

Climate Action Ranking 2022: Report

Climate Students ranking of Swedish HEIs

Abstract

The effects of climate change that we are experiencing today, and will continue to face, constitute a global crisis that requires rapid solutions. As a good start, Sweden has signed the Paris Agreement and thus accepted the goal of not exceeding a global warming of 2 °C with an effort not to exceed 1.5 °C. Based on today's development, the goal will not be achieved unless ambitious measures are implemented as soon as possible. As a welfare state with historically high emissions per capita, Sweden should take a leading role in the work towards achieving the goals. To do this, the whole country should cooperate. Sweden has many universities and university colleges that hold the knowledge and solutions for the climate crisis. The Climate Students therefore believe that the houses of knowledge, that is universities and colleges, should lead the way in climate action. To draw attention to this and encourage higher education institutions, the Climate Students created the Climate Action Ranking, which is based on a survey. The aim of this ranking is to highlight both strengths and shortcomings in the Swedish higher education institutions' climate work and to put pressure on them and encourage forward-looking and ambitious climate work. The ranking has been carried out for three consecutive years and contains four categories. These categories are: 1) aviation emissions, 2) reduction of aviation emissions, 3) goals, action plans and measurements and 4) goal fulfilment. A total of 23 higher education institutions answered the survey this year. The results are presented as a figure of the points awarded to the participating higher education institutions in decreasing order. The KTH Royal Institute of Technology was ranked highest, with a total of 95 out of 100 points, which therefore according to the Climate Students' calculations is the institution with the most ambitious climate work in 2022.



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1. Background and purpose

Anthropogenic climate change is the greatest crisis in human history and requires urgent measures identified by scientists to be prevented. Sweden has committed to meeting the targets of the Paris Agreement, and has set its own national climate target to achieve net zero emissions of greenhouse gases (GHG) by 2045, later followed by negative emissions. Presently, there is no indication that Sweden will achieve any of these targets in terms of emissions reductions and contributions to limit global warming¹. Moreover, Sweden's mitigation ambitions are less than half of the absolute minimum necessary to deliver on the Paris Agreement. If one applies the precautionary principle regarding the deployment of planetary scale negative emissions technologies, developed countries are required to deliver double-digit annual mitigation rates from 2020. That is required if they are to align their policies with the Paris Agreement's temperature commitments and principles of equity². The Climate Students Movement is an association that argues that Swedish universities have a unique possibility and a responsibility to take a leading role in the climate transition and that Sweden's higher education institutions (HEIs) must strive for near zero emissions by 2030.

HEIs have a unique role to play in realising society's climate transition, both symbolically and practically. Practically, they are politically independent institutions with a high level of expertise and competence. Driven by the production of knowledge, universities have the mission to research, educate and collaborate with the rest of society. Symbolically, universities can practise what they teach by using the research they produce as a starting point for action.

In 2019, the Swedish government imposed stricter requirements for the HEIs' efforts to promote sustainable development and to reduce direct, negative impacts on the environment, including GHG emissions. That same year, 37 HEIs adopted the Climate Framework for Higher Education Institutions, which states that HEIs' emissions in 2030 should be in line with the Paris agreement's 1.5 °C target. However, there is no official governance body that will monitor the HEIs' compliance with their obligations under the Climate Framework. The Climate Action Ranking is intended to fill this gap.

Two things that can motivate HEIs are rankings and application numbers. Climate Students want the HEIs to understand that future student applications can be affected by how the institutions work with their own direct emissions by making a ranking based on exactly that. 'Generation Greta' which has taken to the streets since 2018 will, in the coming years,

¹ <https://www.klimatpolitiskaradet.se/en/rapport-2020/>

² Anderson, Kevin. Broderick, John F. And Stoddard, Isak. 2020. *A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways*. Tandfonline. Pages 1290-1304. (<https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1728209>). (Accessed 02/04-22)

apply to HEIs. In March 2022, Fridays for Future hosted more than 700 demonstrations all over the planet³. In Sweden alone, demonstrations were held in at least 28 locations, including some of the country's university cities such as Uppsala, Gothenburg, Stockholm, Linköping, Örebro, and Karlstad⁴. We want to let the HEIs know that future students will not apply to institutions that do not practise what they teach and reduce their emissions according to climate science and the Paris Agreement. We also want to underline how important the actions from HEIs are for climate work in Sweden. Therefore, we decided to release the ranking on Sweden's Overshoot Day on 3rd of April. A country's Overshoot Day is the day when that nation consumes more resources than can be regenerated per year. In this context, the National Committee of the Climate Students Movement has carried out a ranking based on the work done by Swedish HEIs to reduce their direct emissions. We want to show which HEIs are making the most and the least progress in the fight against anthropogenic climate change.

2. Method

The results of the ranking were based on a questionnaire that was sent out to get a better understanding of how the HEIs perform in their climate actions. The answers were scored according to a point system designed to be as objective as possible to enable a ranking of all the institutions in comparison to each other. The questionnaire was sent out by email to all 44 universities and university colleges as these constitute the platform where Climate Students are active. To ensure sufficient time for the institutions to provide comprehensive responses, they were given a month to answer the survey.

This survey method was based on previous Climate Action Rankings but was further developed to correct errors and to include new perspectives. The relevant data collected for the changes in this year's ranking was determined after meetings with some of the HEIs that participated in the 2021 ranking, as well as researchers in the fields of environmental science and didactics in natural science at Karlstad University. The Climate Action Ranking committee established pertinent areas associated with GHG emissions, and the survey questions were formulated after further discussions with the aforementioned researchers. Seven areas were established; 1) total GHG emissions, 2) business trips, 3) energy consumption, 4) purchase of goods and services, 5) construction investments, 6) waste, and 7) financial investments.

³ Bartoli, Leonardo. 2022. Fridays for future is back: The march 25 protests. *Impakter*. 25 March. (<https://impakter.com/fridays-for-future-is-back-the-march-25th-protests/>) (Accessed 03/04-22)

⁴ 2021. Global klimatstrejk på minst 28 orter i Sverige. *Mynewsdesk.com*. 18/10. (<https://www.mynewsdesk.com/se/klimatsverige/pressreleases/global-klimatstrejk-paa-minst-28-orter-i-sverige-3137064>) (Accessed 03/04-22)

This year's Climate Action Ranking consisted of four categories. The first category measured carbon dioxide (CO₂) from aviation during 2021 per full-time employee from each HEI. In the second category, aviation related CO₂ reductions between 2020 and 2021 were calculated. The third category established how well emissions were measured, how well emission reduction targets were formulated, and whether there was a structured way of working toward achieving the targets. The fourth category was new in this year's ranking and scored target achievements. To ensure equal scoring across all categories, they each had the same maximum point limit of 25 points that made a total of 100 points for the ranking.

2.1 The categories

The categories were 1) Aviation related CO₂ emissions per full-time employee during 2021, 2) Change in aviation related CO₂ emissions between 2020 and 2021, 3) Emission targets, action plans and measurement of GHG emissions, and 4) Target achievement. These categories are presented in further detail below.

2.1.1 Aviation related CO₂ emissions

In this first category, points were awarded for low emissions from aviation; the lower the emissions, the higher the points. To be able to compare HEIs of varying sizes, the emissions were presented in kilograms (kg) of CO₂ per full-time employee. Any number below 100 kgCO₂ was rewarded with 25 points, and 1 point was lost every 50 kgCO₂ above 100 kgCO₂. 1251 kgCO₂ and above was given 1 point.

2.1.2 Changes in CO₂ from aviation between 2020 and 2021

In this category, HEIs that reduced their CO₂ emissions by 16% or more between 2020 and 2021 received the highest score of 25 points. Furthermore, HEIs with unchanged emissions from 2020 did not receive any points, and those that increased their emissions from aviation between 2020 and 2021 received negative points. The 16% reduction was rewarded with the maximum score because Climate Student's fundamental recommendations for HEIs is to reduce their total annual emissions by that number. The survey specifically asked for quantities from both 2020 and 2021, so they could be calculated by the same method.

2.1.3 Goals, action plans and measurement of GHG emissions

In this category, the HEIs were asked if they measure their GHG emissions in seven different areas. These areas were inspired by the categories in the Climate Framework and by discussions held with climate change researchers. In last year's ranking, the measuring of emissions was put in a separate category, but this year it was merged with goals and action plans for emission reductions for each area. The areas were as follows: 1) total GHG emissions, 2) business trips, 3) energy consumption, 4) purchase of goods and services, 5) construction investment, 6) financial investment and 7) waste. For each area, except 1), we

asked the HEIs if they measure their emissions and if they have goals and if so, how these are formulated. In this category, the following questions were asked:

- Does the HEI measure emissions (CO₂ equivalent (CO₂e)) from x? ⁵
 - Yes
 - No
 - Do not know

- If you have a goal for x, how is it formulated?

- Are there employees with clear ownership over the work towards the target and in that case who/whom?

When the HEIs answered ‘yes’ to measuring the emissions in the areas, they received points. If the HEI currently has a goal in an area they also received points. Additional points followed the SMART-method when considering each goal, where “SMART” stands for specificity, measurability, achievability, relevance, and time-bound. Targets were awarded points for each area they fit, and they were evaluated as follows:

- S (specific): a goal that specifies how much CO₂ is to be reduced for a stated time frame.
- M (measurable): a goal that is quantified.
- A (achievable): this was not considered since it would be too challenging to decide how accepted the goals are within the institutions.
- R (relevant): a goal that aims to achieve zero CO₂ emissions by 2030 (Climate Students goal).
- T (time-bound): a goal that has a deadline or time frame for when to be achieved.

Not every target was formulated in ways that enabled this template to be fully applicable. Consequently, this resulted in a high level of interpretation by those evaluating the goals. The values of Climate Students were used as guidance for the interpretations: to ensure that all HEIs were evaluated on equal premises, the assessment was always done in groups, and goals were controlled in relation to different HEIs.

The question regarding ownership of the work towards target achievement was included in the survey because it is vital that there is someone actually working with the goals for them to be achieved. To gain points for this question, the answer had to be a specific person, position, or group of people responsible for environmental issues in each respective area. It is understood that the president for the HEI holds the ultimate responsibility for the goals

⁵ The named question was not asked for the area total GHG emissions. For the areas construction investment and waste, an additional answer option was included: Partially.

and that the entire organisation takes part in achieving them, therefore answers only referring to this did not receive any points. The structure for goal ownership looks very different between different goals as well as HEIs. To evaluate these equally, they were graded by peers into three different point levels, with consideration to similar answers from other HEIs.

The area of financial investments looked different from the other areas since not all HEIs had investments in fossil fuels at all. For this we asked the following question:

- Does the HEI have fossil investments?
 - Yes
 - No
 - Do not know

For this question, points were given to those who answered they do not currently have fossil investments. Otherwise, points were given in the same manner as for the other areas. To make sure that those who do not have fossil investments were not disadvantaged, they got a full score for the target even if they did not have one.

The climate effects from the seven different areas are not equal, and therefore the points granted for all areas were not equal. ‘Total GHG emissions’, ‘business trips’, ‘energy consumption’, and ‘financial investments’ were rewarded with a greater percentage of the total points in this category than ‘purchase of goods and services’, ‘construction investment’ and ‘waste’.

2.1.4 Target achievement

Target achievements was a new category for this year's ranking. The result for this category was based on the following survey questions, asked within all seven areas:

- Does the HEI follow up the work of reaching the goal? If so, how often? (Enter in weeks, months or years.)
- On a scale 1-5: How close are the HEI to reach the goal within the planned time frame?
 - 1. The goal will not be achieved at all
 - 2. The goal will be achieved to some extent
 - 3. The goal will be halfway achieved
 - 4. The goal will be achieved to a large extent
 - 5. The goal will be completely achieved
 - Do not know

- If the goal will not be achieved within the timeframe, how will the HEI concretely work to get closer to the goal?

The aim of the point system for the ‘Target achievement’ section was to reward those who manage to achieve the goals they adopt, especially when the goals are close to, or meet, the SMART criteria. The points handed out for ‘Target achievement’ were based on the 1-5 scale question. Maximum points were handed out when the answer was that the goal will be achieved to a large extent or completely achieved. A completely achieved target could be an indicator of the goal not being ambitious enough. Because of this, a completely achieved goal is not rewarded higher than a goal achieved to a large extent. To make sure that the achievement of a low quality goal was not equally rewarded as the achievement of a high quality goal, the goal itself had to meet a certain amount of points to enable the achievement of it to result in maximum points. In the calculation of total points for ‘Target achievement’, the number of goals was taken into consideration. This meant that a HEI that didn’t have goals in all categories wasn’t punished in the ‘Target achievement’ section, but assessed based on the achievement of the goals that they had. In order to do this, the points were calculated from each HEIs’ individual prerequisites. Simultaneously, a high degree of achievement was rewarded slightly higher the more goals the HEI had with the motivation that it is more difficult to achieve a lot of goals than only a few.

3. Results

The result of the climate action ranking 2022 is presented in Figure 1 as a list of the HEIs in the order from highest to lowest. In total, 23 HEIs participated in the ranking, out of the 44 HEIs that the questionnaire was sent to. The result is divided in the four different categories; 1) Flight emissions, 2) Reduction of flight emission, 3) Goals, action plans measurements and 4) Target achievement. The points from the four categories constitute the total points that are the basis for the ranking.

Climate Action Ranking 2022

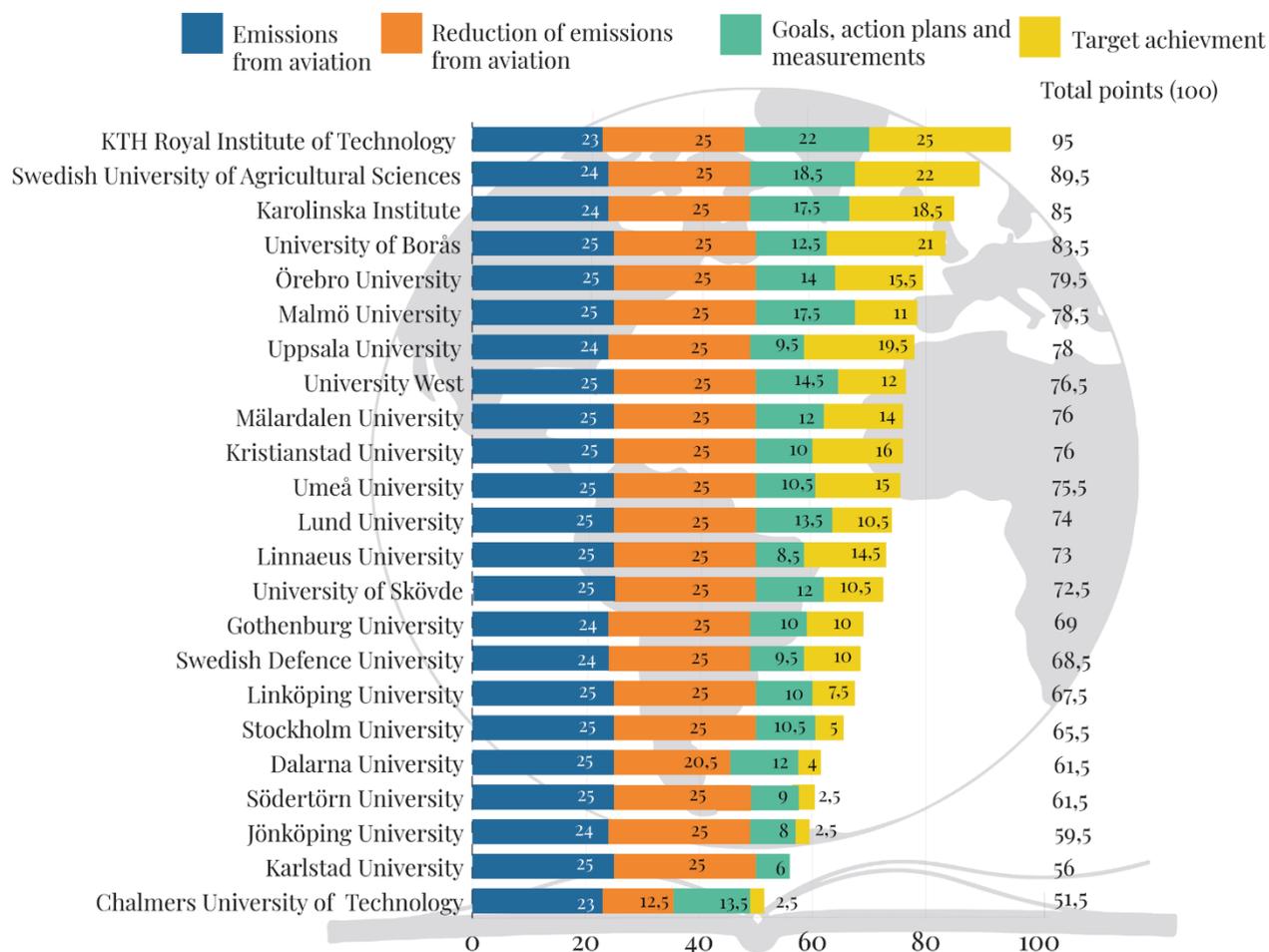


Figure 1. Results of the Climate Action Ranking 2022.

Out of all the HEIs that answered the survey, 15 received full points on emissions from aviation, 6 HEIs received 24 points and 2 received 23 points. In the category of reduction of aviation emissions, the result was more consistent and everyone except 2 HEIs got a full score, that being 25 points. The remaining 2 received 12.5 and 20.5. As can also be seen in Figure 1, the points vary greatly in the category of goals and action plans. In this category, none of the HEIs received a full score. The difference between the HEI with the highest score and the one with the lowest score was greatest in this category with the highest points given being 22 and the lowest was 6 points. The KTH Royal Institute of Technology scored a total of 95 points and was ranked in first place, followed by the Swedish University of Agricultural Sciences, the Karolinska Institute and the University of Borås.

4. Discussion

4.1 Discussion of methods

Initially, we wanted to look only at documents containing annually collected data from HEIs by the Swedish Environmental Protection Agency. We wanted to be as objective as possible and be able to rank all HEIs even if they did not choose to answer a survey. However, the information from the Environmental Protection Agency's database was insufficient to complete the ranking. Furthermore, using this database also meant that non-governmental institutions that are not required to report their data would be excluded in the ranking. To be able to collect the same information from, and rank the HEIs equally, we decided to conduct a survey. This method allowed us to collect the necessary information while also collaborating with the HEIs so they could provide input as well.

The survey assumes that all respondents answer truthfully and that they all interpret the questions approximately the same way. Similar surveys are based on self-assessments but since state institutions have an obligation to be honest, responses are seen as trustworthy. All steps of the method and the ranking has been reviewed by at least a group of four from the committee during the process to ensure objectivity and consistency.

In consideration of the ranking of 2021, we made some changes in the outforming of the entire process. First and foremost, we decided to develop the categories and therefore we changed categories 3 and 4. From 3) Goals and action plans, 4) Measurement (of emissions) to : 3) Goals, action plans and measurement and 4) Target achievement. The reason was to focus less on their goals and look into their actual actions because those are what matter the most according to Climate Students Sweden.

Last year we received feedback from the environmental coordinators from several HEIs considering the length of the ranking and therefore we also excluded some yes/no questions and made them "open answer" questions. Last year the participants who by example answered 'Yes' to some of the questions got separate questions whereas those who answered 'No' got different follow up questions. This year we didn't separate follow up questions. In that way we also made it easier for us to complete the ranking. Every change that the Ranking Committee made in the method was done considering the feedback we got from different environmental coordinators and researchers with relevant knowledge in the area.

4.1.1 Aviation related CO₂ emissions

Ideally, this ranking would position the universities according to their total GHG emissions. Unfortunately, none of the universities knew their total emissions, as in previous years and therefore a different method had to be applied. For future rankings, Climate Students hope and expect that HEIs will calculate their total CO₂e emissions so that they can monitor their measures to reduce these emissions.

Numbers on aviation emissions are the most reliable emissions statistics available since all governmental HEIs are required to report these to the Swedish Environmental Protection Agency annually. Unfortunately, these are not completely straightforward since the HEIs use different measurement methods. For example, some take the altitude effects into account, which can affect the data, while others do not. Additionally, emission statistics from the Covid-19 pandemic were particularly unreliable mostly because some of the cancelled flights remained in the emission data. We recognize the weaknesses in the dataset used for the Climate Action Ranking. However, in consultation with the Swedish Environmental Protection Agency and different researchers, we decided that it was the best available foundation for ranking the HEIs' emissions.

Another limitation in comparing the aviation statistics between HEIs is that each institution has varying focuses and distinguishing features, which also results in differing dependencies on aviation. Put more simply, scientists from certain research areas tend to fly more than others. Moreover, some universities conduct more international research than others, and HEIs are located in various areas in the country. Thus, the HEIs with low aviation demand were given a better position in this category. Climate Students recognize the significance of international cooperation and research and believe that these are crucial in diminishing the climate crisis. Nevertheless, it remains highly important to reduce emissions even for this type of research. It is entirely possible to carry out successful and effective research with low emissions; prominent researchers, such as Kevin Anderson, have managed to conduct research without flying since 2004⁶ and the experiences gained during the ongoing Covid-19 pandemic have paved the way for more research being conducted without flying.

4.1.2 Reduction in CO₂ from aviation

To make sure that 2020's emissions are completely comparable to 2021's, we asked the HEIs to send us the numbers calculated with the same methods. This is because some HEIs revise their way of calculating from one year to another. Climate Students recommendation for reduction of emissions by 16 percent can be questionable. This exact number was calculated and considered necessary when Climate Students made the first ranking, but it

⁶Anderson, Kevin. Professor of Energy and Climate Change - Uppsala, Manchester and the Tyndall Centre. *No fly climate sci.* (<https://noflyclimatesci.org/biographies/kevin-anderson>) (Accessed: 02/04-22)

might need some revision for next year. For comparison of the climate action at different HEIs, this category is the most reliable due to the fact that it directly shows the emission reduction annually. Of course, HEIs can reduce their emissions in other sectors as well, but in most cases, aviation accounts for the largest amount of emissions.

4.1.3 Goals, actions plans and measurements

We chose to include emission targets and action plans as a category in the ranking to encourage the HEIs to adopt ambitious targets in line with the Paris Agreement. Along with targets and action plans, measurement of GHG emissions was included in this category as well. This was to encourage the HEIs to start, or refine, the measurement of their emissions, which is needed to follow up their targets. This category can also reveal when enough HEIs measure their emissions from a specific area, so questions about the emission data can be included in the next ranking.

This category is the most questionable one, since much of the assessment depends on how the questions are asked and interpreted. We tried to avoid mistakes by evaluating the questions equally and objectively. We have met with researchers, with relevant knowledge for the ranking and discussed its structure and issues. But even after all attempts to clarify different questions, we discovered during the ranking process that some of the questions were not formulated well enough. These unclear questions also gave different answers, so we had to exclude them from the ranking. An example of such a questions is:

- Do you follow up the work of reaching the goal? If so, how often? (Enter in weeks, months or years.)

In this question, we did not give an example of what a follow-up entails and how extensive it should be in order to be counted. The HEIs' interpretations of this question then played a major role, which was noticeable in the answers. Due to the lack of clarity, we did not take the answers to this question into account.

In order to strengthen the continuity and ensure that all HEIs were fairly scored, several people took part in scoring all HEIs. When the initial scoring was done, a larger group of the committee reviewed all HEIs once again to ensure that all points were fairly assessed. Any major errors that changed placements were not detected, but small pint adjustments were made during this process.

4.1.4 Target Achievements

The reason for making target achievement a seperate category was that the goals and action plans are not really worth anything if they are not achieved. Since all HEIs do not yet measure all their GHG emissions, it was not possible to establish how well the target

achievement for all areas has resulted in lowered emissions. Thus, this category could only be based on the answers we received from HEIs through the survey. All similar surveys we have found, are based on self-assessments and therefore we believed we could do it the same way. We also know that government institutions have an obligation to answer questions that are asked, honestly. Therefore, we chose to ask the HEIs themselves to estimate how well they meet their goals and we believe that the answers are reliable and can be evaluated. If a HEI did not know how well the work towards the goal is going and answered “Do not know”, the HEI did not get any points for that question. The reason for this is that in the introduction of the survey, it is stated that a person who is knowledgeable in the HEI’s environmental work must answer the survey. If this person then does not know how the work with the goal is developing, it indicates that the focus on the environmental work is insufficient.

4.2 Discussion of results

The point system for this year's ranking is revised in all of the categories from 2021 and therefore the results are not completely comparable to last year's ranking. In the ranking it is evident that no HEI managed to score full points in all of the categories. It is also evident that the covid-19 pandemic still has had influence on the HEIs’ emissions from aviation. This year, 21 of 23 HEIs scored the highest point in the category for reductions in emissions from aviation (Category 1). Similarly, most HEIs scored the highest or second highest point in the category for emissions from aviation (Category 2). From the answers that we collected from the HEIs, we can see that many of them are in the process of developing new emission targets and methods for measuring total GHG emissions. There were some new action plans that were adopted at the survey deadline, the end of February, and thus were not taken into consideration for this year's ranking. Regardless of this, the HEIs still have a lot of work to do when it comes to climate targets and action plans as well as methods for measuring their total carbon footprints.

Although the emission reductions from last year have not mainly been a part of the HEIs’ strategies to take climate action, we argue the reductions are relevant to the ranking. This is also to keep the continuity of the ranking from year to year. Climate Students urge HEIs to continue to act on global crises, no matter if it is a pandemic or the climate crisis. However, lessons learned from the pandemic pave the way for continuing to keep emissions from aviation at a low level. In terms of business travel there are hopefully causes for some lasting change. The adaptation to the pandemic has led to developed digital solutions for meetings that constitutes a strong alternative instead of meetings on site.

One feedback that Climate Students has received on previous rankings is that since the focus is only on the climate, wider aspects of sustainability are missed. The argument is



that by focusing solely on the climate, HEIs could be encouraged to reduce their emissions at the expense of other sustainability aspects. Climate Students argue that the climate transition must be fair and safe. However, considering how urgent the climate crisis has become due to its neglect, rapid reductions in CO₂ emissions are necessary to achieve any other long-term sustainable development goal. Furthermore, Climate Students has a narrow focus on the HEIs' direct climate impact and hence this is what we have ranked.

It is great that the HEIs continue to update and sharpen their climate targets and measurement of emissions. As the HEIs continue to improve, they will score better in each year's Climate Action Ranking. Finally, Climate Students want to encourage the HEIs to cooperate. We believe that the climate crisis will not and should not be solved by one single HEI.