Project number: 2021-1-IE01-KA220-SCH-000027825

Student Parliament

MTU Blackrock Castle Observatory

PROJECT TITLE: Climate Action and Light Pollution Threat

ACRONYM: CliC-PoliT

PROJECT WEBSITE: https://www.clicpolit.eu/

PROJECT NO.: 2021-1-IE01-KA220-SCH-000027825

PROJECT COORDINATOR: MTU Blackrock Castle Observatory, Cork, Ireland

Project Partners

BACKGROUND

We live in a world which is changing rapidly. We hear constantly about the threats to the future from climate change, artificial intelligence, and global pandemics. With increasingly ubiquitous access to the internet, and more platforms whereby individuals and groups can provide anonymous commentary on important topics, there is a real concern that evidence is replaced by rhetoric and even fear. This leads to poor decision-making and poor decision-making affects our ability to improve the future of life on this planet for all living things.

The student parliament is a mechanism to embed evidence-based thinking in discussions, ultimately resulting in decisions which can be turned into actions and policies that chart the most-informed pathway forward. In many cases the challenges we face have no single answer and student parliaments encourage participants to balance competing requirements from different societal groups, benefits from competing technologies and even impacts across the multitude of species with whom we share our world.

Principles of a CliC-PoLiT Student Parliament

- Using evidence-based research, students develop resolutions around topics/themes, provided to them in advance, that they debate in a parliamentary setting amongst their peers.
- Resolutions which are democratically adopted go into a Resolution Booklet.
- Where possible, the Resolution Booklet is given to the local Mayor or equivalent to support informed local or regional debate and ultimately influence policymaking.
- This is not a competition – though naturally students are defensive of their resolutions. Each Student Parliament should seek to produce the most impactful resolutions.

Green Competencies

4. *Acting for sustainability* directly guides young people in this activity. Students will act with:

4.1 Political Agency "To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability."

4.2 Collective action "To act for change in collaboration with others."

4.3 Individual Initiative "To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet."

The Student Parliament also invites participants to demonstrate their attitudes in being:

1.1A1 [is] prone to acting in line with values and principles for sustainability.
1.1A2 [is] willing to share and clarify views on sustainability values.
1.1A3 [is] open-minded to others and their world-views

And their knowledge of 1.2K2 [Knows about] environmental justice, namely considering the interests and capabilities of other species and environmental ecosystems.

and expects that they will demonstrate their *2.2 Critical thinking* as they act "To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions."

OPERATING A STUDENT PARLIAMENT

The operation of a student parliament is straightforward and follows a well-trusted path. The steps are outlined below.

STEP 1: DEFINITION OF TOPICS TO BE DISCUSSED

Within CliC-PoLiT we want to compare the resolutions developed by different class groups from different schools and countries associated with CliC-PoLiT. This will enable us to compare possible differences in approaches to solutions through the resolutions and identify whether the same issues are perceived as being of the same importance everywhere or whether there are regional variations. Towards this end we have selected four themes which will form the topics to be discussed at each Parliament in 2023/24. These topics are:

- **Theme 1: Light Pollution - Impact on Biodiversity**
  Light is a necessary part of our daily lives. How should we use light responsibly in the future? Have we considered its impact on other species, especially nocturnal ones? Have we considered its impact on human health if we lose the dark? How might we balance the need for light with the need for dark?
- **Theme 2: Light Pollution - Impact on Energy Usage**
  Light is a necessary part of our daily lives. How should we use light to best illuminate what we want to see? Are we using efficient light sources such as LEDs in the best way? Are we saving as much energy as possible with them? Is light pollution contributing unnecessarily to global warming?
- **Theme 3: Light Pollution - Loss of the Night Sky**
  Light is a necessary part of our daily lives. For millennia our ancestors were able to see the night skies. Are we in danger of losing this? Does it matter? Does it have cultural implications if we can no longer see the stars? Will our future be one where only a privileged few can see the stars?
- **Theme 4: Light Pollution - Satellite Constellations**
  Light is a necessary part of our daily lives. Does the new breed of satellites in low earth orbit pose a threat to polluting the night skies? What do these satellites do? What are their benefits to societies across the globe? What range of measures could be considered to minimise their effects on our dark skies?

STEP 2: SELECTION OF THEMES AND ASSIGNING STUDENTS FOR EACH STUDENT PARLIAMENT

Each student parliament selects from the four themes above. We recommend 4-6 students per theme, depending on class size. The number of themes considered by the Parliament is therefore also dependent on the class size. Students can be offered the opportunity to request addressing a particular theme which they may find particularly interesting, or they can be randomly assigned. Assigning on the basis of interest has the downside that students may have a strong pre-conceived view on the "good" or "bad" of that theme, whereas the resolutions they will generate for debate should be based on evidence only.

STEP 3: BACKGROUND RESEARCH AND INTERACTING WITH THE EXPERTS

Once the themes have been assigned, students are given time to do background (desk-based) research on the topic. It is a matter for the teacher/convenor to decide how long the students are given. The objective of this research is for the students to develop some expertise in the subject area and it likely will uncover issues within a theme that are of particular importance. Background material on each theme is provided by CliC-PoLiT, but students are free to consider other background material. They should, however, keep a note of where this material was sourced so that the veracity of any claims made within it can be openly checked. Following their individual background research (which could be as simple as reading a key article in class) students are given the opportunity to debate the material amongst themselves. The teacher acts as a moderator to:

- help the students to structure their ideas,
- try to make sure that all voices are heard and taken into account by the entire group,
- not follow a personal target regarding the contents of the resolution,
- have enough knowledge of the topic to provide some factual information – if needed,
- assist the students with structuring their arguments, and
- help them to prepare for the meeting with the expert.

It is expected that the debate will uncover questions about the underlying science, social science, technology, etc., which are best addressed by a conversation with an expert. For the purposes of the CliC-PoLiT student parliaments, experts will be made available from within the consortium partners, but teachers may wish to use local experts. An online meeting is organised with an expert (or it could be in-person if that's possible). The role of the expert in this meeting is to answer questions about the science, social science or technology underlying the questions. Experts will **not** express any personal opinions about the topic being discussed, but rather comment only on the evidence related to a topic. (For example, if students are focusing on biodiversity they may ask if it's true that light pollution will kill all bats within 2 years and the expert can respond – in this instance to firmly correct this mis-informed view. This will prevent the development of a resolution which uses the basis that "all bats will be killed by light pollution within two years …." as that's factually incorrect.)

STEP 4: PREPARING THE RESOLUTION BOOKLET

Resolutions form the backbone of a parliament. They represent the suggestions which the proposer wishes to see adopted by the parliament. They are debated (see STEP 5 below) in the parliament and either adopted or rejected. If adopted, they go into the final resolution booklet.

Having met with the expert, the students, with the light-touch assistance of the teacher, develop a series of resolutions. We recommend no more than 4. (For an example of resolutions, see ANNEX 1.) If there are four groups of students covering four themes, for example, then the resolution booklet will contain four sets of resolutions, one from each of the student groups. These are put together into a single document ("booklet") in preparation for the parliament itself.

Resolutions shall be structured using;
We have assessed ... a list of factual statements
We claim ... a list of actions that the students propose.

STEP 5: THE PARLIAMENT AND HOW IT OPERATES

Following STEPS 1-4, the students are now ready to engage in their own Parliament. This can be done in their own classroom or it can take place in a school's assembly hall with other students looking on. However, only those students who have been involved in STEPS 1-4 are entitled to speak and vote (as would be the case in a normal parliamentary setting). All groups should be given the resolutions in advance of the parliament so they can consider them. This is up to the teacher. It could be as short as a half hour before the parliament or it could be a few weeks before it. There is no single rule, and each school may wish to run the timings somewhat differently.

Procedure of the debate

1. Proposing Group reads out its resolutions
At the beginning of each debate, the proposing group has the opportunity to read out all its resolutions which are gathered in this resolution booklet. *(One member of the proposing committee reads out the claims from the front of the room.)*

2. Proposing Group supports its resolutions
Next, the proposing group has the opportunity to explain the resolutions and its contents. *(One member of the proposing groups argues for their resolutions; approx. three minutes.)*

3. Remaining Group(s) raise concerns about the resolutions
Directly after, representatives from all other groups have the opportunity to raise any concerns they have about the proposers' resolutions. They may query just one, or they may query all. They may also speak in support of resolutions they support. Importantly, although they will be in a group of their own, they should listen to the strength of the arguments for and against a resolution and make up their own minds whether to support or not. *(One member from each group represents the views of that group about the resolutions; up to three minutes.)*

4. Response to concerns raised
The proposing group has the opportunity to give answers to the concerns raised. *(One member of the proposing group; up to two minutes.)*

5. Open debate
All members of all opposing groups can raise their hands to address questions or remarks to the proposing group about any or all of the resolutions. Up to three questions/remarks are gathered from members of the different groups, before the proposing group can give a summarising answer to all of them. *(Up to four rounds of three questions/remarks of less than a minute per question; at own seat/via microphone.)*

6. Summarising speech, response to last questions
The proposing group holds a summarising speech and answers the last questions. *(Two members of the proposing group; three minutes at the lectern.)*

7. Voting

The chair of the debate reads out the claims and asks all delegates to vote for or against each resolution. Resolutions that are passed by the Parliament are included in the Resolution Booklet.

ANNEXES

Cork EUSP Resolution Booklet_Sample_for CliCPoLiT

Theme 1. CliC-PoLiT Light Pollution Biodiversity Resolutions

Theme 2. CliC-PoLiT Light Pollution Energy Resolutions

Theme 3. CliC-PoLiT Light Pollution Loss of Night Sky Resolutions

Theme 4. CliC-PoLiT Light Pollution Satellite Constellations Resolutions

Resolution Booklet

The Future of our City

Committees and experts

1. **Future mobility – New approaches in the city**

Mobility has many facets. How do we want to move along in the future? Is the e-car really the solution or is the concept "car" already out of date? Which ways of locomotion and hence which transport routes will have priority in future urban planning? Is the mobile workplace really a concept for tomorrow?

Expert Sarah Danaher, Cork City Council

2. **City. Climate. Change.**

The impacts of the climate change affect cities in a particular way due to their high density of population. Cities need to focus on the consequences of flooding, heat waves and thunderstorms. The collaboration of different protagonists is necessary to be able to face the climatic changes. Which measures are required to be able to respond to the consequences of the changed climate? Do we need to alter our cities? What do need to consider when planning cities in future? Which part do open spaces play? And who needs to be involved in urban planning?

Expert Prof. Robert Devoy, University College Cork

3. **Resources in the city: skyfarming & urban gardening**

Agriculture in multi-storey buildings & the city is a "huge raw materials mine". Can we and do we need to provide agricultural areas in the cities for our own supply? How could that be implemented? How can we recycle the waste that cities produce in the most effective way? Which chances and risks exist?

Expert Michael Egan, Teagasc Moorepark

4. Energy efficient houses and flats

The highest potential of saving energy lies in already existing buildings. They require three times as much energy as new buildings. Research strives after the zero-emission building – but can it be realised everywhere? Which reconstruction possibilities are there for existing houses? And who is supposed to pay for it at the end?

Expert Paul O'Sullivan, Cork Institute of Technology

5. Smart City: Life in an urban network

Half of the world's population lives in cities. The future belongs to urban regions. What challenges are posed to an intelligent traffic control? Will we be capable of controlling the interconnections in our cities similar to the way it is done in the computer game "Sim City"? How can intelligent electricity meet the requirements of an increasing population? Can cloud computing, smartphones and social networks reform the working environment? Which role do open data networks and data protection play?

Expert Dr Susan Rea, Cork Institute of Technology

RESOLUTION OF THE COMMITTEE
"Energy-efficient houses and flats"

The highest potential of saving energy lies in already existing buildings. They require three times as much energy as new buildings. Research strives after the zero-emission building but can it be realised everywhere? Which reconstruction possibilities are there for existing houses? And who is supposed to pay for it at the end?

proposed by: Barry Galvin (Christian Brothers Cork); Cáit McCarthy (Coláiste an Chraobhín); David Reidy (Coláiste an Spiorad Naoimh); Ali Hill (Kinsale Community School); Gavin Spillane (Midleton College); Gráinne Sexton (Mount Mercy College); Cian Carey (Presentation Brothers College); Ciarán Daly (Rochestown College Cork); Eva O'Sullivan (St. Aloysius College, Carrigtwohill); Zahra Khan (Scoil Mhuire Cork) and Rich McCarthy (Cork Institute of Technology, Moderator).

We have assessed:

- You need to encompass a host of energy efficient technologies to make your home more energy efficient.

- We observed that in Cork there is not an energy efficient culture in the home due to public apathy.

- There is no service provided in which homeowners have access to a cheap and effective way to reduce minor energy loses.

- That there is no adequate quality-control of renovation contractors to ensure their buildings are energy efficient.

- Unfortunately many homes built pre 2006 require substantial improvements to their energy efficiency.

- We recognize that the majority of existing household appliances have poor energy efficiency ratings.

We claim:

- There is a need to change public perception on energy efficiency in the home through an infomercial campaign and a national green community competition.

- The introduction of a government subsidised home servicing initiative where every 5 years minor sources of energy loss are repaired.

- Cork ought to incorporate certified energy inspectors in renovation projects from inception to completion.

- That all homes need to meet a minimum standard of energy efficiency before being placed on the property market.

- In line with the 2020 European Union energy target strategy we recommend the gradual phasing out of energy inefficient appliances by creating a minimum standard needed in the E.U. energy efficiency rating system.

RESOLUTION OF THE COMMITTEE
"Urban resources: skyfarming and urban gardening"

Agriculture in multi-storey buildings & the city is a "huge raw materials mine". Can we and do we need to provide agricultural areas in the cities for our own supply? How could that be implemented? How can we recycle the waste that cities produce in the most effective way? Which chances and risks exist?

proposed by: Ciara Dinneen (Ballincollig Community School); Ciara Thornton (Ursuline Secondary School); Aoife Dunne (Midleton College); Sarah Kerins (Mount Mercy College); Max Skuse (Presentation College); Chloe Healy (Terrence Macswiney College); Dominick Kelly (Terrence Macswiney College); Luke Timmons (Carrigaline Community School); Milo Moran (Coláiste Daibheid); Jamie Cross (Coláiste An Chraoibhín); Edel O'Riordan (North Presentation); Yara Haroun (Scoil Mhuire Cork); Daniel Dilworth (Coláiste an Spioraid Naoimh); Lorna Murphy (St Aloysius College) and Ciara Allen (Cork Institute of Technology, Moderator).

We have assessed:

1. 50% of the world's population currently live in cities. This is expected to have risen to 80% by 2050.

2. 80 kg of food per person is thrown out each year (300,000,000 kg in Ireland). This amounts to €1.5 billion worth of waste a year in Ireland.

3. Low income urban dwellers spend 40-60% of their income on food alone.

4. CO_2 emissions are increasing.

5. We are unnecessarily importing foods that we could easily grow ourselves in Ireland.

We claim:

1. An increased number of gardens and plants in cities improve air quality as they absorb CO_2.

2. Widespread adoption of urban gardening would create employment opportunities.

3. We feel that there would be an increased sense of community spirit. Youth and even adults acquire self-esteem, stay busy and feel productive when participating

in these programs. It restores the human connection to nature and an appreciation of the lands natural process.

4. We believe the introduction of urban gardening will lead to a greater understanding of horticulture.

5. We acknowledge the importance of dedicating resources and funds towards the research and development of aquaponics and hydroponics.

6. We claim that a scheme to provide ''compost banks'' to local communities in Cork would hugely benefit the environment, the economy while also greatly reducing the amount of waste.

RESOLUTION OF THE COMMITTEE
"City. Climate. Change."

The impacts of the climate change affect cities in a particular way due to their high density of population. Cities need to focus on the consequences of flooding, heat waves and thunderstorms. The collaboration of different protagonists is necessary to be able to face the climatic changes. Which measures are required to be able to respond to the consequences of the changed climate? Do we need to alter our cities? What do need to consider when planning cities in future? Which part do open spaces play? And who needs to be involved in urban planning?

proposed by: Karen Coleman (Coláiste an Chraoibhín); Hannah Shalloo (Carrigaline Community School); Didier Ching (Ballincollig Community School); Daniel Keaty (St Brogans College Bandon); Dara Ó Briain (Coláiste Daibhéid); Rayan Suhail (Presentation Brothers College); Úna O'Sullivan (Coláiste an Phiarsaigh); Elizabeth Hession (St. Aloysius College, Carrigtwohill;, Ioana Grigoras (Mount Mercy College); Sharon Kelleher (North Presentation Secondary School); Abaígh Murphy (Ursuline Secondary School); Sarah Ryan (Scoil Mhuire Cork); David Wood (Midleton College) and Ciara O Connor (Cork Institute of Technology, Moderator).

We have assessed:

- There aren't enough green spaces in Cork City.
- There is an on-going risk of severe flooding in Cork.
- There is not enough awareness about the effects of climate change in our cities.
- Cork has an abundant level of untapped natural resources that could be used to decrease its harmful emissions and generate energy for the city, such as wind, water and sunlight)
- There is evident need for Market Gardening in Cork City.
- There is an overuse of cars in Cork City, contributing to climate warming and an underuse of public transport and bicycles.
- Cork's emission levels are harmfully high to its citizens.

We claim:

- In order to combat global warming and reduce emissions, renewable energy sources such as solar panels on roofs and Venturi systems should be utilised.

- Cities will need defences against the forecasted extreme weather conditions. In the case of Cork city, better systems need to be put in place to deal with flooding, such as better drainage systems, levees, dredging river beds and creating other barriers to flooding.

- Cities will require more efficient, reliable and environmentally friendly transport systems in order to reduce the volume of pollution emitted, for example bicycle lanes, rent-a-bike schemes and other forms of public transport.

- We need to educate the population about the consequences of global warming and how it affects their cities by using advertising campaigns.

- Introducing Market Gardening and more green spaces and vegetation throughout the city would reduce emissions and make the city more self-sufficient.

RESOLUTION OF THE COMMITTEE
"Future mobility – New approaches in the city"

Mobility has many facets. How do we want to move along in the future? Is the e-car really the solution or is the concept "car" already out of date? Which ways of locomotion and hence which transport routes will have priority in future urban planning? Is the mobile workplace really a concept for tomorrow?

proposed by: Clár Ní Néill (Coláiste an Phiarsaigh) **(Joined Chair);** Conor O' Brien (Carrigaline Community School); David Barry (Ballincollig Community School); David Fox (Christians Brothers Cork); Elaine McCarthy (Scoil Mhuire Cork); Grάinne Cowhig (Mount Mercy College); Hugh Whelan (Kinsale Community School); James Joyce (St. Brogan's College, Bandon) **(Joined Chair);** Luke Gayer (Presentation Brothers College); Patrick Hurley (St. Brogan's College, Bandon); Paulina Gajda (North Presentation Secondary School); Róisín Ní Mhórdha (North Presentation Secondary School); Rory O' Sullivan (Rochestown College Cork); Sophie Buckley (Ursuline Secondary School) and Danny O'Donovan (Cork Institute of Technology, Moderator).

We have assessed:

- We identify an asymmetry of civil liberties and of duty of probable cause that has been and continues to be perpetuated against drivers in the name of safety. We point to the 2006 Road Traffic Act, which allows Gardaí to extract breath blood or urine samples at designated checkpoints, even where no probale cause or opinion of guilt has been established.

- We recognise that the city of Cork is amenable and subject to penalties under the Cork County Development Plan 2009 – 2015, which leaves a certain level of risk exposure considering the lack of clearly defined proactive environmental policy.

- The Committee recognises that congestion wastes resources such as fuel, money and time. This has an adverse impact on both the environment and the economy.

- We acknowledge that the safety of our citizens is being compromised by issues such as;

  o Undereducated/misinformed commuters

  o Non-adherence to rules of the road

  o Poor visibility i.e. lack of reflective gear, fog/dawn/dusk lighting etc.

- We recognise that there is a dependency on fossil fuels (e.g. Oil) to sustain our city's transport system.

We claim:

1. *While we recognise the need to ensure road safety, we believe that protecting the civil liberties of the individual is paramount. We call for the commissioning of a report on the implications of anti-drink driving policies for the civil liberties of individual drivers*

2. We call on the council to move towards a colour- coded emissions scheme, whereby each personal vehicle based on its level of fine particle emissions will have designated access to different zones of the city with the appropriate penalties to ensure adherence.

3. We demand that all public transport services conduct extensive reviews in search of efficiencies in the area of finance and human resource with any salvaged resources being redeployed to educating the public on the benefits of public transport and to the development of schemes aimed at commuters that will significantly reduce the amount of vehicles on the road.

4. We recommend to the council that immediate action be taken in;

   o Reducing unqualified use of public networks

   o Calling for measures to be implemented to make commuters more compliant to the law

   o Developing more stringent policy to combat issues caused by poor visibility in a manner that respects the individual liberties of drivers

5. We propose that the council support research in to the use of alternatively powered vehicles. Bio-Fuel, compressed air, electronic and hybrid vehicles would be key components of this research.

RESOLUTION OF THE COMMITTEE
"Smart City: Life in and urban network"

Half of the world's population lives in cities. The future belongs to urban regions. What challenges are posed to an intelligent traffic control? Will we be capable of controlling the interconnections in our cities similar to the way it is done in the computer game Sim City? How can intelligent electricity meet the requirements of an increasing population? Can cloud computing, smartphones and social networks reform the working environment? Which role do open data networks and data protections play?

Propsed by: Zoe Bruton (North Presentation Secondary School); Edel Burton (Mount Mercy College); Jamie Twomey (Terence McSwiney College); Danielle O Donoghue (Ballincollig Community School); Fay Langley (Coláiste an Chraobhín); Conor Duggan (Presentation Brothers College); Mikaela Meracado (North Presentation Secondary School); Jack Dignam (Rochestown College Cork); Emer Hickey (Kinsale Community School); Mark Reidy (Coláiste an Spioraid Naoimh); Peter Healy (Christian Brothers Cork); Beth Mallen (Scoil Mhuire Cork); Ciara Lavelle O'Brien (Cork Institute of Technology, Moderator).

We have assessed:

1. Inadequate public transport systems are forcing people to use their cars which is in turn causing traffic congestion and pollution in the city.

2. There is a significant amount of homelessness in Cork which will need to be reduced for Cork to strive as a Smart City.

3. Waste bins in public areas are currently being overfilled which causes an increase of litter on the streets. This is very unsightly.

4. The citizens of Cork desire more of an input in the development of their city. There is a lack of interaction between citizens and the city council.

5. Waste and harmful solutions are entering our rivers. This needs to be monitored so in the future a profile of river health can be built.

6. The public transport infrastructure of Cork is not meeting the needs of the citizens.

7. Education is no longer a major problem as people are saturated in technology and unafraid to use technology.

8. There is a growing concern about recent reports on pollution and its negative impact on the population's health.

9. There are financial difficulties being experienced at the moment which will lead to implementing changes more difficult.

10. The above statements as a whole have a negative impact on the citizens of Cork.

We claim:

1. That local government would allocate resources to the development and research of waste management.

   Water Waste: Water quality sensors on buoys in rivers to process levels of pollution. A profile can then be built on river health, and then water quality can be improved upon in the long term and reduce the amount of water wasted. General Waste: Sensors and solar powered compactors on public bins to alert the council as to when the bins are full and actually need to be collected. This can reduce the number of bin collections by up to 5 times.

2. That local authorities make public transport a viable alternative to personal transport. Public transport is not an alternative to a car in Cork as it is too expensive, unreliable and does not meet the needs of the end user. Leap cards should be used as in Dublin City or a web 2.0 platform could be used allowing potential users with similar origins/ destinations or schedules to get in touch to share their journeys. It could be offered to large organisations, universities and hospitals. There should also be priority parking for car poolers. Bus and taxi lanes should also be available for car poolers to utilise.

3. The local government should introduce more transparency through the likes of an online open forum and live streaming of council sessions. Encouraging dialogue between citizens and civic institutions, as well as a more detailed budget expenditure control.

4. To improve conditions for the homeless as well as reducing food waste it is suggested that the local council collect and analyse data to make better use of existing resources. For example the use of a food application that would allow retailers to inform local shelters when food is passed its display date / sell-by date instead of adding to the city's waste problem.

5. That local government would actively research and implement more energy efficient practices. Input solar cells in street lamps which will collect the solar energy using silicon solar cells or the use of a dimming system on street lamps depending on the time of day will potentially save 30% on energy annually.

   We propose to use a children's playground, for example Fitzgerald's Park, to power the lights on or near play structures to show the concept of generating electricity from playgrounds as a viable source of small scale renewable energy.

Country:
Date:
Venue/city:

Theme 1:

Light Pollution - impact on biodiversity

Light is a necessary part of our daily lives. How should we use light responsibly in the future? Have we considered its impact on other species, especially nocturnal ones? Have we considered its impact on human health if we lose the dark? How might we balance the need for light with the need for dark?

We have assessed:

Please list up to five points of assessment:

We claim: Accepted

Please list up to five claims: during debate?

yes	no
☐	☐
yes	no
☐	☐
yes	no
☐	☐
yes	no
☐	☐
yes	no
☐	☐

After our debate we changed claim(s) as follows:

Please explain briefly the changes made (max. 500-1000 words).

Please list the working group members

Full name: Age:

Theme 2:

Light Pollution - impact on energy usage

Light is a necessary part of our daily lives. How should we use light to best illuminate what we want to see? Are we using efficient light sources such as LEDs in the best way? Are we saving as much energy as possible with them? Is light pollution contributing unnecessarily to global warming?

We have assessed:

Please list up to five points of assessment:

We claim: Accepted

Please list up to five claims: during debate?

	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐

After our debate we changed claim(s) as follows:

Please explain briefly the changes made (max. 500-1000 words).

Please list the working group members

Full name: Age:

Theme 3:

Light Pollution - loss of the night sky

Light is a necessary part of our daily lives. For millennia our ancestors were able to see the night skies. Are we in danger of losing this? Does it matter? Does it have cultural implications if we can no longer see the stars? Will our future be one where only a privileged few can see the stars?

We have assessed:

Please list up to five points of assessment:

We claim: Accepted

Please list up to five claims: during debate?

	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐

After our debate we changed claim(s) as follows:

Please explain briefly the changes made (max. 500-1000 words).

Please list the working group members

Full name: Age:

Theme 4:

Light Pollution - satellite constellations

Light is a necessary part of our daily lives. Does the new breed of satellites in low earth orbit pose a threat to polluting the night skies? What do these satellites do? What are their benefits to societies across the globe? What range of measures could be considered to minimise their effects on our dark skies?

We have assessed:

Please list up to five points of assessment:

We claim: Accepted
Please list up to five claims: during debate?

	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐
	yes	no
	☐	☐

After our debate we changed claim(s) as follows:

Please explain briefly the changes made (max. 500-1000 words).

Please list the working group members

Full name: Age: