

FAQ SHEET:

Why is the Princess Elisabeth Station unique?

1. The Princess Elisabeth station is the first ever research station in the Antarctic to be designed to run entirely on renewable energy. Within the current International Polar Year 2007-08, IPF's principal founder, Alain Hubert, along with his colleagues at IPF, wanted to make Belgium's new Antarctic station unique by being entirely sustainable on renewable energy.

The station's energy will be supplied by wind turbines and solar panels. However, it is not only the use of renewable energies that makes the Princess Elisabeth Station a zero emissions station, it is the fact that the station has, from its conception, been designed to be highly energy-efficient. An energy-efficient design, an energy control system and the use of energy-efficient appliances will make the Princess Elisabeth Station the most energy-efficient Antarctic station to date.

2. The Princess Elisabeth Station is being built by a private foundation (IPF) founded by private entrepreneurs. Normally governments and/or polar institutes build Antarctic bases, not private foundations. IPF is responsible for constructing the base and for finding the funds to make this possible. Aside from the Belgian Defence Department providing logistical support to the BELARE missions, the Belgian state will only fund maintenance costs and scientific expeditions once the base becomes operational.

Why a "zero emissions" station?

Building a station that runs entirely on renewable energy in the Antarctic can prove a point: If it's possible to construct such a building in a region as cold and as harsh as Antarctica, it's possible to do the same anywhere in the world.

Where has the funding to build the station come from?

The station has been made possible with contributions from the private sector, including funding, and in-kind contributions. The Belgian Defence Department has provided logistical support for the BELARE missions and will fund annual maintenance of the base and the scientific research to be carried out there once the base has been constructed.

A list of our partners and their contributions to the station can be found on www.antarcticstation.org

How can the public support the project ?

By transferring money to the account 000-0000090-90. Donations are tax deductible from 30 € up. All donators will have their names inscribed in the "Golden book" and will be informed about the progress of the project.

How long will the Princess Elisabeth Station be on display at Tour & Taxis?

The public is invited to come have a look at the Princess Elisabeth Station and the accompanying exhibitions from the 6th until the 9th of September.

Will the public be allowed to enter the Princess Elisabeth Station?

The public will not be allowed inside the station. Only Prince Philippe of Belgium and journalists will be allowed inside.

Why is the Princess Elisabeth Station being pre-assembled at Tour & Taxis before it is being constructed in Antarctica?

Assembling the station in Brussels gives the building crew that will eventually build the station in Antarctica the opportunity to run through the construction procedure. It will also allow the designers to see whether there are any flaws or problems that need fixing, being that it is much easier to fix them in Belgium than in Antarctica.

What will happen to the station after September 9th?

After September 9th, the station will be gradually disassembled and its parts packed away safely in containers. The base parts will then be transported to the port of Antwerp where they will be loaded onto a vessel from the DROMSHIP (Dronning Maud Land Ship) Network along with necessary equipment for the BELARE (Belgian Antarctic Research Expedition) 2007.

The expedition will leave from Antwerp in November to begin BELARE 2007. They expect to arrive in Antarctica by December 25th.

Once in Antarctica, BELARE 2007 will carefully unload the base parts and transport them 190 km inland to Utsteinen's north ridge, where the station will be built over the course of the austral summer (November 2007 – March 2008).

The majority of the base's systems will not be installed during this year's expedition. The conceivers and builders will continue testing and final adjustments in Belgium before installing them during BELARE 2008.

Upcoming BELARE expeditions

November 2007 – March 2008: Base Construction

- Phase 1: A team will arrive at the base construction site at Utsteinen to prepare crucial logistical elements. Work on the foundations will begin.
- Phase 2: A second team will unload the dismantled parts of the station as well as equipment and supplies, and transport them to the inland depot. After the temporary coast base camp is abandoned, the crew will start transporting everything to Utsteinen. When all materials are on site, both teams will finish the construction of the base.

What is a DROMSHIP?

The Dronning Maud Land Ship Network is a network of transport vessels that is used to provide logistical support to expeditions, carrying the people and their heavy equipment to Antarctica. DROMSHIPS are often large enough to allow the ship to be shared by the Antarctic expeditions of several different countries.

Where exactly will the Princess Elisabeth Station be constructed in the Antarctic?

That station will be anchored onto a ridge close to the Utsteinen nunataks, not far from the Sør Rondane mountains, in Dronning Maud Land, East Antarctica.

(See map on technical sheet for precise location)

How long will it take for the Princess Elisabeth Station to be completed?

During the upcoming BELARE 2007 expedition, the main structure of the station will be built in the Antarctic. The construction is planned to take about 10 weeks maximum (Jan – Mar 2008). The main systems of the base will not be completely installed until BELARE 2008-09, as the design team wishes to continue testing and modifications in Belgium to be absolutely sure everything is in perfect working order.

Who will be responsible for the scientific research that will be carried out at the Princess Elisabeth Station?

The Belgian Science Platform (BELSPO) will direct the scientific research projects that will be carried out. There have been several proposals submitted but none definite to date. In general the scientific research that will eventually be carried out in the following research areas: meteorology microbiology, geophysics, seismology, earth magnetism and glaciology.

When will scientific research at the Princess Elisabeth Station begin?

Dr. Frank Pattyn, glaciologist from the Université Libre de Bruxelles (ULB) is scheduled to be the first researcher to carry out scientific research at the Princess Elisabeth Station. He is scheduled to pursue his ice sheet modelling research in Antarctica in November 2008.

When did Belgium last have an Antarctic Station in operation?

Belgium hasn't had a functioning Antarctic research station for 40 years. The King Baudouin Station was built during the International Geophysical Year of 1957-58 and abandoned in 1967.

How many people will be able to live in the station at a time?

The station's systems have been optimised to accommodate 12 people, however it is possible to house up to 20 persons at one time.

Will the Princess Elisabeth station be operational all year round?

The station will initially only be open during the austral summer (November until March). However, it could easily be converted to an overwintering station if it is decided to do so.

How will the station be laid out?

On the main floor of the station there will be a kitchen, a bathroom, a laboratory, a common living area and a storage area. Outside the base on the snow covering the ridge there will be a garage that will house vehicles (skidoos, tractors) and equipment.

(See design plan in attachment)

How will the Princess Elisabeth station be powered?

The station will be powered by solar panels, which will cover the roof and outside walls of the structure, as well as by eight wind turbines. Energy obtained from these renewable resources will be stored in several batteries in the station's core.

One wind turbine was successfully erected and tested during BELARE 2006. Seven more will be erected during the upcoming BELARE 2007 and BELARE 2008 expeditions.

How will the station be heated?

The station will use a passive heating system and cogeneration, recycling the thermal radiation emitted by the station's systems, computers, lighting and even people. Heavily insulated walls will prevent any heat from escaping, allowing the station to maintain an average ambient temperature of between 18 and 20°C.

Where will the station's main systems be located? How will they function?

The station's main systems will be located in the centre of the main floor. This includes all plumbing and ventilation systems, the bioreactor and the main batteries which will store the station's electricity.

All wiring, plumbing, etc, will be placed outside the walls of the base, so as to detect and provide an immediate response to any potential problems.

How will inhabitants of the station get water? How will it be recycled?

Snow will be collected and melted in a giant reservoir in the core of the station. Once used, it can be recycled into potable water using a bioreactor (bacteria used to decompose waste in water) a system of filters and UV treatment. This means there will be no waste water generated by the station's inhabitants.