

Helsinki Energy Challenge

The competition program

Updated version 31 March 2020



How can we decarbonise the heating of Helsinki, using as little biomass as possible?

Helsinki

Helsinki Energy Challenge timeline 2020–2021



27 Feb–30 Sept 2020	Application phase
April–September	Helsinki Energy Challenge webinars and other events
By 14 September	All clarifying questions and answers are published on the Challenge website
30 Sept 16:00 EET	Deadline for the Challenge applications
6 November	Finalist teams invited to the co-creation phase
11 November	Orientation webinar for the finalist teams
9–11 December	Boot camp in Helsinki
22 January 2021	Deadline for the finalist teams to submit their final competition entries
February 2021	Winner(s) selected by the international jury
March 2021	Awards ceremony, Helsinki

Solving the heating challenge in cities is key to fighting global warming. It is truly a heated matter.

The climate crisis is the most crucial challenge of our time, and cities have a key role to play in driving the transition to a low-carbon economy. Helsinki is one of the leading cities in the transition towards a sustainable future, with the goal of becoming carbon-neutral by 2035. But there is an issue to overcome. Currently, more than half of the city's heat is produced with coal. In order to reach the carbon-neutrality goal, radically new solutions are needed to meet Helsinki's heat demand. And we are not alone. In order to fight climate change, sustainable heating solutions are needed in cities all over the world.

That is why we are launching the Helsinki Energy Challenge.

A global challenge competition to answer the question: How can we decarbonise the heating of Helsinki, using as little biomass as possible?

The Helsinki Energy Challenge invites innovators from all over the world to propose game-changing solutions to create the urban heating solutions of the future. Heating not just beyond coal, but also beyond burning biomass. Heating not just for Helsinki, but also for other cities around the world.

We are convinced that tomorrow's sustainable cities begin in Helsinki today.

Jan Vapaavuori
Mayor of Helsinki

Table of Contents

1. Introducing Helsinki Energy Challenge	6
1.1. Background	7
1.2. Description and objectives	9
1.3. Process and timetable	11
2. Application phase and selection of teams	12
2.1. Competition announcement	13
2.2. How to apply?	14
2.3. Evaluation and selection	16
2.4. Program material, background information and clarifying questions	16
2.5. Helsinki Energy Challenge webinars and other events	17
3. Co-creation phase and winner selection	18
3.1. Webinars and boot camp	19
3.2. Financial support	19
3.3. Final competition entries	20
3.4. Jury	20
3.5. Evaluation criteria	20
3.6. Prize	22
3.7. Intellectual Property Rights	23
3.8. Publicity during the competition	23
3.9. Other competition terms	24
4. Important sources and readings	25
5. About the organizer	26

1.

Introducing Helsinki Energy Challenge

1.1. Background

Helsinki's goal is to be carbon-neutral by 2035.

Significant progress has already been made. In 2018, Helsinki's emissions were 28% smaller than those in 1990, even though the number of residents had increased by 150,000. However, there is still a lot of work to be done. Currently, about 56% of Helsinki's direct carbon dioxide emissions originate from the production of district heating. In order to reach the carbon-neutrality goal, these emissions need to be significantly reduced.

Due to the cold climate, the heat demand in Helsinki is significant and has a strong correlation to outdoor temperature and weather. The capacity needed to generate heat especially on cold winter days is substantial. The volume and variation of the heat demand means that it has been challenging to find a replacement for fossil fuels. The annual district heating production in Helsinki is approximately 7 TWh and currently more than half of this is generated using coal. Going forward, the total heat consumption is expected to decline in the future, despite the city growth, mostly due to energy efficiency measures and the impact of climate change.

In Helsinki, the city-owned energy company, Helen Ltd., is responsible for the production, distribution and sales of district heating. Coal is used mainly in cogeneration of power and heat (CHP) and the two coal-fired CHP plants are located near the city center. *Hanasaari* CHP-plant will be closed permanently by 2024. The investment decision for one new biomass-fired heat boiler was recently made, to replace part of the heat production capacity of that plant. The coal-fired *Salmisaari* CHP plant must also be shutdown or converted to other fuels by 2029, due to Finnish Government's decision to ban the energy use of coal from 2029 onwards.

New sustainable solutions are needed to meet Helsinki's heat demand. Various different

solutions to replace coal have already been analyzed but thus far, the best future-proof solution remains to be found. One way forward could be an increased use of biomass, a route that many other Nordic cities have already chosen or are adapting to. Helsinki refuses to go with the flow. Biomass is not a long-term sustainable solution and in order to steer away from even a temporary reliance on biomass, we are in search of other alternatives. The City of Helsinki is committed to make sure that other investments in biomass-fired production units will not be needed and instead, is looking for long-term sustainable solutions in its journey towards carbon-neutral future.

Helsinki is the perfect place to create urban heating solutions for the future. Here is why.

The Finnish energy sector is shifting to low-carbon systems, and the need for the shift is accepted by all relevant stakeholders. The City of Helsinki and the Finnish Government have announced the same goal – **to be carbon neutral by 2035.**

The scope of Helsinki's Energy Challenge allows for many different types of solutions, from large scale to small scale, to be put forward. **As a city, Helsinki is big enough, but not too big, for efficient implementation of new solutions.**

The Finnish energy sector operates on market conditions and the heating market is not heavily regulated. **All solutions can compete on equal terms.**

A cold climate and varying outdoor conditions provide a perfect platform to innovate future energy solutions. **If a solution works here, it works everywhere!**

Open access to data: The City of Helsinki has released public data as open data to help create new services and business opportunities, as well as to support research and development. Open data is available on diverse topics including housing, the built environment, weather and transport.

Helsinki is one of the most attractive knowledge hubs for companies and individuals wanting to make the world **a better place to live.**

The City of Helsinki owns 100% of Helen Ltd., the producer and distributor of district heating in Helsinki. Both the City and its energy company are committed in finding sustainable solutions to heat the city during decades to come.

1.2. Description and objectives

In order to find the best solutions for the heating of Helsinki during the decades to come, **we invite you to join the Helsinki Energy Challenge – a one million euro global challenge competition** that seeks to answer the question:

How can we decarbonise the heating of Helsinki, using as little biomass as possible?

Helsinki Energy Challenge invites innovators, solution developers and technology providers from around the globe to propose game-changing solutions to create the future of heating - impactful solutions that can transform Helsinki's heating and help decarbonise heating systems of cities around the world.

We welcome different types of solutions to the Helsinki Energy Challenge. For example (*note – the following are examples and the list is not exhaustive*):

- New technologies for heat production and optimization, or solutions significantly disrupting, transforming or improving current heat production technologies or processes.
- Energy efficiency solutions that the City of Helsinki or its energy utility can either implement centrally or have control over the implementation otherwise.
- A competition entry might include several solutions that are complementary, or a single solution with a significant effect on future heat supply.
- Non-technological innovations, such as business or operating model innovations for city-governed organizations, and innovative policies, are welcomed as well.
- Furthermore, the proposed solutions can either be implemented as part of Helsinki's current district heating system or, solutions requiring system-level change.

The scope of Helsinki's energy challenge allows for many different kinds of solutions to be put forward. However, it is important that the implementation of the proposed solutions can be influenced or managed by the City of Helsinki, to ensure necessary large-scale impact.

We give you the facts and details of the current heating system and size of our challenge, and we give you the possibility to propose the best solution for the City of Helsinki, our citizens and the climate. The main requirement

is that **the proposed solutions should significantly affect the cessation of coal use by 2029 and speed up the City of Helsinki's journey to becoming carbon-neutral by 2035.**

All proposed solutions will be evaluated according to the same criteria, which are:

- **Climate impact:** the proposed solution has to significantly decrease greenhouse gas emissions when implemented.
- **Impact on natural resources:** the goal is to find solutions that utilize as little biomass and other natural resources as possible.
- **Cost impact:** the goal is to find solutions that can be implemented and used at a feasible cost to the city and heat end-users.
- **Implementation schedule:** the deadline for replacing coal is approaching quickly, and Helsinki is looking for solutions that can be implemented and operational before 2029.
- **Implementation feasibility:** the solutions have to be technologically, financially, legally, administratively, culturally and ethically feasible.
- **Reliability and security of supply:** participants have to demonstrate how their solution affects the overall reliability of the heat supply and how it may contribute to potential risks.
- **Capacity:** the City of Helsinki is looking for solutions that can have a significant impact on the cessation of coal-fired heat production.

The award for the winner (or winners, should the jury decide to share the award among more than one winner) is **one million euros**. The process for the possible implementation, or the possible further development work with the winner(s), depends on the type of the winning solutions, and is a separate process from the challenge competition. Thus, the real value of winning the Challenge can be far greater for the winner than the one million euro award.

The City of Helsinki is committed to sharing the learnings and solutions created during this challenge competition with other cities around the world. This will provide the Challenge participants with **a unique opportunity to obtain significant visibility and opportunities outside Helsinki and Finland as well.**



1.3. Process and timetable

Helsinki Energy Challenge has the following key phases (more information in chapter 2 and 3):

Open application phase and selection of teams: The challenge competition will start with an open application phase, after which the applications are screened and the best teams and their preliminary ideas and solutions are selected by the City of Helsinki with the help of several independent industry experts.

Co-creation phase and selection of the winner: The selected finalist teams will continue to the co-creation phase. They will work to further sharpen their proposal to the Helsinki-specific

context. In this phase, which includes a **3-day boot camp**, the teams will be provided with mentoring and more information about the Helsinki-specific situation. At the end of the co-creation phase, the finalists will submit their updated proposals and a high-profile international jury will select the winners based on these final proposals. This is to make sure that the winning solutions are selected by top experts in the field. The jury will judge the entries in February 2021 and the winners will be announced in March 2021.

The following timetable provides a more detailed description of the process.

27 Feb–30 Sept 2020	Application phase During the application phase, it is possible to send clarifying questions to the organizer. All questions must be sent using a form available on the Challenge website. All questions and answers will be published on the website according to the deadlines below: <i>Questions sent by 29 May: Q&A published by 12 June</i> <i>Questions sent by 22 June: Q&A published by 3 July</i> <i>Questions sent by 7 August: Q&A published by 21 August</i> <i>Questions sent 31 August: Q&A published by 14 September</i>
April–September	Helsinki Energy Challenge webinars and other events The list will be updated regularly: energychallenge.hel.fi/events-and-webinars
By 14 September	All clarifying questions and answers are published on the Challenge website
30 September 16:00 EET	Deadline for the Challenge applications
By 6 November	Finalist teams invited to the co-creation phase of the Challenge. The selection will be done by the City of Helsinki, with support from external industry experts and advisors.
11 November	Orientation webinar for the finalist teams. Teams will get more information about the next steps. Possibility for Q&A.
9–11 September	Boot camp in Helsinki. Finalist teams will receive more information and insights to be able to further develop their proposals. Coaching, mentoring & networking.
22 January 2021	Deadline for the finalist teams to submit their final competition entries
February 2021	Winner(s) selected by the international jury
March 2021	Awards ceremony, Helsinki

The organizer reserves the right to change the schedule if required. All possible changes to the timetable will be communicated through the Challenge website: energychallenge.hel.fi

2.

Application phase and selection of teams

Helsinki Energy Challenge will begin with an open application phase. The application phase (27 February–30 September) provides an equal opportunity for all potential applicants to submit their impactful solutions and form creative new collaborations.

Background information about the current heating system will be available for everyone on the Challenge website and the interested parties can also ask the organizer clarifying questions. The teams can also connect and find new team members in the webinars during the application phase and learn and discuss any issues related to the competition at two Q&A webinars.

So first, you need to convince us that your solution is the right one for us. Later on, we'll help the finalist teams in elaborating their solutions for the Helsinki-specific context.



2.1. Competition announcement

Helsinki Energy Challenge is a public competition open to everyone globally – for example, start-ups, larger companies, research institutions, universities, research groups, consortiums and individual experts.

When applying, the team must consist of **at least two (2) team members**. The members may represent one or more organizations. Large and diverse teams are encouraged. In the application, the team must describe the roles and responsibilities of each team member and one person has to be named as the team leader.

With a team, we refer to a group of people participating in the challenge competition together. Team members can represent different organizations but may also be individual experts not representing any organization. A team can participate in a free form and different types of teams can participate:

- One legal entity (company, university, etc.), or a consortium/group of legal entities: If there is one legal entity that all team members

represent, then the prize and other awards will be paid to this legal entity. If the team members are from different organizations, the prize and other awards are paid to the team leader's organization, unless otherwise specified by the team.

- A team of individual experts not representing any legal entities: The prize and other awards will be paid to the team leader, unless otherwise specified by the team.
- A team can also be a mix of individual experts not representing any organizations, and experts representing certain organizations. Also in this case, the prize and other awards will be paid to the team leader or his/ her organization, unless otherwise specified.

A minimum of three (3) and a maximum of fifteen (15) teams will be selected to continue in the process and participate in the co-creation phase of the challenge competition.

2.2. How to apply?

Competition entries must be submitted through the application portal available at energy-challenge.hel.fi **30 September 16:00 EET**.

Only the competition entries submitted through the portal by the given deadline will be accepted to the challenge competition.

All competition entries must be written in English. Applications in other languages will not be accepted.

By submitting an application to this challenge competition, the team undertakes to abide by the competition rules described in this document.

In the application portal, the team has to create an account to start the application process. The application includes an online application form and attachments in PDF file format (all to be submitted through the application portal, following the instructions specified in the portal).

In the application, each team will have to:

- name its members and briefly describe the roles of the team members
- describe the composition, capabilities and experience of the team
- deliver a short, summarized explanation of their preliminary plan, and solution/s included in it
- deliver more detailed information about their preliminary solution/s (through the questions specified in the application form)

Team members named in the application phase may only be changed for substantial and justified reasons. However, if selected as a finalist, the team can register new members during the co-creation phase to add further expertise to their team.

Note!

In this challenge competition, the competition entries are in fact *master plans* on how to decarbonise the heating of Helsinki using as little biomass as possible. So the plan proposed by a Challenge participant can include one or more technological or other types of solutions. Each Challenge participant first submits the proposed plan as a preliminary version in the application phase. The teams that are selected to continue after the application phase will update and further develop their preliminary version during the co-creation phase when they learn more about the Helsinki-specific situation. By default, we advise you not to provide any business secrets during the application phase. If it is necessary to provide business secrets to review the solution, it will need to be clearly marked (more instructions available in the application portal).



2.3. Evaluation and selection

After the application phase, the evaluation of the applications and the selection of the teams that continue further in the challenge competition will be done by an evaluation team of the City of Helsinki with the assistance of several independent industry experts. The external evaluators, such as energy consultants, researchers and other experts in the field, will be decided when the expertise required for the evaluation is revealed; this depends on the solutions received.

The applications are evaluated from the following two perspectives:

1. **The team (3/10 points):** The strength and expertise of the team and its composition, experience of the team members in the energy sector and solution development.

The following will be evaluated: (1) The team's expertise relevant to the solution that the team proposes; (2) The diversity of relevant expertise represented within the team; (3) The team's experience in the energy sector and/or in developing and/or implementing energy technologies or systems

2. **The proposed preliminary plan (7/10 points):** the evaluation criteria presented in section 3.5 will be used. To be able to evaluate the proposals against the evaluation criteria, the teams will submit a short description of their preliminary plans and the solutions in them and answer the questions specified in the application form. The questions are connected to the evaluation criteria.

All the applicants will be informed about the selection by email by **6 November 2020**.

The selection of the finalist teams will be done based on the information that the teams deliver in their applications. However, the City of Helsinki reserves an opportunity to interview the short-listed teams by phone during the evaluation process, if necessary. The possible interviews will only be conducted if clarifying questions are needed.

2.4. Program material, background information and clarifying questions

This competition program and a report describing the current heating system in Helsinki will be available for download free of charge from the Challenge website energychallenge.hel.fi as of 27 February 2020. The City of Helsinki expects that the information in the documentation provided will be used in the preparation of the applications.

During the application phase, there is a possibility to ask clarifying questions. The questions must be submitted via the form available at the

Challenge website. All questions and the organizer's answers to them will be published on the website. Check the deadlines for questions in the timetable in section 1.3.

Moreover, the City of Helsinki will organize webinars presenting the Challenge, including a possibility for questions. The webinars will be streamed online, and the recordings will be added to the Helsinki Energy Challenge website. All materials are available on the Challenge website until the end of the competition.



2.5. Helsinki Energy Challenge webinars and other events

During the application phase there will be webinars and other events, which provide you an opportunity to learn more about the Helsinki Energy Challenge, to network with others who

are interested in the Challenge and to find new team members to partner with.

The list of webinars and events will be updated regularly at energychallenge.hel.fi.

3.

Co-creation phase and winner selection

The aim of the Helsinki Energy Challenge co-creation phase is to support the finalist teams to further develop and finalize their proposed solutions to fit into the context of Helsinki. Each finalist team will have a different solution and therefore different needs. The information and mentoring provided will be tailored to the needs of each finalist team.

This phase of the challenge competition consists of the individual work of the teams as well as co-creative events. There will be an orientation webinar and one 3-day boot camp in Helsinki during the program.

The co-creation phase will result in more elaborate solutions, which are thought out in detail and in close contact with the context of Helsinki.

3.1. Webinar and boot camp

In the beginning of the co-creation phase, there will be an orientation webinar about the next steps and the upcoming boot camp, including a Q&A session. Participation in the webinar is mandatory for at least one member of each finalist team.

The aim of the intensive 3-day boot camp is to strengthen and further develop the solutions of the finalist teams. Active participation in the boot camp is mandatory for at least two team members of each finalist team. During the boot camp, the teams will have information sessions together with all participants, one-on-one meetings with selected industry experts and

also time dedicated to the team's own development work. Further insights and mentoring will be provided. The teams will meet representatives of the City of Helsinki and the city-owned energy company, as well as other industry experts. Information needed to develop and finalize the team's idea will be provided. The aim is to provide specific information and support to meet the needs of each team and solution. The teams will be able to define their needs before the boot camp.

The boot camp is organized in Helsinki, 9–11 December 2020. More details will be provided to the finalist teams when they have been chosen.

3.2. Financial support

During the co-creation phase, **each team will receive 10,000 euros** to fund their work and continue elaborating their solution in greater detail for the Helsinki Energy Challenge. The teams are responsible for taking care of any possible tax consequences.

In addition, **reasonable travel expenses** to Helsinki (tourist class flights and 3 hotel nights)

to join the boot camp will be reimbursed. The travel expenses will be covered for a maximum of three team members.

Instructions concerning the travel arrangements and expenses, as well as the other financial support, will be given to the finalist teams after their selection.

3.3. Final competition entries

In the final competition entry, the finalists will thoroughly describe their plans and the solutions in them in order for the jury to be able to make their decision. At this stage, the plans have to be thought in detail and in close contact with the context of Helsinki.

In the final phase, all competition entries are evaluated **anonymously** (see evaluation criteria in section 3.5). The proposed plans forms 100% of the evaluation (the team is not evaluated in this phase). As the jury is evaluating the com-

petition entries anonymously, only the material provided through the application portal can be assessed.

The final entries must be submitted by 22 January 2021 at 16:00 EET through the application portal available at energychallenge.hel.fi.

All final competition entries must be written in English.

Detailed instructions for submitting the final competition entries will be given to the finalists during the co-creation phase.

3.4. Jury

The decision concerning the winners will be made by an external jury. The people involved in the evaluation and selection process in the Application phase, will not be involved in making the final decision.

The Challenge deals with a global issue where Helsinki can pave the way; therefore, an international jury will make the decision on the winners based on the final, further elaborated proposals of the finalists. The expertise required by the jury will depend on the solutions of the finalists;

therefore, the final composition of the jury will only be confirmed once the finalist teams are known. This is also to make sure the winning solutions are decided upon by the top experts in the field and to ensure the jury's independence in relation to the finalist teams.

The jury is appointed by the City of Helsinki and the names will be published at energychallenge.hel.fi.

The jury will judge the entries in February 2021 and the winners will be announced in March 2021.

3.5. Evaluation criteria

The evaluation criteria used for both the applications and for selecting the winning plan can be found in the following table. Further instructions on what is expected in the Application phase (Phase 1) can be found in the application

portal available at energychallenge.hel.fi. Furthermore, finalist teams will be given more detailed instructions during the co-creation phase on what their final competition entries should include (Phase 2).

Topic	Required in the Applications (Phase 1)	Required in final competition entry (Phase 2)
<p>Climate impact: The proposed solutions have to significantly decrease the greenhouse gas emissions of the heating system of Helsinki when implemented (the bigger the impact on the emissions reduction, the higher the score). Challenge participants are required to describe how their solution would affect the greenhouse gas emissions, including at least CO₂ emissions and potentially also other emissions.</p>	<p>Description of the proposed solution's estimated impact on Helsinki's greenhouse gas emissions.</p>	<p>Analysis of the proposed solution's impact on the emissions in the context of Helsinki's overall heating system. Impact should be verifiable from the implementation until the end of 2040.</p>
<p>Impact on natural resources: The goal of Helsinki Energy Challenge is to find solutions that help replace the coal used in the heat production with as little biomass as possible. Challenge participants have to describe what kind of natural resources and energy sources their solution needs and is utilizing, and assess the volume of the resources needed.</p>	<p>Description of the natural resources and energy sources needed for the proposed solution, and estimation of the volume of these resources.</p>	<p>Analysis of the proposed solution's impact on the natural resources and energy sources in the context of Helsinki's overall heating system from implementation until the end of 2040. The impact must be verifiable.</p>
<p>Cost impact: The goal of the competition is to find solutions that can be implemented and used at a feasible cost to the city and end-users. Challenge participants are required to present the total costs of their solutions (e.g. development work, implementation/investment costs, usage/operating costs)</p>	<p>Estimation of the total costs of the proposed solution.</p>	<p>Cost analysis of the total lifetime costs of the solution in the context of Helsinki.</p>
<p>Implementation schedule: The deadline for replacing coal is approaching quickly, and Helsinki is looking for solutions that can be implemented before 2029. Participants have to describe the implementation schedule for their solution.</p>	<p>Description of the estimated implementation schedule of the proposed solution, including risk factors that may have an impact on the implementation schedule.</p>	<p>Detailed description of the implementation schedule of the proposed solution in the context of Helsinki; detailed analysis of the risk factors.</p>
<p>Implementation feasibility: The solution should be technologically, financially, legally, administratively, culturally and ethically feasible. The description should include the different actors and stakeholders involved in the implementation.</p>	<p>Short description of the relevant feasibility factors of the proposed solution</p>	<p>Detailed description of the relevant feasibility factors of the proposed solution in the context of Helsinki's overall heating system (including the possibility to minimize the identified feasibility barriers).</p>
<p>Reliability and security of supply: The participants must describe how their solution affects the reliability of heat supply and how it may contribute to potential risks.</p>	<p>Description of the general reliability and the security of supply of the proposed solution.</p>	<p>Detailed description of the main risks related to the availability and reliability of the proposed solution in the context of Helsinki, including a risk mitigation plan.</p>
<p>Capacity: the City of Helsinki is looking for solutions that can have a significant impact on the cessation of coal-fired heat production.</p>	<p>Estimation of the solution's capacity/potential to contribute to the cessation of coal-fired heat production in Helsinki.</p>	<p>Detailed description of the solution's capacity/potential to contribute to the cessation of coal-fired heat production in Helsinki.</p>



3.6. Prize

The prize for the winning solution is **one million euros**. The recipient of the prize money is responsible for the tax consequences.

The goal is to find a winning solution for the City of Helsinki – a master plan that helps us make decisions on the next steps. The jury may decide to divide the prize money between more than one winner.

Once the decision on the winner(s) is made, the winner(s) will be invited to a negotiation with the City of Helsinki to agree on the details of the payment and the timetable.

The implementation of the plan and the solutions included in it, as well as the possible co-development between the winner(s) and the City of Helsinki, is a possible continuation of the competition, but yet a separate process from this challenge competition. The continuation will be decided upon after the challenge competition process is completed, depending on the winning plan and the type of solution(s) it consists of. **Thus, the ultimate value of winning**

the Challenge can be far greater than the prize money.

Note – the possible contracts after this challenge competition, concerning the further development work, can only be made with registered legal entities. Teams can enter the competition in free form but the winning team or teams will need to establish a legal entity before the start of the possible contract negotiations.

Taking part in the Helsinki Energy Challenge is an opportunity **to play a part in solving a pressing global issue and make a real difference to sustainability worldwide**. The City of Helsinki is committed to sharing learnings and solutions from the challenge competition with other cities around the world (*permission to publish information is sought in advance from the challenge competition participants*). This will provide Challenge participants with **a unique opportunity to gain visibility and opportunities** outside Helsinki and Finland, with further development or scale-up as possible outcomes.

3.7. Intellectual Property Rights

The City of Helsinki has the right to use the winning plans and the ideas in them in its own operations to the extent necessary and, if necessary, to modify those plans with the assistance of a third party, if no agreement can be reached with the winner on possible further development work. However, by default the further discussions will take place with the winner.

All other intellectual property rights of the winning plans will remain with the winning teams.

Teams must warrant that they have all relevant rights to their plans as well as the rights to

use it in this challenge competition and that the use of the plan does not infringe on the rights of any third party.

The plans created during the challenge competition are intended to be utilized outside Helsinki as well, and the City of Helsinki has the right to publish the materials created fully or partially. However, business secrets of the teams will be respected and instructions for providing such material will be provided during the process. Relevant permissions will also be asked in advance.

3.8. Publicity during the competition

The final competition entries of the finalist teams will be evaluated anonymously. The finalists must, hence, ensure that the submitted documents do not contain names or other information that could easily lead to the identification, even indirectly, of certain finalist teams or team members. The finalists commit to not revealing the content of their entry in a way that could risk their anonymity. The finalists are still able to test their ideas and solution(s) with people outside

their competition team as long as they ensure their ideas and solution(s) do not become public.

The City of Helsinki will be responsible for all communications during the challenge competition and will provide further advice to the finalist teams on communications. The City of Helsinki can publish information about the Challenge participants and finalists but when doing so, it ensures that the anonymity requirement is not compromised.

3.9. Other competition terms

Legal

The competition is a design contest as specified in the Finnish Act on Public Procurement and Concession Contracts, Sections 54 and 55. A procurement notice on the competition has been published in the Supplement to the Official Journal of the European Union / TED database at <https://ted.europa.eu>.

If the competition program conflicts with the procurement notice, then the procurement notice will prevail.

The publicity of this and other procurement documents are governed by the Act on the Openness of Government Activities (621/1999) and the competition is subject to Finnish law.

Team disqualification

The organizer has the right to exclude a team from the competition, if:

- The team or an individual member of that team violates the competition rules
- Less than two members from the team take part in the boot camp
- The team does not turn in the documents or works required within the timeframe(s) specified
- The team will be disqualified if it is subject to any mandatory exclusion criteria under Section 80 of the Procurement Act
- A team may be disqualified if it is subject to a discretionary exclusion clause under Section 81 of the Procurement Act.

Privacy

The personal data of the challenge participants will be treated confidentially and according to the Data Protection Principles of City of Helsinki.

Guidelines for combating grey economy

This Challenge competition applies the City of Helsinki's Guidelines for combating grey economy. Before making the final decisions and paying the prize money, the winners will be asked separately for certain documents and information to verify compliance with the guidelines.

Language

All materials, mentoring and other support during the competition process will be in English. If the team members are not able to use English and need an interpreter during the Challenge process, they must arrange it themselves and pay the associated costs themselves.

Decisions

The jury reserves the right not to choose a winner. Both the jury and the organizer have a right to share recognition awards or other additional prizes.

4.

Important sources and readings

Competition website: energychallenge.hel.fi

On the competition website you will find e.g. the following important information and links:

- A form to submit clarifying questions
- Background report: Heating system in Helsinki
- List of events & webinars

Link to the Helsinki Energy Challenge application portal: applychallenge.hel.fi

District heating power 2016 (hourly data):

www.helen.fi/en/company/responsibility/current-topics/open-data

Helsinki Facts and Figures:

www.hel.fi/hel2/tietokeskus/julkaisut/pdf/19_06_14_HKI-taskutilasto2019_eng_w.pdf

Act on Public Procurement and Concession Contracts:

www.finlex.fi/fi/laki/kaannokset/2016/en20161397

Act on the Openness of Government Activities:

www.finlex.fi/fi/laki/kaannokset/1999/en19990621

5.

About the organizer

The Most Functional City in the World

City of Helsinki is the capital of Finland and its most populous city. It is located on the shore of the Gulf of Finland and has a population of 650,000.

Helsinki wants to be the most functional city in the world. Thus, it creates the best access to urban life for its residents and visitors. A functioning city is reflected in concrete actions, choices and things that make everyday life easier for people.

Helsinki is a growing city, with an average annual population growth rate of over one percent for more than a decade. The same pace seems to continue in the future. Securing sustainable growth is important to Helsinki.

Helsinki wants to be an internationally networked pioneer in the local implementation of global responsibility.

Photos:

Yiping Feng and Ling Ouyang / Helsinki Marketing (cover)

Jarvis Lawson (p. 10)

Ioannis Koulousis / Helsinki Marketing (p. 13)

Mwangi Gatheca (p. 15)

Josh Rose (p. 17)

Riku Pihlanto / City of Helsinki (p. 22)

Helsinki