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# **IDEA**LiStiC

## Sustainability

Position paper

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### **Abstract**

This position paper shines light on student positions in sustainability questions at IDEA League universities. It addresses the role of universities in general and the potential role of IDEA League in establishing a culture both within and among universities. Ultimately, IDEA League can really have an impact when working together on presented measures, profiting from their network and treading the path together towards becoming the beacon of change.

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## Introduction

### Sustainability

Humans are shaping their environment. We have reached a point where we start to feel uncontrollable changes to our very own environment we live in. Sustainability is taking as much as is provided at any point in time and was, as a general concept, already established in the 17th century. Of course, with a basic knowledge of thermodynamics, perfect sustainability is unachievable. These processes however are out of human scale and our survival instinct brings us back to the Earth we live on, that serves as our home.

The scientific community has reached consensus on human made climate change many years ago and we understand almost all the processes now that contribute to it. Yet we can only guess on the effects of it with potentially disastrous outcomes being the base of all predictions.

### Role of universities

For the last decades technical innovations have shaped our lives and most often improved it for the better. Scientific research has provided the basis for break-through technologies that allowed us to tackle big challenges and perceive potentials before unknown. Universities have become a place of trust and with solid foundations in the society. This trust is now being tested as we try to tackle the challenges of global warming. Unfortunately, solutions to problems we face may not be ready or feasible in the time span they are required to deliver an impact.

We must be realistic about the very impact we can generate and not lie to ourselves about the potential wonders that technology may be unable to deliver. As we strive to understand and shape the world, the scientific community must clearly communicate the potentials of its output but also make one step further and face a critical discussion on the implications.

### Establishing a culture

The road to sustainability is not easy. Mostly it is an uncomfortable transformation process which demands our combined strengths and courage to rethink some very basic patterns we act by. Primarily though it is about establishing a culture. A culture that does not stigmatise scientists not attending conferences in person, a culture that does not build on a single-use mentality and a culture that involves the community and builds on future decisionmakers. A culture that bases on a holistic approach of sustainability including ecological, economical and societal factors.

Global warming is just one perceivable effect. Its magnitude has surpassed the scale at which nations operate and demands interventions on all levels if we want to call ourselves responsible as a society. Alarmism is not the right path of course and no single person can be expected to change the world to the better. In these times it is important to remember what we can achieve working together for the same goal.

## **Being the beacon of change**

IDEA League assembles leading technical universities in Europe with thousands of students, employees, scientists and scientific staff, all contributing to excellence in research and teaching. Our innovations create new opportunities, our skilled alumni work hard to tackle challenges and our research supports decisionmakers.

But we must do more! In a combined effort, we can be the beacon of change in the university landscape. A change towards a sustainable culture inside and outside of our university's walls. This position paper casts light on students positions from IDEA League's high tier technical universities (which/ that) see themselves as part of the future in question.

We call for courage, so that together, we may be that beacon of change!

## **Measures**

In our effort to analyse the world, build models and optimise processes we tend to forget that our actions alter the future in question. While we will not be able to predict all effects, it is important to start acting now. The following part discusses aviation in the context of academia and proposes high-level measures. Our universities still work differently and have potentially already taken measures on different levels in this direction. We need to foster our focused network and communicate our plans, efforts and results in all fields, especially sustainability. We need to have a discourse on the effects of such measures with the people affected and talk about their fears and expectations.

## **Flying**

The negative impacts of CO<sub>2</sub> in the atmosphere due to burning of fossil fuels need no introduction, neither does the fact, that there are no feasible systematic alternatives yet to carbon-fuel-based jet engines. The aviation sector is on a rise with a potential doubling of passenger and cargo numbers by the next 20 years while they do not internalize their externalities caused and have little infrastructure cost compared to other modes of transport. This leads to ridiculous mobility patterns, weekend trips to cities and increasing numbers of business travellers.

Within the scientific community, personal attendance and networking are key to success, yet they induce excessive amounts of flight trips. With time being a precious resource and flying comparably cheap, trips even inside a country may be chosen to be done by plane. Even though we support the vivid exchange between scientists, we question certain travel behaviour. It is clear that flights outside Europe will not have an alternative soon, which is why they have to be planned better with longer stays to maximise their output. Switching from plane to train inside Europe will also increase travel times, which can be used productively though. With an increasing trend in sleeper trains, a comfortable alternative will also gain in significance. The following measures would invoke the trade-offs being mentioned above:

**1. Introduce an impactful carbon tax on flights for academic purposes that continuously adapts to national laws.**

This measure will invoke prioritisation for the trip purpose, trip length and mode of transport. In order to prevent double payments, the tax has to be harmonised with changing national laws. The money from the tax could flow into a climate fund to help finance investments into different projects, prioritising incentives and measures taken to fly less.

**2. Introduce a climate fund and support sustainability projects.**

Income through internalising externalities or other sources would be used to fund different projects aimed at establishing the sustainability culture. With student contests, improvements in the bike infrastructure, incentives to rail journeys and investments into video conferencing only being a few examples.

**3. Improve video conferencing infrastructure towards a more natural experience.**

Being high tier technical universities, we would expect to see breakthrough technologies being adapted in this field to deliver a more natural and productive environment. It would provide a viable alternative for low priority journeys while being less time consuming as well. This can only work if both sides have the access to such facilities, which is why sharing good designs and helping to implement them at other universities is vital.

Some of the above measures can only work though, if certain conditions are met:

- Professors, researchers and staff need to be flexible enough to take the extra time. In an ever-accelerating world, this could also have other positive side effects.
- Relieve the expectations of internationalisation in research being connected to maintaining personal contact.

We acknowledge that these are not processes happening overnight. We are aware of the fear connected to going against the global scientific trends and losing international reputation. However, we also think that the investments made into the future will be the basis on which we build our continuous success. This is why IDEA League can have an impact! Gathering up and deciding to tread the path together will lower the risks of each individual university and at the same time increase the chances of invoking change spreading to other institutions. And the increasing cooperation may strengthen our relationship, leading to even more remarkable outputs from which we can profit as a society.

### **Other areas of measures**

Aviation is a pressing issue and very present in the university landscape. It is only one direct cause for CO<sub>2</sub> in the atmosphere though. In an outrageously complex societal fabric, it can be hard to see actions turn into the desired output and thus easy to focus on the more obvious approaches. Nonetheless it is important to remember the three aspects of sustainability: Ecological, Economical and Societal and their manifestation in both time and space. The following non-conclusive list provides a rough overview of potential fields of action for universities to tackle:

- Introduce and strengthen sustainability concepts in study programs. Critically reflect on challenges in the respective fields.
- Improving bike infrastructure to incentivise shifts in transport modes.
- Reduce and ultimately abandon single use plastics and other materials in every day consumer items.
- Support increasing trends in food establishments for regional and seasonal products as well as more vegetarian and vegan options.
- Invest into sustainable energies on institutional grounds and provide space for relevant infrastructures.
- Construct new buildings with sustainable methods and materials. Incorporate new usage concepts to maximise potentials.
- Expand the discourse from universities into society with public events and support for student initiatives.
- Collaborate with other universities and set common standards and goals in sustainability questions.
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## **Final points**

After everything we know has happened and the things we fear will happen, it would be irresponsible to forget the situation we are in. It could be compared to learning how to drive a car blindfolded. No one will be surprised if something happens. Even if we take off the blindfold and make mistakes, we will be able to improve and at some point become a master at driving. Taking action and assuming responsibility is the way forward.