Low2No
A Sustainable Development Design Competition
Jätkäsaari, Helsinki

Innovation begins with asking the right questions
Jätkäsaari goods harbour, courtesy of Suomen Ilmakuva Oy
The global economic crisis is a stark reminder of our commonalities. Yet the crisis is a burden that is not shouldered equally. Some nations and groups will prosper as others suffer the collapse of systems and models designed to describe their economic world.

The common factor that binds all populations is the stability of our environment. Science and, increasingly, everyday observation is making evident that humanity’s fate rests on the health of the Earth’s ecological systems. It is our ability to manage the resources it provides that will be the defining challenge of the 21st century.

The built environment is now the largest negative factor in the stability of ecosystems and the climate. And as populations become increasingly urbanized, the evolution of cities will largely shape the outcome of our long dependence on exploiting natural resources. Two pathways of evolution are evident: an urban society that is in balance with the environment, or one that has depleted available natural capital. The decisions that will direct this evolution over the next 50-100 years are being made now.

It is clear that no single organization, profession or nation can achieve the goals of sustainable global development. It will require an architecture of solutions including low/no carbon buildings; sustainable economic models & financial tools; enhanced/targeted mobility; sustainable planning & energy policies; resilient social systems (access, equity and capacity), among countless others.

It is also evident that there will not be a widespread economic imperative for sustainable development created by the market in the near future. Old habits are hard to change, and exploiting fossil fuels is modern society’s oldest habit. Change will be the project of many actors. It must begin with a re-evaluation of how we modify the environment for habitation.

Given our abundant crises, it is perhaps a rare moment where we do not know what just happened, and we do not know what is coming. Perhaps now, balanced on this precarious moment before our future, we can shape what is shortly to come.
Recognizing the need and opportunity to significantly improve sustainable building development practices, Sitra, the Finnish Innovation Fund—in collaboration with the City of Helsinki—has launched this sustainable development design competition. The competition was initiated with a global request for qualifications. The goal was to attract and identify the best teams to design a large building complex on an approximately 3/4 hectare site on the reclaimed goods harbour at the western edge of Helsinki’s central business district. Up to five finalist teams have been selected to continue on to this, the design phase of the competition.

Given that the repertoire of sustainable urban development models is still in its infancy, the question of "who & how" is our first order concern. WHO: We believe that identifying the best team and approach is the key factor impacting the long term quality and robustness of the final solution. HOW: Our sustainable development design competition is designed to seek approaches for four central objectives applied at the scale of a city block:

1. energy efficiency
2. low to no carbon emissions
3. high architectural, spatial and social value
4. sustainable materials, methods & operations

As part of their proposals, entrants must also consider the context and dynamics beyond the city block that will impact the project in the near and long terms. Of concern is enhanced mobility, but infrastructure, security, business, individual choice, and policy must be considered such that unmet needs will not undermine the sustainability goals of the project. Ultimately, the teams should extend the concepts introduced in the building complex into the larger built environment.

As such we selected teams with a robust and mixed set of competencies (such as architecture, engineering, economics, landscape, technology, urban planning and energy infrastructure), representing the mix of stakeholders and issues at play in urban development. We expect that teams will take an integrative approach to the problems presented in the design challenge and not delegate tasks along traditional disciplinary boundaries.

Our program involves two, potentially interdependent programs: first, a mixed-use development that includes housing, retail, and potentially other programs that support a sustainable approach to urban development, and second a headquarters for an innovation driven organization. An strategic approach to programming the building complex is of particular interest—we see program as a critical supportive element of sustainability.

Our site is located on 100 hectares of reclaimed land known as Jätkäsaari. The relocation of Helsinki’s port facilities to the eastern edge of the city in 2008 has initiated the largest transformation of land use in the city since the industrial era. As many as six large areas in metropolitan Helsinki, including Jätkäsaari, are in various stages of planning as a result.

Jätkäsaari will be developed over the next two decades to house 15,000 residents, 5,000 jobs, offices and public services. Several new tram line extensions will provide access to the city centre only 3 kilometres away while parking space and vehicular traffic will be minimized through a mobility management plan.

It is our intention to stimulate innovation in sustainable architecture, energy efficiency, and city-building solutions. We hope that a model of sustainable urbanism emerges from the proposals that will not only serve the City of Helsinki and its inhabitants, but more broadly, be a learning model for development globally. Sitra and our partners will seek channels for the further distribution of sustainable development know-how and will work to create demand for expertise developed during the competition.
Moving the ports out provides nothing less than the opportunity to assert a new national design agenda.

14.8 tonnes CO₂e per capita nationally (Statistics Finland)
6 tonnes CO₂e per capita Helsinki (YTV Helsinki Metropolitan Council)

COMPETITION VISION

This competition has three general goals: first, a model for sustainable urban development that will excite designers, decision makers and developers about the possibilities of (systemic) sustainability; second, provide a compelling design for a building complex that will feature Finland’s innovative society and progressive approach toward contemporary environmental issues; and third, catalyze the development of a sustainable community in Jätkäsaari and beyond that will push Finland toward carbon neutrality. To achieve these goals, we will begin by building the selected competition proposal.

Sitra’s point of departure for this project is the recognition that while the city block must be the locus of design solutions for the competition, the goals of low or no carbon emissions and sustainable development cannot be achieved without considering larger scales. A carbon neutral city block surrounded by a sea of emitters would represent a failure of the project to bring society back into balance with the environment. Thus, the Jätkäsaari project and its urban environs must be considered as sites for implementing sustainability strategies. With larger scales of consideration come more dynamics that must be addressed—such as policy and business. Success will be achieved when high quality sustainable design of buildings and building systems are a projection of the social and economic structures of the society.

Sitra anticipates that an outcome of this competition will be a durable indicator of sustainability that is transferrable beyond the boundaries of the site. The indicator should be composed of a technical measure such as carbon neutrality, and the strategies for how that measure is to be achieved over the lifecycle of the proposal. It may be appropriate for other sites within Helsinki, other similar climates, or projects globally. This should not result in a proposal that is generic, but a set of strategies that are generally reproducible.

Sustainability is as much about technology, planning and investing as it is individual choice and expectations. In order to better understand how choice and technology relate, creating a demand profile can reveal patterns of consumption and their impact.

A greenhouse gas emissions profile of Finland shown relative to the national carbon sink capacity reveals a society out of balance with its own resources, and suggests the scale of work necessary to restore its place as a responsible global citizen. For a general audience, a profile such as this makes for good marketing. Competition proposals should utilize profiles or similar tools to make their sustainability strategies salient and meaningful to the public.

Sitra expects entrants to present architectural ideas that demonstrate innovation in the built environment. The proposals should suggest novel connections between the diverse programs within the building complex. Landscape and climate must be considered as integral components of the internal programs and delineated as such. The architecture should produce an engaging image of the activities within and a sustainable approach to the urban environment.

What sustainable urban development actually looks like or requires remains an open question. Recent architecture history is littered with projects that have failed in their objective to be sustainable. These projects are frequently calibrated to incomplete metrics or are based on systems that are only sustainable when considered in isolation of crucial factors such as life cycle and operating costs.
CHALLENGE
COMPETITION OUTCOMES

Society has made incredible progress on the backs of specialists working in narrowly focused disciplines. But today we face complex problems with no single owner or discipline capable of providing comprehensive solutions. “Not unlike cooking, the solution today is not in any one ingredient, but in the mix”*

In their proposals, teams should declare the best ingredients for sustainable development, and illustrate how they will be mixed over time. The goal: to achieve a low carbon building complex and urban district that will transition to a no carbon complex as the energy context improves. This idea of transition underpins the Low2No competition title.

We are interested in three broad categories of outcomes for the competition. Teams must:

1. DESIGN A STRATEGY
   Entrants must develop design strategies for a low/no carbon emissions building complex completed in 2012. Projecting beyond 2012 and recognizing that radical changes to energy systems and policy will not be made in the short term, and that many issues cannot be addressed only at the building scale, entrants must define possible scenarios that move net carbon emissions from the building complex and district toward zero. Solutions must include the wide spectrum of challenges, from building materials to behavior to social equity.

   CHALLENGE: To provide stakeholders with a road map for change using sustainable approaches to carbon, architecture and finance.

2. DESIGN THE INDICATORS
   Sustainable development is a process fairly well designed at the policy level—but urban development requires ground-level solutions. Entrants must consider factors that contribute to a sustainable built environment, social & economic enterprise, strategic & sustainable use of financing that creates long term wealth together with natural capital, and an urban policy framework to delineate with metrics and relationships urban development that will help bring society into balance.

   CHALLENGE: Make legible the complex relationships and factors that make sustainable urban development a challenging, interdisciplinary process.

3. DESIGN A VISION
   Renderings and drawings will provide visual evidence of the architecture and systems that support entrants’ proposals. This vision will be used to activate existing stakeholders and engage new ones.

   CHALLENGE: Provide a distillation of complex ideas and strategies to help us overcome the “fast no’s” and move mountains.

Solutions for the above outcomes should address these questions: What is a sustainable development framework that is both replicable and adaptable to our site needs? What is the design solution for our site? What is a robust indicator useful for evaluating the sustainability performance of our solution? How can it have large-scale applicability? What kind of change can it trigger?

More than a design, we are looking for a credible strategic framework for change, and the principals upon which the framework was built.
The process of creating low to no carbon architecture and the sustainable community that supports it must not happen in isolation of progressive thinking about financing and an honest accounting for costs.

As a meta-theme in the design process and final proposals, teams must work to include the true costs of development. Simultaneously, teams should advance tools that make evident to a broad audience the many valencies of investment returns when strategic investments are made in sustainable systems and communities.

For decades we have burned fossil fuels to create cheap growth quickly, at the cost of nearly all other considerations with impact horizons beyond a few years. This has been driven by a value proposition based on quarterly logic and a reductive definition of returns. The global financial crisis is just the most recent reminder of how prevalent and destructive this type of thinking can be to long term stability. Accounting for costs both internal and external, social and environmental must be a priority.

Sitra is interested in finding ways to work the true costs of production and resource depletion back into our accounting and development system. As the system is currently designed, it is difficult to incentivize investors to build sustainable projects at larger scales because social and environmental costs are invisible. Innovations within the system will be of great value to the competition and future projects. While public policy is obviously the ideal vehicle for creating markets which reward long-term wealth instead of short-term speculation, changes will not happen easily or in isolation of evidence.

Competition entrants and designers in general have an opportunity to provide real world evidence and solutions to policy makers, investors and developers about the potential of a wholistic perspective on wealth and cost.

As a point of departure, sustainable urban development could be understood as providing the infrastructure for long term catalytic growth. An environmentally and socially sustainable urban district that is walkable, diverse, equitable and replete with community services will set in motion a series of events that provide returns of many forms to multiple stakeholders.

Teams must consider how their proposals generate wealth across stakeholders and find ways to define price in a way that does not externalize costs onto society. A business case must be made for sustainable development. The question of who and how must be answered in conjunction with a new approach to carbon and architecture.

Terms to consider:

Urban/property development-
- Long-term by nature of asset class
- Frames economic and social activity
- Affected by climate Risk
- Impacts are measurable

Topical aspects of financing sustainability-
- Energy efficiency
- Green building
- Smart growth—transit/CO₂-oriented development
- Urban regeneration
- Social equity
- Dynamic and resilient communities
- Land conservation
PERFORMANCE OBJECTIVES

At a minimum, entrants should seek solutions which have low carbon emissions and the flexibility to transition to no carbon emissions as municipal infrastructure is upgraded and new technologies are adopted in the future. Sitra recognizes that energy efficiency is a keystone to any low carbon strategy and should be pursued vigorously with technical solutions and socioeconomic incentives. Innovation in energy production through renewable, zero carbon resources such as micro and off-site generation is a twin aspect of the low to no emissions strategy. Entrants should illustrate approaches to these issues carefully.

Pre-existing rating systems (such as BREEAM, DGNB, LEED) are acceptable means of characterizing the design proposals, but must not be end goals in of themselves—they are acceptable points of departure. Entrants should focus on creating climate appropriate sustainability rules and systems as is necessary to achieve the goals listed above.

Entrants must consider the role of the building and its internal activities in catalyzing the growth of a sustainable neighborhood and region, beyond the immediate building complex. This could include the spatial and programmatic facilitation of smoothly integrated public and private spaces in the immediate vicinity, attention to city-wide mobility and connection to the complex, and a vision for access and equity for different income groups at a district or regional scale.

With the exception of some projects from the last few decades, Helsinki has a rich tradition of building high value, highly thermally efficient residential buildings. Proposals should be of high technical value and sophistication in keeping with this tradition. Entrants must also create unique proposals of high spatial value that will warrant the financial and emotional investment by the public that will ensure the long term utility of the building complex.

High thermal efficiency has come at the cost of cohesion between indoor and outdoor spaces in many of Helsinki’s buildings. Entrants should seek ways of blending the two fluidly as an urban landscape in keeping with the best practices of contemporary design.

A porous and transparent street wall is an exciting element of contemporary architecture that has yet to find a lasting expression in Helsinki’s challenging climate. Entrants should exploit the street wall as a site to improve the posture of the architecture towards the public.

Transparency of the urban built environment seems to be a common characteristic of the world’s most engaging, lasting cities. Contemporary architecture has extended transparency by blurring the boundaries between public and private, landscape and interior through reconsidering program, applying new construction technologies, among countless other activities. As an architectural device, transparency should be explored as one pathway to making a project with high social value and the ability to weather operational challenges.

Potential views from the site should be studied and taken advantage of, especially for the headquarters component. Consideration should also be given to the value, if any, of proposing a taller building than what is permitted by zoning.

The exterior environmental conditions of Jätkäsaari will be particularly challenging to a building without durable materials. Climate, wind and salt should be considered carefully when determining the material composition of facades, landscapes, roofing, etc.

As Helsinki experiences more than eighteen hours of darkness during winter days, special attention should be paid to lighting. Transparency that provides evidence of activity during darkness will play more of a role for buildings at this latitude than others and should be considered an important figure in the facade.

Finally, we believe that an innovative approach to programming is critical to the long term sustainability of the building complex. For the purposes of the design competition, Sitra is leaving the question of program somewhat open for entrants to consider and propose solutions that are in line with their design strategies. This is further detailed in the Program section of the brief.
SITE & PROGRAM
**JÄTKÄSAARI**

**NATURAL CAPITAL**

**CLIMATE**

The Finnish Meteorological Institute summarizes Finland’s climate as belonging “wholly to the temperate coniferous-mixed forest zone with cold, wet winters, where the mean temperature of the warmest month is no lower than 10°C and that of the coldest month no higher than -3°C, and where the rainfall is, on average, moderate in all seasons.”

Means recorded in Helsinki (Kaisaniemi):

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<thead>
<tr>
<th>MONTH</th>
<th>01</th>
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<th>04</th>
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<td>9.9</td>
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<td>38</td>
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<td>73</td>
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<td>58</td>
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</table>

Provided by the Finnish Meteorological Institute: www.fmi.fi/en

**WIND**

Wind speeds were recorded on Jätkäsaari 1992-2004 at a height of 22m. The wind roses are adapted from “Jätkäsaaren kaavoitus,” a wind study provided to the City Planning department by WSP Suunnittelukortes Oy.

**INSOLATION**

Insolation in southern Finland is similar to central Europe on an annual level, however there is very little insolation during the winter months:

- Horizontal surface: 1000 kWh/m²/y
- Inclined surface: 1100-1200 kWh/m²/y

Average hours of sunlight in Helsinki (1971-2000):

| MONTH | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|       |    |    |    |    |    |    |    |    |    |    |    |    |
| TOTAL | 38 | 70 | 138 | 194 | 284 | 297 | 291 | 238 | 150 | 93 | 36 | 29 |
| PER DAY | 1.2 | 2.5 | 4.5 | 6.5 | 9.2 | 9.9 | 9.4 | 7.9 | 5.0 | 3.0 | 1.2 | 0.9 |

Provided by the Finnish Meteorological Institute: www.fmi.fi/en

**GEOTHERMAL ENERGY**

Preliminary study of the site reveals at least three potential uses of onsite geothermal energy:

1. Heating and cooling from Borehole Thermal Energy Storage (BTES) in the granite bedrock
2. Free cooling extracted from sea & seabed sediment
3. Hybrid systems linking geothermal energy to other renewable sources

Provided by the Geological Survey of Finland: www.gtk.fi

Jätkäsaari was formed over several decades by blasting the three natural granite islands to a level surface and infilling the island from north to south. The competition site is located above one of the original granite islands.

**SEA WATER**

The Finnish Meteorological Institute has recorded average sea temperatures from 1998 at Kaivopuisto, Helsinki:

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<td>2.3</td>
<td>3.6</td>
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<td>9.4</td>
<td>3.1</td>
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HELSINKI ENERGY
Helsingin Energia provides electricity to more than 400,000 customers and supplies district heating to 90% of the city. They also provide district cooling to a growing number of commercial customers. The company is owned by the City of Helsinki and operates as a municipal corporation. One of their largest CHP and district cooling energy plants is located in Ruoholahti near the competition site. Natural gas is supplied to the site via a port facility to the north of Jätkäsaari that includes a massive, underground storage area. Much of the natural gas comes from Russian natural gas fields.

Helsingin Energia energy source portfolio shows a heavy reliance on fossil fuels (adapted from the 2007 Annual Report):

Electricity Supply (8,060 GWh)

- Natural gas 48%
- Coal 27%
- Nuclear power 18%
- Renewable energy 7%
- Heat pump 1%
- Oil 3%

The share of electricity production at Helsinki-based energy plants was 70% of which CHP was 90%.

District Heat Supply (6,923 GWh)

- Natural gas 48%
- Coal 48%
- Heat pump 1%
- Oil 3%

The share of CHP production at Helsinki-based energy plants was 93%.

METRO
Helsinki has a highly efficient, modern metro system that has had an increasing ridership since 1994. There are 54 car pairs, 17 metro stops and nearly 21 kilometers of track.

The Ruoholahti Metro stop is within 0.5 kilometers from the competition site, providing rapid transit directly into the centre of Helsinki.

PUBLIC TRANSPORT
Number of travelers in Helsinki internal traffic (millions):

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<th>Year</th>
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<th>2006</th>
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<th>2008</th>
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<td>56.8</td>
<td>56.6</td>
<td>56.6</td>
<td>52.8</td>
<td>52.7</td>
<td>53.9</td>
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<tr>
<td>METRO</td>
<td>54.9</td>
<td>55.4</td>
<td>55.4</td>
<td>56.0</td>
<td>56.8</td>
<td>56.2</td>
<td>57.6</td>
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Provided by Helsinki City Transport/Communications

WASTE COLLECTION SYSTEM
Jätkäsaari will be served by a district-wide, automated waste collection system. Household waste will be collected by an enclosed vacuum system and routed via underground pipes to a central, underground collection and service area. This will eliminate above ground services spaces and the necessity for waste collection and transportation in the streets.

PASSENGER FERRIES
Passenger ferries leave from Jätkäsaari—known as West Harbour Terminal—for Tallinn, Estonia. International cruises also dock at the terminal typically only in the summer. This port facility will stay in operation throughout redevelopment of Jätkäsaari.

Passenger Ferries to Tallinn:
Ferry Daily Departures Departures in Jan. '09
Eckerö/Nordlandia 1 22
Tallink/Star+SuperStar 5 147
Tallink/Baltic Princess 1 32

International Cruises:
144 cruises to and from West Harbour Terminal in 2008
A master plan for Jatkasari has been under development by the Helsinki City Planning Department since 2002 and was awarded final approval in 2006. It covers a plan area of 100 hectares of mixed-use development and infrastructure. As is typical of the City Planning Department, the plan is detailed. Zoning, street sections, programming, transportation, parking, services, utilities, lighting, and pathways are all addressed within the plan documents. However, these accommodations for urban systems and services are made in isolation of an overarching position regarding carbon emissions.

It is expected that completion of all three phases of the master plan by the mid 2020’s will house 15,000 inhabitants and 6,000 jobs. The city intends to attract a mix of young professionals, families and retirees to the development as well as diverse income groups. The total housing area will be around 600,000 m²—total commercial area will be around 300,000 m². The existing passenger terminal will remain in operation.

The master plan is organized around three key components: a phased build-out, transportation & parking infrastructure; and wind mitigation.

Phase I (of which this competition is a part) will be completed by 2012. This phase is intended to make the urban connection between the 1990’s Ruoholahdi district in the north. The southwestern edge of Jatkasari will be the final area of development. This provides a large window in which to evaluate and potentially alter development in the remaining phases.

Public transportation infrastructure is provided for as part of a mobility management plan. In general, the plan seeks to increase the use of public transportation, walking, cycling and minimal use of cars through enhanced accessibility and incentives. The city is interested in finding ways to minimize the need and expectation for parking on the island by decoupling parking from residential unit prices and providing alternative mobility services such as home delivery.

Wind is a significant factor on Jatkasari where velocities frequently reach 10 m/s from the southwest. This is a result of the southern edge of the island being exposed to the open sea without the protection of other islands as is typical with most of central Helsinki’s shoreline. The shape of the central park and sectional shifts from south to north are designed to help mitigate the unpleasant effects of wind in public spaces.
Specific programming requirements have been left open-ended intentionally. An innovative approach to programming the building complex is of particular interest—we see program as a critical supportive element of sustainability. As such, we expect entrants to propose program arrangements that support or are supported by their sustainable design strategies.

At a minimum, the building complex should include the following spatial guidelines: commercial 800m²; residential 13,200m²; and offices 8,000m² including a headquarters for an innovation-driven organization. These figures are in line with current site zoning which restricts our site to 22,000 m². Each program part should be organized strategically to add value to the other components.

There are four program types that must be considered:

1) RESIDENTIAL
Entrants should look to demographics as a critical factor in determining the type and dimension of residential units. Projecting into the future, design solutions should propose characteristics of a living arrangement that will support low impact, low demand, sustainable choices on the part of inhabitants. For instance, inclusion of multiple generations in spatial planning may help reduce carbon emissions by reducing trips outside of the city.

2) PROGRAM INNOVATION
The question of what types of program are necessary to create long term, sustainable development solutions should be addressed by the design solutions. Teams should think not only about what new program elements could be included in the building complex, but also how the residential, mixed-use and headquarters programs can be reconsidered to provide additional social, economic and environmental value to the building and the district.

3) MIXED-USE
Design solutions should demonstrate how the mixed-use development exploits its context, mandate for sustainability and its relationship with the headquarters program component. This will likely contain commercial, services and other programs that are aligned with the goals of the competition.

4) HEADQUARTERS
Sitra has yet to determine if it will move its headquarters to the competition site. The decision making process is external to the competition. However, entrants should consider the headquarters component of the program with a comparable organization of similar size, focus, structure and relationship to external parties as a baseline.

As Sitra is an agency focused on spurring innovation nationally, as well as working innovatively internally, the headquarters design must reflect and enhance its activities.

It is an organisation of about 100 people of various educational and professional backgrounds. It operates primarily through 4-6 programs that have operational lives of 2-5 years. These are comparable to departments in other organizations and are supported by internal groups with varying focuses. As such, Sitra is a matrix organisation where core competencies and support functions cut across the programs. Nearly 70% of its staff are dedicated to particular programs, and approximately 30% of staff provide interdisciplinary support functions.

Sitra has frequent contact and collaboration with both public and private entities. It functions as an enabler between and through organisations. It thus must be publicly accessible, yet provide privacy for sensitive information and collaborators. The headquarters, in service of these functions, should create an overlap between public spaces and Sitra offices wherein interface can occur.

Much of the design at finer resolutions will occur during the design phases following the competition. These guidelines are intended to provide entrants with a framework for thinking about a general approach to program and spatial articulation.

TECHNICAL GUIDELINES

The quantity of carbon emissions is to be the primary indicator of design efficiency and sustainability. This is for reasons stated above and because emissions track design, efficiency, energy and supply sources without challenges of conversion.

Energy source and energy efficiency will be questions of first order when designing a low carbon building.

The following technical aspects of the design are to be considered but do not have to be resolved:

- Minimizing or eliminating composite building materials and assemblies that cannot be recycled.
- Building and materials lifecycle: 50-100 years.
- Durability and maintenance including technical spaces and access.
- Indoor natural/artificial light and air quality: common spaces, work space, mixed-use.
**DEVELOPMENT IN HELSINKI**

While this comes at the end of the brief, it is not a secondary goal. The design of the urban context is linked to and critical to the success of the building complex. Yet a contemporary vision of sustainable urban development for Helsinki is still in its infancy. Now is the time to sketch it out.

The following are suggestions for issues that apply at the urban development scale:
- Creation of a productive landscape of energy and mobility solutions for Helsinki, achieved through the design of a low carbon infrastructure.
- Sustainability rating system for districts.
- Dynamics of the district ground plane: organization, pathways, promenade that encourage interaction.
- Sustainable waste management.
- Exterior lighting for safety and activity during winter months.
- District mobility: pathways for pedestrian and cyclist occupation of the site. Urban mobility: transportation infrastructure and proximity to services, leisure areas and employment.

**MOBILITY**

Traffic impact analysis: street trams exist in a fragile ecosystem subject to congestion, traffic lights and city budgets. The more traffic on Helsinki’s streets, the less efficient a street tram system is. Once a tipping point is reached (as is happening in Zagreb) where the trams are slower and less convenient than vehicles, people will turn to single occupancy transportation methods. The tram system becomes frustrating and not understood as an asset to the city.

Teams should perform an analysis of allowing cars on Jätkäsaari: what is gained and what is lost? Allowing cars can be seen as an attraction for families and young professionals looking to move from the suburbs. But the cars can dominate the urban scale design issues. Streets must be wider. Parking must be built nearby residences and shops. The ground plane must be organized and controlled differently.

Considerations of the site conditions must also be made: Jätkäsaari is built on granite or fill with a high water table, making it very expensive to build parking above ground. With this configuration, valuable pedestrian space at and above grade will likely need to be used for parking.

**GREATER HELSINKI VISION 2050**

In 2006-2007 the greater Helsinki Municipalities, the State of Finland and the Finnish Association of Architects held a competition that was intended to raise awareness about Helsinki’s position in a network of Baltic cities, and provide solutions for regional challenges and opportunities for Finland’s southern cities. Information and outcomes from this competition provide useful background to the city’s urban challenges.

www.greaterhelsinkivision.fi
PROCESS
COMPETITION RULES AND ASSESSMENT

The design competition is an invitational competition which has two stages: the first stage is an open request for qualifications, and the second stage is a continuation of the competition with teams selected from the request for qualifications according to the evaluation criteria set out in the RFQ document.

More information is available in the Competition Rules and RFQ at: www.low2no.org/competition/resources/


JURY

This jury list is accurate at the time of printing. We reserve the right to make changes and will notify teams of all revisions to the jury.

- Prof Michelle Addington, Associate Professor
  Yale University
- Mr Harry Edelman, CEO
  Edelman Group
- Prof Harrison S. Fraker, Professor
  Berkeley University
- Mr Matti Kajansinkko, Jatkasaari Project Leader
  City Planning Department, City of Helsinki
- Mr Timo Kokkila, Property Development Manager
  SRV Yhtiöt Oyj
- Mr Juha Kostiainen, Business Director
  Sitra/Energy Programme
- Prof Ralf Lindberg, Professor
  Tampere University of Technology
- Mr Kimmo Lylykangas, Research Manager/Architect
  Helsinki University of Technology
- Mr Marco Steinberg, Director of Strategic Design
  Sitra, Chairman of the Jury
- Ms Helena Säteri, Director General
  Ministry of the Environment of Finland
- Prof Christian Werthmann, Associate Professor
  Harvard University

The jury can call on specialists to render their professional opinion on those aspects of the entries in which they are competent, but who will not take part in the general evaluation process.

The jury will be asked to select a competition winner and write a report evaluating the competition proposals. Sitra and our development partners reserve the right to select a team with which to continue the design process.

ASSESSMENT CRITERIA

The efficacy, sensibility and rigour of the total low/no carbon solution; the efficacy and robustness of the broader, holistic model of sustainability; the robustness and simplicity (of the approach and use) of the sustainability indicator framework; the urban and architectural quality, and the near and long term implications of the design proposals conveyed through the visual representation of the vision; the ability of the framework/strategy for the proposed approach to be replicable within similar contexts; the feasibility of proposals including the overall economic efficiency and life cycle costs.

GENERAL REQUIREMENTS

Anonymity: competition teams will receive a random team number to place on the back of each submittal. This team number will be known only to Sitra.

The competition language is English.

SUBMISSION:

1. To be valid:
   The competition entry must be submitted to an express shipping company (UPS, FedEx, DHL) in its entirety on or before 01 July 2009 local time of the competition lead team. Delivery must be made to:

   Sitra, the Finnish Innovation Fund
   Itämerentori 2, P.O.Box 160
   Helsinki, 00181
   Finland

2. To certify:
   A copy of the shipping receipt & tracking number must be emailed to Sitra within 24 hours of shipping date and time (competition@sitra.fi).

An entry shall be disqualified if:

- it is not anonymous or is not submitted in the manner laid down in this competition brief
- a document required in the conditions is missing, unless the jury considers the omission to be of secondary importance for the evaluation of the entry.
COMPETITION MATERIAL

REQUIRED SUBMITTALS

- Identification sheet: must contain information about all contributions to the competition entry, who the copyright belongs to, and contact details for the team lead. This sheet must be submitted in a sealed envelope with the team identification number clearly written on the front.
- 3-6 A1 format boards with one board each for the Strategy, Indicators and Vision as a minimum.
- A3 format manual containing comprehensive proposal. SUBMITTED AS PDF.
- 300 word summary and 1 image document; 1000 word summary and up to 3 images document. SUBMITTED AS PDF.
- A single CD or DVD containing all competition material: drawings/graphics/documents should be in PDF format and renderings should be provided separately as high resolution JPG files.

SUGGESTED SUBMITTALS

- Explanatory text
- Energy model
- Economic/financial/business model
- Sustainable community/urban/district model
- Other plans, sections, elevations, facade systems
- Typical residential unit layout
- Organizational diagrams for headquarters
- Diagrams
- Renderings

BACKGROUND INFORMATION

The following items and others that come available during the competition will be made available via our website for download. A link to a drop will provided be at: www.low2no.org/competition/resources

- Greater Helsinki development plan
- Jätkäsaari master plan by City of Helsinki
- Jätkäsaari zoning plan by City of Helsinki
- Competition site (Plot #20801) and zoning
- Aerials
- Agreements

Sitra will be available to assist competition teams in finding information and data. Finland is a data-rich society and its many government institutions provide timely information on a multiple of topics, and because of its small size it is fairly easy to navigate the national data landscape.

Additional information obtained with the assistance of Sitra will be made available to all competition teams with a notification email and will be posted on the competition website.

QUESTIONS?

We will have an initial question period from 20-23 May 2009 where up to five questions per team will be accepted by email and answered by 27 May 2009.

Additional requests for information should be made to Sitra no later than 05 June 2009 and any relevant or possible discovery will be posted by 12 June 2009.

All questions emailed to: competition@sitra.fi
Subject line should read: teamleadname_question # (1-5)

COMMUNICATIVE COMPETITION APPROACH

Sitra will be hosting a competition workshop scheduled for 1-2 June 2009. This will provide teams with a "mini-course" on the development context, Sitra’s competition goals, and the opportunity to begin working on design proposals.

Sitra is asking topical experts to present on a series of themes for this workshop to begin a shared dialogue regarding the issues at stake in the design competition and more broadly, in working toward systemic change. Further information about the workshop will be distributed to the teams via email.

A “next steps” workshop is proposed for after the competition concludes in September to seek other opportunities to leverage the content and expertise generated by the competition for other projects in Helsinki and beyond. Details of this event will be forthcoming.

To be included on the boards at a minimum:
- Site plan, scale 1:500
- Ground plan, scale 1:200
- Exploded axonometric of building complex, scale determined by team

See the Submittal Requirements page (over) for details. Additional, supplementary materials are encouraged, but review by the jury will be at their discretion.

Competition boards must be mounted on a hard board and include a schematic for presentation layout. They should be shipped in flat packs and sufficiently protected. The book and documents can be submitted electronically as PDFs.
**INFORMATION**

**FEES**
Each team will be given a 50,000 euro honorarium to complete their proposals upon receipt of a timely, successful and complete proposal. In addition, Sitra will cover related expenses in Finland during invited events and up to 6,000 euro for travel paid upon invoice with documented travel expenses.

There will be no additional monetary reward for competition teams at the conclusion of the competition.

**BUDGET**
As stated in the Request for Qualifications, it is too early to determine an overall budget figure. Part of the design process must be the appraisal of costs for a sustainable urban project.

Comparable conventional construction in Helsinki has priced at approximately 2,500-3,500 euro/m² however we recognize that this doesn’t include a reasonable premium for sustainable systems and technologies. Indeed part of the competition challenge is to determine how to determine costs.

Entrants should account for all costs: environmental, operation and construction. Externalized costs may be a powerful indicator of sustainability and should be brought forward in costing. While these figures need not be hard numbers, they should be considered rigorously and reflected in some way.

These costs are not included: design/consultant fees, utilities, permits, taxes, financing etc.

**RIGHTS**
Sitra will acquire ownership of the competition entries that are submitted. Entries will not be returned to the entrants. The copyright to an entry will always remain with the entrant.

Sitra reserves the right to publicly display the competition entries and results.

All organisations and key persons involved with the prize-winning entries will be mentioned in information concerning the competition.

**APPLICABLE LAW & DISPUTES**
The competition shall be governed by and construed in accordance with the laws of Finland. Any dispute, controversy or claim arising out of or relating to the competition shall be settled in accordance with the laws of Finland.

**ORGANIZER**
The competition organizer is Sitra, the Finnish Innovation Fund in collaboration with the City of Helsinki.

**COMPETITION BRIEF CONTRIBUTORS**
Seppo Junnila, Senior Scientist/Adjunct Professor
Helsinki University of Technology

David Wood, Director
Institute for Responsible Investment, Boston College

**COMPETITION BRIEF AUTHORS**
Justin W. Cook, Sustainable Urban Development Lead
Sitra, the Finnish Innovation Fund

Marco Steinberg, Director of Strategic Design
Sitra, the Finnish Innovation Fund

This competition brief was prepared by Sitra, the Finnish Innovation Fund as a collaboration between the Energy Programme and the Strategic Design + Networks Team.

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May 2009
Elevator pitch for our stakeholders.
Summary for the media; to give visibility and public understanding/interest to proposals.
Other communication needs.
Visual synthesis/index of key ideas and concepts of the proposal for use during jury. Should be thought of as Visual presentation of key ideas and concepts of the proposal.
Quick visual overview of the team's proposal for stakeholders.
Winning the competition!

**OBJECTIVES**

**SUBMITTAL REQUIREMENTS**

Descriptions of proposed approach with limited imagery. Should be written in simple, layman's language. One with no more than 300 words and one with no more than 1000 words. A4 sized, portrait orientation.

Boards organized to represent the three output categories: Strategy, Indicator, Vision. Must have at least one board per category with a maximum of six total boards. Must be legible from one meter distance. A4 sized, portrait orientation.

**FORMAT**

A manual containing a comprehensive proposal that addresses the three categories of Strategy, Indicator, Vision needs to include competition overview, description of proposed approach with limited imagery, and clear, succinct, and well-organized language. A4 sized, landscape orientation. Length at least 300 words.

**DESCRIPTION OF PROPOSAL**

A proposal of clear, succinct, and well-organized language. A4 sized, landscape orientation. Length at least 1000 words. Needs to include competition overview, description of proposed approach with limited imagery, and clear, succinct, and well-organized language. A4 sized, landscape orientation. Length at least 300 words.
SAVE THE DATE!

01-03 June 2009  Selected teams in Helsinki for 2-3 day competition introduction & workshop
01 July 2009    Competition proposals dispatched to Sitra
01 September 2009 Winning team announced
September 2009  Selected teams return to Helsinki for a “next steps” workshop

*Dates subject to change...

WEB SITE
www.low2no.org/competition
Downloads, schedule updates, the RFQ and competition brief are or will be available on the web site.

QUESTIONS
competition@sitra.fi

INFORMATION
Marco Steinberg
Competition Director
Sitra, the Finnish Innovation Fund
Itämerentori 2, PO Box 160
Helsinki 00181, Finland
competition@sitra.fi
www.sitra.fi/en

Justin W. Cook
Sustainable Urban Development Lead
Sitra, the Finnish Innovation Fund
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