small amounts. Our conclusions that are achieved from experiments show that plants using planting media from used diapers have fairly good growth, especially for vegetables (river spinach, bayam, lettuce, caisim). We have introduced planting media from used baby diapers to the community and some of them were trying it at home. Next, we will make some drop box to collect used baby diapers from the community.



## Bio Battery from Bio Waste of Durian Fruits

**School :** Sekolah Alam Indonesia

**Teacher :** Ainun Nurul Fitriyah

**Students :** Fitri Nur Aulia, Hanadia Shohwah Nurul Izzati, Evelyn Kamiliya Ornam, Sanchia Gedyazka Sehan

**Partner Organization :** JSAN



Durian (*Durio zibethinus*) is a well-known tropical plant in Indonesia. It's also known as the king of fruit because of its big size and thorns. Although it has a huge size, only 25% of durian can be consume. While the other 75% is usually thrown away. Not many people know that durian's skin has the ability to conduct electricity (electrolyte) caused by manganese inside it. Beside that, batteries are electricity storage who needs the existence of electrolyte as electricity conductor from positive pole (cathode) and negative pole (anode). Unfortunately, batteries these days still using lithium cobalt whose dangerous for the environment.

This research discuss about the using of durian waste as a substitute of electrolyte in batteries so that it could reduce HTS (Hazardous and Toxic Substance) on batteries. Based on our experiment, it is known that with 2,77



gram of durian's skin can produce 1,14 volt of electricity on average. On the second experiment, we did fermentation on the durian's skin by adding yeast. By adding 5 gram, 10 gram, and 15 gram of yeast, this process proven can increase the amount of electricity. The maximum result is 1,302 volts of electricity on average can produce by adding 10 gram yeast and 10 days fermentation. So proven that durian's skin can substitute as electrolyte. We have already socialized to students and made presentations at "Pojok Iklim" from ministry of environment to do campaign about reducing HTS so that this research will have more impact for sustainability of environment.



## Empowering Plasticless Living

**School :** ABhome Senior High School

**Teacher :** Setyo Budi

**Students :** Atika Rahma Putri, Ethereal Laudia, Kayla Fathia Arsy, Rahimah Nurul Izzah, Zahra Aulia Rahim

**Partner Organization :** JSAN



As we all know single use plastic is one of world's biggest problem nowadays. There is still lack of awareness to reusing or recycling single use plastic. Which means most of the plastics are end up in the landfill or the worse, it clogged

up rivers and ocean. The biggest impact is come to local communities itself where they lost their source for food and clean water.

Our city, Bogor produce 650 tons waste per day, and 1.7 tons of it are plastic bag from modern market. To reduce it, on December 2018, the Mayor of Bogor City issued a regulation that all modern markets are banned for using plastic bag. This regulation force people to use reusable bag.

The new problem now is raising awareness about why people should reducing plastic and recycle their plastic waste instead of buying new

reusable bag. We have two range of target, the first are kids age 3-9 years old as we aim to change character and mindset. We make and storytell an illustrated story book about the danger of plastic waste as an effective media to deliver our message. At least 130.000 kids in this age are living in Bogor. Hopefully, these kids will share what they learn from the story to their parents, family, friends, and everyone around them. Thus, spreading the message wider. For older people, we share the way to turn used plastic bag into a reusable bag. However it helps to reduce plastic waste that already appeared around us.



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## Reused Project: Soap from Used Cooking Oil

**School :** ABhome Senior High School

**Teacher :** Setyo Budi

**Students :** Najla Saqeenarava Nitisara, Jaler Gibran Fakhira,  
Fadel Yuliantoro Putra, Luth Raffa Audiansyah

**Partner Organization :** Jaringan Sekolah Alam Nusantara (JSAN)

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Our desire to learn more about Used Cooking Oil several months ago challenges us to make this project. In Indonesia Used Cooking Oil is usually called as Minyak Jelantah. As time goes by, we found some related problems. there are Amount of Used Cooking Oil and Water and Soil Pollution.

As we've known, waste in Indonesia is (still) not yet managed well. Based on questionnaire we made to 107 respondents, each family produces 1 liter of Used Cooking Oil every week and 66,1% dump it into trash can or conduit. In our city, there are 300,063 families, which is totaled with the average of oil consumption become 1.08

tons every month.

It needs high cost to restore the polluted environment caused by Used Cooking Oil. Based on The Guardians, to restore the polluted environment, the government needs 600,000 US dollar or equivalent to 7,2 billion rupiahs. If 1,08 tons of Used Cooking oil pollute in our city, then the government needs 720 million rupiahs every month.

Therefore, we try to decrease pollution with reuse the Used Cooking Oil and recycle it into soap. By self-making soap, we can make the environment better, reduce government spending for restoring the environment and save money to buy soap.

From this project, we try to engage people to start making their own soap, from their Used Cooking Oil. Hopefully, if every family apply it at home, so by the time it will decrease pollution and make a better living for years.



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## Linting si Linting An Ingenious Cheese Packaging for Sustainable Living

**School :** Citra Alam Senior High School

**Teacher :** Desi Arti

**Students :** Reyhan Irfansyah, Gloriana Fattimia Amadea,  
Siti Cahyaningsih, Athalla Ariq Wijaya

**Partner Organization :** Saung Palakali Creative Art Community,  
Sustainable Hyper-platform of Indonesian Network of Educator, RPTRA Shibi

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Various campaigns to reduce the use of paper have been running in Indonesia for many years. Eventhough the paper waste period only 2-6 month, but when the waste production continues to increase,

we still have to tackle. The average of paper waste production has remained high, which is 17 tons/day. In other words, every Indonesian approximately contributes 27 Kg waste/year.



To reduce the amount of paper waste, we initiated a Linting si Linting project as a creative project from paper waste. The project aims to design a cheese packaging made from paper waste (newspaper, writing paper, corrugated paper/card board, magazine paper), and to raise people awareness, especially food packaging producer about the possibility of using paper waste for a unique,

attractive, low cost and good quality food packaging.

To promote the product, workshops for school students and the local community were conducted. During the workshop, we taught them about the importance of reducing paper waste for sustainable living, and the procedure to make a cheese packaging from paper waste which main goal is to raise the families economic condition around their homes. Based on the feedback from workshop participants, we plan to increase the quality of this cheese packaging and do better campaign.



## Tuntungan Ground Board Game: An Educational Game Program to Improve Young People's Concern for the Environment in a Big City

**Schools :** Sekolah Alam Medan Raya, Sekolah Alam Bengkulu Mahira, Sekolah Alam Baturraden

**Teacher :** Suprapti

**Students :** Azzam Habibullah, Adeeva Afsheen M. Rosyadi, Mahira Salimah, Rhyntan Nandya Benaya

**Partner Organization :** Jaringan Sekolah Alam Nusantara



World Economic Forum 2018 Report on Education, recommended one of the educational technologies, called the 'Play Based Learning' method. Based on this research, we made an Environmental Education Game with the type of 'Board Game' for young

people that educate environmental awareness, and the skills they need to deal with environmental problems in a big city.

A Board Game is a tabletop game that involves counters or pieces moved or placed on a pre-marked surface or 'board', according to a set of rules. Tuntungan Ground Board Game is a fun educational game that invites anyone to play to be a hero to defeat Monsters who attack the City by solving natural and social problems, with mythological figures from Indonesia who represent the character of Entrepreneurship, Socialpreneurship, and Intellectual.

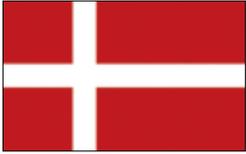
'Tuntungan' is taken from the name of a remote area in Deli Serdang

District in Indonesia, where the community has diverse ethnicities, but can collaborate in solving various problems in their area.

Tuntungan Ground Board Game program has been carried out for Youth in Educational Institutions in Bengkulu City, Baturraden, and Deli Serdang Regency. Fun play and learning activities, make this game not to make the correspondents bored, even they are always eager to discuss and solve more problems, and win the game.

Based on our plan, this program will be an example of an Education model that can be applied by educational institutions in Indonesia. Continuously campaigning for the importance of environmental care for young people, through fun and memorable education.





# DENMARK

## Fixing Our Food-waste Problem

**School :** Aalborg Youth School

**Teacher :** Anne Juel Larsen

**Students :** Daria Mataonau, Emilie Jennet, Nicole Kryger,

**Partner Organization :** Aalborg Youth City Council



The production of foods is consuming resources and contributing to global carbon emissions. It is not only that producing food in itself is adding to more pollution but also the fact that people are throwing it away makes much of the pollution purposeless. 7 to 8% of global carbon emissions are related to food that we do not even eat.



Most big cities in Denmark are facing this problem. Over the course of one year, all people in Denmark are wasting approximately 247,000 tonnes of food (2017), which is after reducing it from 261,000 tonnes in 2011 and 2012. Wasting food is not only happening in Denmark. There are lots of countries that produce even more waste, and though there are countries that are more aware of how much they are throwing away, food waste is still a global issue. For a sustainable life in a big city, we decided to make young people more aware of the food waste situation and invited them to contribute in making their own lunches with expired or nearly expired food, to show them that food is okay to be consumed even a few days after their expiration date. We will examine how young people in Aalborg look at the food wasting issue and contribute to a positive mind set regarding food habits.

## Clothes Swap

**School :** Aalborg Youth School

**Teacher :** Anne Juel Larsen

**Students :** Kalinka Ranfelt, Nikoline Prehn, Cecilie Færk, Maja Linnemann

**Partner Organization :** Aalborg Youth City Council

The accessibility of cheap clothes and styles that changes every season has caused a rise in the consumption of clothing items in first world countries.

The means of production, along with the immense distances travelled to get the materials to the factories and then to the consumers, leave a considerable footprint on the environment caused primarily by the CO<sub>2</sub> emitted and the water usage.

As urban living provides a lot of people packed together, this is the ideal place to start dealing with the problems of the clothing industry especially since the big cities are where a lot of sources of reused clothes typically are located for example thrift shops. As a branch of the already existing trend in our city, Aalborg, we are going to test the effects of swapping clothes instead of just tossing them out to buy brand new ones.

In our project, we dig into how reusing clothes can have a positive effect on the individual's environmental footprint as well as how it can be an event to strengthen a community. Therefore we plan to

make a clothing swap scheduled in May 2019 to test if this idea could be one of the possible solutions to the problem and we will present the results of this at the conference.



## SOUTH AFRICA

### Inclusive Environment In Durban

**School :** Mason Lincoln Special School

**Teacher :** Mhlonipheni Collin Gumede

**Students :** Minenhle Truelove Mtolo

**Partner Organization :** South African National Civic Organization



This project has identified the challenges faced by people living with physical disabilities particularly in the informal settlements located in Durban. Durban is South Africa's third biggest city and it is found on the east coast of our country. Our school is Mason Lincoln Special School and it caters for learners with physical impairments. Some of our learners reside in the neighbouring informal settlements which were mainly constructed without proper spatial planning and thus the space tends not to be navigable or accessible for people using crutches and wheelchairs. This usually becomes even more untenable during the rainy season where learners' mobility becomes so compromised that some

learners end up even missing school. The learners' right to learn gets compromised. In other areas there are no ramps for wheelchairs thus making it impossible for learners to move freely.

Due to climate change, Durban's weather has become prone to heavy rains and floods like the one we recently had during the last week of April 2019 which resulted in the death of over 60 people and collapse of houses especially the informal houses. During this period again, our learners were adversely affected and had to miss school for much longer than their able-bodied peers. Working with a local branch of a civic organization called South African National Civic Organization, we have highlighted the challenges faced by our learners and dialoguing about how best to address these challenges. SANCO is a powerful organization with a powerful political clout and we seek use their leverage to highlight our plight and to implement infrastructural facelifts that will ensure that the environment accommodates learners and all persons with disabilities within the city of Durban.





# TAIWAN

## The Construction and Use of a Zero – Electricity Air Cooler

**School :** Huey Deng Senior High School

**Teacher :** Hui-Yu LIN

**Students :** Yen-Yin CHEN, Chieh-Hsien LIU, Ying-Yu GU, Yun-Hsi WU



In Taiwan, almost every family in the metropolitan areas uses an air conditioner. Apparently, since the phenomenon of global warming is even more obvious in the recent years, the power consumption of air conditioners has greatly increased, which causes environmental pollution.

'The Eco-Cooler Grey Dhaka unveils world's first zero-electricity air cooler made from plastic bottles' is a video about a company that repurposes bottles to make an environmentally friendly device. After watching this video, our team formulated an improved version of the device.

We used PP plastic corrugated board and reused bottles to make an improved natural cooling device, and this device is designed to be installed in windows. The PP plastic corrugated board is transparent, and this won't affect the lighting quality. Also, the durability of PP plastic corrugated board is greater than other materials. Our cooler applies the thermodynamic principle of the Joule-Thomson effect and the process of throttling to make use of the difference between bottle's neck and body to reduce the temperature of air the is forced through. This is the same principle that explains how air blow from your mouth is warm if your mouth is wide open but much cooler if you press you lips together and force the air through a smaller space.

Through this experiment, we hope to apply this "eco cooler" to our surroundings to help people to cool their homes while conserving energy.



## Board Games – Pursue a Sustainable Living in Big Cities

**School :** Stella Maris Ursuline High School

**Teachers :** Yu-Hsiang HUANG, Fan-Tso CHIEN

**Students :** Jhih-Han FANG, Shan-Yu HU, Hao-Jyun YU



Believing that education is the first element of sustainable development. We need good talents and appropriate course materials to sculpt the next generation that to have possibility of

continuation. Thus, we decided to design a board game, so that men, women and children can gradually experience the connection between our city life and nature.

We hope to design a board game that passed through many of the life issues facing the city now. For example: "over-fishing of marine resources, development of land-based environment, stray dogs in cities, etc." Through the packaging of these social realities and the reflection of roles, such as: "coordination of economic value and environmental conservation or confrontation between power and

morality", so that people who play can be more recognize the many aspects of the real society, and understand the empathy of the world, let them think, to continue that spirit.



It is hoped that participants will be able to think about sustainable development as the main goal in their play, for example: "Overfish fishing has become a social problem, and between the role fishermen, the government and environmentalists. Achieving balance and developing policies to limit fishing? There are a variety of agreements." This is just an example, with the concept of sustainable development between urban and environmental economy is what we want to reach.

## Sustainable Development of Ecological Pool

**School :** Stella Maris High School

**Teachers :** Fan-Tso CHIEN, Yu-Hsiang HUANG

**Students :** Zi-Yu LUO, Ming-Yu SHEIH, Yu-An CHEN

**Partner Organization :** TACPS



The topic of our report is Sustainable Development of Ecological Pool.

We take the school's ecological pool as the core, and extend two parts of the theme to share this report, Education and Environmental Protection.

In this report, we explain how to manage the ecological

pool, why the ecological pool could protect the environment and what its function to implement environmental education is.

To maintain the ecological pool is a health condition. As the pool is located outdoors, it grows some kinds of algae easily, meanwhile, it restrains various organism from growing.

By means of keeping the ecological pool, we also implement the environmental protection to the junior students.

To help the junior students realize the importance of environmental protection, they are asked to carry out the cleanup work which we do every week.

We wish to achieve our goal—protecting the only planet where we are living on by this chance. Hopefully, we can make some contribution to the earth.





# MEXICO

## Entomophagy : Source of Traditional, Wholesome, Nutritious and Tasty Food

**School :** Instituto Escuela del Sur

**Teachers :** Elda Gabriela Pérez Aguirre and José Antonio López Tercero Caamaño

**Students :** Jocelyn Ghisleine Contreras Hernández, Marcela Abigail Ugarte Cedillo

**Partner Organizations :** Centro de Complejidad , Secretaría del Medio Ambiente y Recursos Naturales de la CDMX



Population growth has increased the demand for food on a global scale. Recent research indicates that the consumption of some insects represents one of the best sources of proteins and its production requires less than a quarter of food

potential they have and how widespread is their import from other Mexican states, their production and consumption in Mexico City.

The production of edible insects can become a multidisciplinary and sustainable activity in Mexico City. With the conclusions of our study we will present an information document so that people of our community know the advantages of this nutritional source, that in many occasions is rejected.

than for cattle, for example. Insects can become one of the possible ways to deal with the shortage of food in different regions and malnutrition in others. In fact, in May 2013, the United Nations Food and Agriculture Organization (FAO) said that eating insects could fight hunger in the world.

This project takes up the ancestral tradition of entomophagy or insect ingestion in our country. Mexico is a privileged country in this sense, since, of the edible species of insects in the world, a high percentage is endogenous. We are making a study of the main species, of the regions in which they are produced and consumed, of the nutritional



## Rainwater Recollection at School

**School :** Instituto Escuela del Sur

**Teacher :** Huitzilihuitl Moctezuma Mendoza

**Students :** Andrea Cisneros Guadarrama, Mariana Pérez Buendía,  
Derek Portugal Vela Morales, Christian Vargas Tena

**Partner Organization :** Isla Urbana



Currently, the water system in Mexico City is both deficient and unsustainable. It is 70% formed by the aquifer mantle and 29% by the Lerma-Cutzamala system, then 1% by springs. The system

requires great energy and economic investment due to the complicated route that water follows to reach the city: it has to ascend more 1000 m, great losses of the liquid are due to leaky

pipes, besides unequal access in areas that do not have piped water or only once every so often. Floods and subsidence derived from a surplus water and over-exploitation of the aquifer, add up to the problem of distribution.



It is necessary to rethink the water system of Mexico City keeping sustainability as principle, to reduce energy consumption and support local water projects, such as water catchment systems are implemented. Rainwater collection systems allow to reduce the excess of water in the hydrous network; improving its access, taking advantage of the



rain that ended before in the drainage, solving the floods and subsidence. For this reason, the Rainwater Collection Project of the Instituto Escuela will be implemented to be an example for water sustainability both in schools and in the city, so it can be emulated elsewhere.

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## Green Walls : A Contribution to a Better Environment in Mexico City

**School :** Instituto Escuela del Sur

**Teacher :** Magalí Sarmiento Fradera

**Students :** Denisse Guevara Espinosa, Nareni Pineda Juárez,  
Martina Sánchez Caballero, Patricio Sánchez Caballero

**Partner organization :** Go! Global – Virtual School Exchange



Mexico City, the country's capital city, is the economic, political and cultural center of Mexico. It is situated in the Mexican plateau, which is a valley surrounded by mountains and volcanoes. 17% of the total population of the country lives there: 20,843,000 inhabitants with a population density of 13,500 inhabitants per km<sup>2</sup>.

Each day people commute using 4.7 million of automotive vehicles that use fossil type fuels, consequently creating high pollution

levels. Besides, the increasing population and urban infrastructure has caused a reduction of green spaces: currently 3 m<sup>2</sup> per person while the WHO (World Health Organization) recommends 9 to 12 m<sup>2</sup> per inhabitant.

We are aware that our city is far from being sustainable, but we also know that we can make some contributions that, as a whole, would improve life quality for the ones who live in this city.

Considering that the available spaces for planting trees is limited, our focus is on the implementation of green spaces. We have given priority to green walls, which in the last few years have proliferated in our city. We are contributing to this movement by creating them in our own school.



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## Campaign to Avoid the Use of Expanded Polystyrene (EPS)

**School :** Instituto Escuela del Sur

**Teacher :** Carmen Larrondo Sayavedra

**Students :** Antonieta Aguirre Oviedo, Yuliana Gonzalez Dotor, Elián Sebastián López García, Masha Natalia López Lamedra, Valentina Padilla Suárez.

**Partner Organization :** Secretaría del Medio Ambiente y Recursos Naturales

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Expanded polystyrene (EPS, star foam, or uncel in Mexico) is a type of plastic made of the pre expanded polystyrene, generally used for construction and food packaging. EPS is a highly contaminant product that doesn't degrade in nature.

It's made from styrene. When EPS gets hot, it leaves very toxic dioxins, long exposure to it can affect the immune system, produces cancer and affects the hormonal system. While higher up is an animal in the food chain, more concentration of dioxins has in its system.

Mexico produces 125,000 tons per year, from which it is estimated

that only 1% is being recycled.

In different parts of the world, including Mexico, multiple campaigns suggesting the reduction or the searching to avoid the total consumption of EPS in our lives have been released. However, Mexico City is not within these places and that is why we have decided to start a program where the main objective is raising awareness within our classmates and families, later on expanding to more people in our neighborhood, including merchants, restaurants and schools to reduce the consumption and to explain the high risk and affectations generated because of this product.

We decided to start at our school, chatting in each group and conducting a survey after the talk to know how aware they were about the issue and conducting a second survey to observe the changes we achieved. Later, we will approach "sister" schools and the rest of the local community.



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## Transportation in Mexico City

**School :** Instituto Escuela del Sur

**Teacher :** Abraham Pita Larrañaga

**Students :** Sofia Arriaga Galicia, Hugo Tonatiuh Carrillo Bonilla, Santiago García Martínez

**Partner Organizations :** Comisión Ambiental de la Megalópolis, Participación Ciudadana

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We will study the access and the use of public transport in Mexico City, mainly in the communities of the students who participate in this project. In Mexico City, the use of cars with petrol-powered internal

combustion engine is privileged. The gasoline in Mexico is very expensive in economic terms and highly polluting. However, for reasons of comfort and a supposed "inefficiency" of public transport, many people never use it.

The study aims to find out how efficient local public transport is compared to the use of cars, in terms of energy and travel time. We are making a lot of observations and measurements about times

of travel, frequency, punctuality, accessibility and state of facilities. The research is being developed both in METRO (electrical subway) and in METROBUS (gasoline buses that circulate on their own lane), that are the main transportation systems in our city. Results will be disseminated and shared with local government and community groups interested in transport-related issues. On the other hand, it will also be reported that the public transport of Mexico City provides very interesting spaces of interaction and cultural exchange that are little valued.



## USA

### “Nature in the City” – Environmental Activities for Children in Poverty

**Organization :** CEI USA Oregon Chapter

**Teachers :** Dan Hoynacki, Tony Currier

**Students :** Karen Garcia, Ruby Pascual, Benjamin Bond, Andrew Bond

**Partner Organization :** Salem / Keizer School District



Our Caretakers students are developing a bi-lingual, research and science-based educational program about nature and the environment to target to Salem’s underserved students K-8 in the Title I summer lunch program for eligible students. Our idea is to give students who are there for lunch the option to also have a new, fun learning experience. We’ve built a series of interactive carnival-style games to engage youth about conservation, energy, urban wildlife habitat, conflict and harmony between the natural and built environments, and careers in sustainability and the environment. Each game – K-4, 5-8 will have wheel-spin questions with small prizes for each participant. We will be offering an outdoor game on how invasive species take over native ones. There will also be games about how nature

needs assistance to exist in what are unfavorable conditions, and that city parks are not designed to be wildlife habitats but that may look natural but are designed for people and pets. Cities still need pollinators and other helpers with the goal to naturally manage pest and weed control. A cellphone app is being developed so that students can seek places in their community that they perceive as either in harmony or conflict with nature and photo it. We also are making bi-lingual take home information flyers to share with families, hoping to grow future Caretakers. Prior to the conference, we will be finalizing our game elements and practicing at a science fair. We are excited that this project could receive potential funding for 2020 and beyond.





# POLAND

## Promotion of Green Alternative Public Transport

**School :** Szramek High School in Katowice

**Teachers :** Mariusz Kamrowski, Bożena Kurzeja

**Students :** Oliwia Gubała, Maria Żukowska, Marek Janiec,  
Tomasz Janiec, Maciej Kamrowski



In our project, we would like to inform the people of what a serious problem for the environment the daily use of cars poses, and of how every human can bring our society a step closer to sustainable development and life. To this end, we have done several presentations on the connection between environmental and economic issues and ways of maintaining a sustainable lifestyle in big cities. In March 2019, we carried out a survey among our schoolmates on transportation. The findings of the survey let us determine the percentage of young people who use more eco-

friendly means of transport. Afterwards, our team calculated the average carbon footprint for the common student and presented the results in front of one of the classes. We have designed posters through which we inform the people of the idea of a sustainable city, and on how important public transport is in promoting a more ecological lifestyle. Our team has also measured the length of bicycle paths in the capital city of Warsaw, and, in future, we shall launch a campaign for the promotion of the use of bicycles and electric scooters in everyday life.



## One Sustainable Life, Please

**School :** Szramek High School in Katowice

**Teachers :** Mariusz Kamrowski, Bożena Kurzeja

**Students :** Monika Skibska, Mikołaj Deja, Konrad Borkowski, Aleksander Ferus

We have prepared a project entitled "Sustainable Day". Our main goal is to educate the people about a sustainable way of living and encourage them to change their non-ecological habits. During the presentation, our project group is going to play a short scene in which we are going to juxtapose contrary opinions and emphasize

the importance of an environmentally-friendly lifestyle for the future generations. Our focus is on the following issues: energy, transportation, heating, diet and waste disposal. We are planning to show a set of distinct approaches: eco-friendly, uncommitted and non-ecological. In the scene, we want to present three

lifestyles, corresponding to the approaches mentioned before. The actors are going to have a conversation in a shop about their views on the said topics and express their personal opinions. We want the uncommitted person to show mixed feelings when confronted with the conflicting opinions of the other two. Moreover, we want both the uncommitted and the non-ecological stances to

shift to a more green one. Finally, the uncommitted and the non-ecological characters are going to change their approaches, saying "One sustainable life, please." The genre scene is the outcome of numerous lectures, workshops, and personal challenges we have given, organized and taken on in order to raise awareness of the ecological issues in question.

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## Smog Is Our Enemy

**School :** Szramek High School in Katowice

**Teachers :** Mariusz Kamrowski, Bożena Kurzeja

**Students :** Magdalena Kita, Wiktor Sawicz, Jan Swadźba, Mateusz Halladin

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In the project, we focus on the quality of air in our city – Katowice. We monitor the smog levels in Katowice by means of a smog detector which we assembled. We would like to show the process of assembling the detector. With those two things – our smog detector and the constant monitoring of the pollution levels in our city – we want to inform the inhabitants of Katowice of the quality of air they breathe. Everybody can check the concentration of PM10 and PM2.5 in the air in Katowice, as the smog detector operates in a global network, OpenSenseMap.org (<https://tiny.pl/txpck>). To disseminate

our project, we have produced and distributed leaflets among the people in the neighborhood so that they are aware of the fact that they can check the quality of air on a daily basis. We also monitor the concentration of NO<sub>2</sub> and SO<sub>2</sub>. To this end, we have installed sampling tubes, and cooperate with the "Napraw Sobie Miasto" [Repair your city] Foundation as well as The University of Silesia, Department of Chemistry, where we send the samples for analysis. We have also filmed an educational video of smog, showing how it is created and what negative consequences it brings about.





# SWEDEN

## Inspiring the Youth by Obtaining Eco-School

**School :** Öresundsgymnasiet Landskrona

**Teacher :** Karin Warlin

**Students :** Pelin Nergiz Erdal, Blerta Hajzeri, Victoria Sörensen



Young people are our future which is why it is important to inspire and encourage the upcoming generations to make a change. This can be done by Eco-Schools

With Eco-School it starts in the classroom, it expands to the school and eventually fosters change in the community at large and further has the ability to transform a city's sustainability.

This is one of the reasons that a group of students at our school started

an environment group that is now called Gronflagg. The goal was to try to obtain an eco-school certificate for Oresundsgymnasiet.

To succeed with this objective the group settled on development goals. These goals consisted of reducing food waste, using less harmful substances and materials and replacing them with more sustainable materials and recycling more.

Some changes that the environment group has managed to make are for example creating the "food monster" in the cafeteria where students see how much food and money is wasted each day and introducing recycling in the teacher's lounge.

By actively following up on these goals the school has succeeded in becoming a certified Eco-School. Throughout the journey the group has made it a point to inform other students of changes and engage them through the social media account @gronflaggoresundsgymnasiet. The account has been appreciated both by students and teachers but also by the community. The account has also been acknowledged by numerous other environmental organisations such as Eco-school itself, WWF and the Keep Sweden Tidy Foundation.



## The Sustainable Use of Vital Resources in a City – Water

**School :** Oresundsgymnasium

**Teacher :** Gustaf Ekelund

**Students :** Hajrija Felec, Dalila Osmanovic

**Partner Organization :** Landskrona city



Water, being one of the most vital resources, is also one which humans are consuming at a fast and unsustainable pace. In many places in the world, people experience extreme water shortage, but what we don't talk about is the fact that these problems are arising in countries like Sweden

as well. In the future, we will face even more drastic consequences due to i.e. eutrophication, climate change and toxic waste.

The core of our project is to spark a discussion about the potential threats for drinking water availability which we risk to face in the near



future. We have looked at the local problems and situation in Western Scania District where agriculture plays an important role for the local groundwater. In our research a clear difference arises between the quality of

local wells and municipal drinking water. By interviewing staff at the Environmental Department of Landskrona's Municipality, reading articles and attending a scientific symposium in Stockholm, we have learnt about these complex challenges. We have made exhibitions for other students to read, when our school celebrated Earth Week and also gave a

PowerPoint presentation, open to the public at the City Library.

We also give examples of how industries in a big city can use water in a sustainable way.



## RUSSIA

### Optimization Of Public Transport

**School :** Lyceum 28, Kirov

**Teacher :** Tatiana Khodyreva

**Students :** Artem Moshkin, Alexandra Nasikovskaya, Valeria Kononova, Victoriia Shikhova



Why have we chosen this theme? We think that it's very important for the big city how the public transport works. So we decided to learn about its history, development and organization of its work in Kirov. We did a survey of our students and found out that the work of transport concerns many of them. They go

to school and back by bus or trolley. Some of students use public transport to go to different sport or art centers and other places.

To get as much information as possible we went to the Central Dispatch Service. We observed the work of dispatchers, learnt that there are 52 transport routs in our city, of which 45 are bus and 7 trolleybus routes. The length of the network of public routs in the territory of Kirov is 1040 km. For example, trolleybuses transport approximately 44500 people per day.

We organized the excursion to the trolleybus park (depot) and

looked at its work from inside. As it appeared the first trolleybus began to carry passengers in 1943 and it was wooden. Now 90 trolleybuses carry passengers on weekdays and 60 on weekends. Our group learnt a lot of interesting and useful facts about trolleys. They are ecologically friendly and almost don't pollute the air. We are going to tell about public transport to small children and pupils of elementary and middle school, remind them about the rules of behavior in transport and on the roads.



## School Honey

**School :** Lyceum 28, Kirov

**Teachers :** Marina Konopleva, Mariia Chalova

**Students :** Diana Babintseva, Dmitrii Dorogin, Ilia Kropachev, Dmitrii Zorin

**Partner Organization :** Biotechnological cluster of Kirov region



In 2018, our lyceum was invited to participate in the pilot project "School Honey" on the initiative of the President of the "Biotechnological cluster of Kirov region". The apiary attached to the lyceum delivers its honey to school canteen. It is aimed at implementing health-saving technologies.

The honey undergoes double fermentation, therefore there are more nutrients in it and practically no allergens. In addition, new varieties of honey, enriched with blueberries and echinacea, were developed.

We visited the laboratory in the main University of Kirov, where we saw how honey is tested. Our Kirov honey is of very good quality;

it has no counterfeit honey supplements. Kirov honey is suggested to be included in the astronauts' ration for the international project SIRIUS-19. This honey is produced by beekeepers of the region together with scientists from Kirov University. The developers claim that 10-15 grams of honey contain a daily rate of dozens of useful substances.

A survey among parents was conducted to find out if there is allergy to honey among the students. We visited the apiary where we learned how honey is produced. In the future, it is planned to install video cameras to observe the whole process of collecting honey.

In the classes we told the students about the project. The leaders of the project gave them different kinds of honey for tasting. In the school camp the Day of Honey with games and competitions was held.

We hope that the "School Honey" project will help strengthen the health of schoolchildren.



## CEI - USA Continues to Grow in Illinois

### Wayne Schimpff

CEI USA Illinois Chapter

CEI - USA continues its membership in the Chicago Wilderness(CW) Alliance.[www.chicagowilderness.org](http://www.chicagowilderness.org) Wayne Schimpff and Isabel Abrams are some of its first members. We partner our high school audience with the networks resources of the CW through involvement with various aspects of their program. Chicago Wilderness is "A regional alliance which develops a leading strategy to preserve, improve, and expand nature and quality of life. By connecting leaders in conservation, health, business, science, and beyond, we tackle challenging issues to ensure a resilient region. Building on a 20-year legacy of collaboration, our broad alliance of member organizations advance work in Illinois, Indiana, Wisconsin, and Michigan. We are... diverse voices. green vision. united region." Wayne Schimpff continues to represent CEI - USA Illinois on its Education Committee and the Climate Action and Education Committees. CEI - USA Board member, Calvin Young, represented us at the recent Chicago Wild Conference by staffing and information table. We are working on the planning of the 2020 CW Conservation Congress that will focus on Youth Participation. 20,000 Boy Scouts of the Pathway to Adventure Council (PTAC) that

covers the greater Chicagoland region are receiving an increase in conservation and environmental education program opportunities led by Wayne Schimpff sharing his experiences as Chairman of the newly formed Hornaday Conservation Award Committee and the overseeing Conservation Committee. Our first big event will be helping plan and conduct our first Mega Camporee with a planned participation by 3,000 to 5,000 Boy Scouts.

A major theme of the mega camporee is its planned Conservation Activity World. Hands on to where to go after the camporee for more conservation knowledge, service opportunities, and outdoor adventures, will be presented by members of the Education Committee of the Chicago Wilderness Alliance at the camporee. Calvin Young is using his resources to help with infrastructure support and through hands on STEM demonstration of his teams Sky Farming technology. The exciting concept is that all the Scouts also attend their local schools where the Scouts become environmental knowledge leaders because of their Scouting activities. We are working on developing communication between the local schools and the scouting programs regarding the Scout's growth in environmental knowledge.



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# Pausing from Life for Life

## A Lifelong Caretaker Alumni Spends 90-Days in Indonesia

### Calvin Young

Former USA Army

Digital marketing expert

Co-coordinator of CEI USA Illinois Chapter



Calvin

Click the link below and start watching my momentous experience in Indonesia.

<https://www.youtube.com/watch?v=WnwIFPSxxVs&t=46s>

In August 2018 I embarked on a journey like none other. All made possible by the Lighthouse school program- School Development Outreach (SDO) at Sampoerna University. I had the pleasure of engaging with one of the largest and most diverse work-force of teachers, energized students, and an amazing Indonesia culture. During the 90-day experience, our Indonesia CEI partners provided an open canvas for me to exchange knowledge and experiences with the people of Indonesia. Platforms such as Environment Club, Scouts, English Club, Sports and Dance were ideal to exchange knowledge. Additionally, it gave me an opportunity to openly engage with the community in an open and fun settings.

My journey started in my hometown of Chicago, Illinois and traveled approximately 26 hours by air and car. The overall distance is approximately 14,000 miles just to put it in perspective. After flying from Chicago to Seoul Korea I had the opportunity to see a little bit of Korean night-life. Korea has very good barbeque chicken and other fine dishes. I then boarded an afternoon flight to Jakarta

which was another 7 hours. Finally, the Sampoerna team greeted me in Jakarta International Airport with warm hugs and plenty of meal options such as Satay, Rice, and various fruits. By the way my favorite food is Udang (Shrimp). After a few days of orientation with the Lighthouse Program and Sampoerna University, I headed to a town called Pontianak. This flight was not so bad between the two. In fact it was only 1 hour but, the drive to my village was a scenic and enjoyable 5-hours. So yes it was quite the journey to a place I was to call home for the next 90-days. My new home is now Darit-West Kalimantan. Home of the Dayak warrior!!!

Now let me inform you a little bit why this program exists and why CEI is involved. The seed actually has been planted through CEI network. I met many Indonesian in numerous CEI conferences. It continued with various post conference programs we did together, which at the same time it strengthen partnership between USA and Indonesia. I remember, it was in a late and cold Chicago, October 2017. I just returned home from gym. My jaw dropped when an invitation letter



With my Indonesian students



Udang (shrimp), my favourite



English drama performance



Field trip

from Indonesia pop up on my screen. I rang Wayne Schimpff, my CEI coach and we talked about this news. After that night, I was buzzing for the trip. Imagine, I would go to remote Indonesia and work with my Indonesian fellow. This time in their element.

The The Lighthouse Program (LSP) mission is to be a collaborative and empowering English and STEM-focused school that supports the development of each student to be intellectual, personal excellence, and compassion. I was able to live the LSP vision during my time in Indonesia and my experience reached far beyond our initial goals. I will now reflect on some of my experiences in Indonesia.

To start off, many of my colleagues in the USA ask, "Calvin, what was your most memorable experience during your 90-day stay in Indonesia?" I find it very difficult to answer simply because there were just way too many to answer. However, I will never forget our field trip to one of the local Palm Oil Plantations in Darit, Indonesia.

What made this experience memorable was the fact that many students from the school -SMA 1 Menyuke-had never visited nor have they explored one of the country's riches resources. Together, we looked at the various ways of improving Palm Oil production and we successfully created a plan to attack some of the infestation that are harming the plants. Many students expressed strong interest in continuing our research project and requested to collaborate with other students globally moving forward. So if you are a student looking for an amazing research project, please let us connect you with students working on this project in Kalimantan. Building sustainable networks is a great opportunity that we can all benefit from, which is the next personal experience that I'd like to share with you.

As a Caretaker of the Environment, I have participated as a student, Alumni, Teacher and as a Parent. My involvement spans 31 years and it is because of the network that has been built by our fellow Caretaker members. The Sampoerna University and Lighthouse program would like to continue to collaborate and continue to grow in a Sustainable fashion. The opportunities are boundless and I was able to connect with all of the groups in a fun, and engaging way. CEI gave me an opportunity to connect with teacher in Indonesia for

90-Days in the time of my life experience. I have included a youtube video clip to get a better sense of my daily activities there.

Although there were so many great things I encountered during my stay in Indonesia. I did have one challenge that we worked on daily which was to improve English. I quickly discovered that not all Indonesian natives speak English which was a challenge within itself. We worked fearlessly in improving our English communication. I attended every single school activity one could imagine to simply engage with the school and its community. Here are just a few, SMA 1 After School English Clubs, Environmental Club, Boy Scouts, and even dance. I believe Indonesia is on the right path to improving the English language and with established CEI partners and the Lighthouse Program this will happen.

I'd like to thank our CEI Partners in their continued drive to collaborate with organizations like the Lighthouse Program and Sampoerna University. Through this working relationship I was given the opportunity to engage with a group of energized students and the Darit community of West Kalimantan in a 90-day excursion beyond my dreams. The next phase of this mission is to engage with more teachers and students in collaborative way and continue to be a Caretaker. If you would like to know more about my experience or if interested in a fun-filled excursion please let me know.

I am A Caretaker!!!



With Head of Education Office-West Kalimantan Province

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# Linked up Sweden and Indonesia through Video Conference

## Karin Warlin

Science Teacher in Öresundsgymnasiet-Swede  
Head of CEI Sweden Chapter

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Karin and Stien

Landskrona is a little town in the southwestern part of Sweden where I have worked as a highschool teacher in science for 30 years. This fall I taught 14 students in the optional course Natural science when Stien Matakupan from Indonesia contacted me on WhatsApp and came up with the idea of letting my students have a video conference (VC) with students on a school on Musi Banyuasin-South Sumatra-Indonesia.

This kind of virtual meeting was not the first time for Sweden and Indonesia. In the past, Sweden and Indonesia students had met in various video conferences, when Birgitta Norden -former CEI President- and Stien connected their students to discuss various global environmental issues. So this meeting was to revive all good learning experience, and build friendship among students from different cultural background.

However, for both students in Sweden and Indonesia, this VC would be the very first time that they used this as a pedagogic tool to encourage further education and using English as a common language. Stien, I and the principal at the Indonesian school Ms Mardiana started planning it by having very eager and frequent contact via whatsapp. One little obstacle was the time difference

- it had to be done in the early morning In Sweden, since the Indonesian students finished school by the time the Swedish students had their first morning lesson.

In Sweden we pulled down the world Atlas to locate Sumatra and the students were amazed how big Indonesia in population wise and were interested in learning more about this country. Hanna, one of my student asked if she could print out some symbols for Sweden to show the Indonesian school. On the Swedish side, two principals and Rainer Weich, the head of climate strategy from the municipality also participated and thought this was a great way for two remote countries to connect.

In the meantime Ms Mardiana did a fantastic job in promoting the conference and this lead to that on the morning ( in Sweden) when our video conference started there were quite a few prominent persons participating on the Sumatra-side: the head of Communication, of Culture, of the IT department and also the Head of the Education. And .. 10 minutes in on our conference the regent of Musi Banyuasin-South Sumatra, Dodi Reza Alex Noerdin and his wife, Ms. Thia Yufada also came in to the Sumatra school and actively took part in our conversation, discussing our two different



Yudo and students in Bali



During VC preparation



Media coverage in Sweden



Media coverage in Indonesia

cultures but also environmental issues such as the electrical trolleys in Landskrona and the non fossil buses that he had invested in in Musi Banyuasin region. We all really felt privileged to be a part of this fantastic moment. Hanna showed the pictures of IKEA, the tall building Turning torso, IKEA and some animals from the Swedish wild fauna. And we were so impressed to see beautiful handbags that the Sumatra students had handcrafted , using plastic waste!

In the end our Indonesian student colleagues sang the song " Little frogs" first in Indonesian and then ... in Swedish !! which resulted in a big applause from the Swedish students. To help you get ideas on the program and the fun we had, click the links below

a. Youtubeclip that the Sumatra school filmed on their side and put up when their regent H. Dodi Reza Alex and hus wife joined in-

[https://youtu.be/rS7DSXUF\\_AA](https://youtu.be/rS7DSXUF_AA)

b. Publication on newspaper in Sweden

<https://www.landskronadirekt.com/2019/04/12/i-miljosamtal-med-bali/>

c. Publication on local newspaper in Sumatra

<http://palembang.tribunnews.com/2018/12/06/sekolah-di-muba-wajib-memiliki-duta-baca-smpn-3-lais-lakukan-teleconference-dengan-smp-di-swedia>

We were all so happy over our successful videocontact that 4 months later when Stien once more contacted me, we had another video session this time with a highschool from the Indonesian island Bali. We first had a check-test the day before and then everything worked fine but unfortunately the internet connection halted quite a lot the next day due to bad weather. Mr Yudo Balibo from School Development Outreach (SDO)-Sampoerna University had been very helpful arranging the whole conference and all the Balinese students were dressed in traditional uniforms something very appreciated by the Swedish students. The Indonesian students told us about projects where they clean up the forest and beaches from plastic and other garbage and the Swedish students could tell about the worldwide #trashtagchallenge on social media. When asked to write their reflection on VC program, one Balinese student wrote, " The teleconference this afternoon made me confident, not nervous anymore, because in this class i have best teacher, best friends and new friends, English is AMAZING!!" We were also happy that, despite poor internet function that day, we could connect, communicate in English and learn from each other.



Swedish student on VC



Karin and Swedish students

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## Unity Creates Diversity

### **Tony Currier**

Program Coordinator

CEI USA Oregon Chapter

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*"All three million species of life and plant life- all have the same source. We all come from a single source. Everything that lives has its genetic code written in the same alphabet.*

*Unity creates diversity (Emphasis added)". - Jonathan Sacks*

According to the Caretakers of the Environment (CEI) official website, our mission, in short, is: "What does it take to enable students to see the planet as one independent environment?

CEI believes this can best occur through having students meet and work together." -<https://caretakers4all.org/about/read/4/mission>

I believe that I have a unique CEI journey, and therefore perhaps a unique perspective; having attended seven conferences, encompassing five various roles.

2018-Educator

2017- Volunteer and alumni coordinator

2014/2015- Alumni

2013-Presenter

2011/2012- Student

I have conducted a lot of interviews, I have mentored many students over the years, and I have had the opportunity to see how our program impacts, teachers, students, and myself.

It has been my working interpretation of CEI's objective as recognizing youth as primary influencers in their countries, and as leaders not just for tomorrow, but leaders of today. By going to an international conference that fact alone separates you as a human being and has the potential to transform lives.

Change is the only constant that can be relied on in this modern era. I watch as information pours in as a tsunami and some people are swept away by misinformation. Leadership is no longer defined by values. The moment my country left the Paris Climate Accord many people questioned the logic in the decision.

But I question the trend behind it. More and more frequently many great companies and leaders are making decisions based on immediate circumstances. Greed, political agendas, fear: they do



Tony & Armand, host of CEI 2012 Maastricht

not stop to think about their values, or how things affect others.  
As a planet, as an organization, as a "family", I ask you to think about your values, and your core beliefs.  
Why do you make the sacrifices to come to these conferences? I believe our values are the north star of our lives and can become the moral night sky in which we make decisions. Cultivating, vocalizing and nurturing a core set of shared values benefits all of us.  
If we are captains of our ships known as our lives, and we belong to the fleet of our cultures then I ask how we expect results when we do not share the same night sky?  
Unity Creates Diversity. Can it also be said that diversity can therefore create unity?  
I value hard work, focus, and curiosity to name a few. At CEI, it always shocked me when delegates have been self-conscious about their English. It's always admirable to know that someone is using English as a second or third language or more. I am not

taught multiple languages in my country.  
Regardless, I always respect the delegates who speak various languages because of my values. It takes immense, hard work to learn another language, a lot of focus, and curiosity is the spark that spurns the devotion to learn. This attitude allows me to look past any cultural differences and focus on someone's good qualities and beliefs.  
I do not have the space here to talk much more about how values add to our collective lives, or further impact our conference. Here is my email if you would like to start a discussion about how we can begin to articulate our shared values. [tony@ceioregon.org](mailto:tony@ceioregon.org)

*"The world can only appear monochromatic to those who persist in interpreting what they experience through the lens of a single cultural paradigm, their own. For those with the eyes to see and the heart to feel, it remains a rich and complex topography of the spirit," -Wade Davis*



Tony & Joyce, CEI USA Oregon Chapter



Tony & Isabel, co-founder of CEI in 1986

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# Create Your Own CEI Journey

## Kevin Yu-Wen WU

CEI Taiwan

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Hello everyone, my name is Kevin or you probably know me as "Selfie Kevin". Since 2014, I've attended CEI conferences five times as a student (2014 Taiwan and 2015 Portugal), delegation assistant (2016 Denmark) and alumnus (2017 USA and wo18 Austria).

Being part of the CEI family is one of the important things in my life. Through CEI conferences, we make good friends, experience different cultures, learn to cooperate, share our thoughts, even travel together with people from all over the world, but the most important of all is getting aware of caring our environment. You may think you cannot do anything big to change the global warming or overfishing. Then, you are wrong. Little simple things can also make this world change. It's just like the butterfly effect. Take actions for a better environment. We only have one earth. During my CEI experiences, I've learned and improved so many abilities, such as leadership, by bouncing ideas off and cooperating with students and teachers from different countries. Learning different things from different people during my CEI journey is the most valuable experience in my life. It does change me a lot to think differently, do differently, and dream differently.

I am not able to attend the conference this year, but the faith of CEI still goes along with me. As you are reading this, I hope you can also create your own CEI journey.

Massive love from a caretaker.



2016 Denmark



2017 USA



2018 Austria

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Learn more about CEI or contact us :

<https://www.caretakers4all.org/>



## Caretakers of the Environment International

The CEI is an independent organization established in 1986, embracing secondary school students, teachers and mentors, whose interests are focused specifically on the issues of environmental protection, promoting education, shaping awareness and training within sustainable development.

**33rd CEI Conference Istanbul, Turkey June 30 - July 6, 2019**

**Sustainable Living In A Big City**

