1 - Intentions / project
An exceptional natural site
A huge plain, a vast meadow surrounded by a dense dark green forest, down a mountain.
Its scale, its radical contrasts and the strength of its natural elements make it very impressive.

An ecological challenge to take up
In this landscape, the Tourist Centre project becomes a challenge. How can we approach this large-scale project, while dealing with the desire of preserving a powerful but fragile natural area? It raises a fundamental question.
Can we build new infrastructures of this scale in a natural and almost untouched site with such rare qualities, which yet remains a unique opportunity for tourism development in the region?
This question makes us wonder and inspires some reservations: is such a project reasonable, relevant, ecologically compatible, when the consciousness of the fragility and the preciosity of natural resources, draws attention on the matter, as well as precaution and discernment?
Ecology does not necessarily imply doing nothing, congealing areas, or giving up any human activity. It is a matter of acting with extreme precaution, delicacy, responsibility, knowing where are the limits, the thresholds not to overpass, deploying a permanent care and vigilance throughout the whole project to precisely maintain its natural values, strengthen them in the long term and enable human activity without deteriorating nor damaging the site.

A discrete and tightened project, making sparing use of the territory, to minimise the impact on the site, maintain and integrate its strong pre-existent qualities.
Our intention is to propose a project that does not go against a place with such a strong and unique natural character. We want to design a project that includes the program without damaging the site, that benefits from its incredible landscape and that offers living of great quality.
Building a new link between habitat and natural environments.
Intentions
The terms are the following:

1-To maintain the plain vacant, untouched and unbuilt in the core of the site.
The project does not built anything in the plain and settles on the edges of the site.

Plain area : 152 ha which is 39,7 % of the site

2-To use the natural topography’ shelters to blend into the site and make the project as invisible as can be.
The project settles in the foothills of the site, in the wooded areas that surround the plain, down the mountain.
It benefits from the natural features of the topography and landscape, and fits in the protected spaces offering a shelter where to hide: between the reliefs, behind hills, in glades, or under the forest trees.
The project thus preserves the whole central plain of the valley.
It is located in three sites with precise and strictly defined outlines: the first one at the bottom of the southern road, where the topography of a wooded hill folds, the two others in the lower mountainside inside the forest, next to the northern road.
The wooded areas are preserved and strengthened.
The wooded areas are preserved and strengthened to create a great natural parc. As a matter of principle, each tree is kept, and the project is designed to avoid cutting any of them.

3-To limit the project footprint, to keep the natural ground and not to modify the topography. To generate density instead of spreading.
The design of the project and of the building process was made according to the following principles:
. a minimal impact on the ground: the urbanized and serviced buildings’ footprint is extremely compact and reduced.
. no digging, modifying, or damaging of the ground, but, on the contrary, working according to the existing topography.
. laying on the existing ground instead of taking root: the project creates its own ground over and in addition of the existing one, fitting in the site vegetation.

4-To settle close to the existing roads on the edges of the site to avoid building new roads on the land.
The three project sites are located on the border of the existing roads, to eliminate traffic on the site and avoid the creation of new road infrastructures. The roads bypass the site but never go through it. Only few access paths to the various site locations are created, for functional and rescue needs, in the shape of forest path. Car access to each of the project sites and their surrounding spaces are direct and short.
The compactness and the density of the sites aims to avoid car use inside the site, limited only to service of collective transportations. They benefit slow modes of transportation or collective transportations: pedestrian ways, cycle-lanes or buses.

5-To create an exceptional, simple, comfortable and generous way of inhabiting: each apartment, hotel room or villa equally benefits views, nature, facilities and services offered by the site and the Tourist Centre.
Being dense, compact and vertical offers an optimal quality of living. The “village” concept often called for holidays places, is recreated in a vertical configuration, that offers the same quality of living, of comfort, of enjoyment, the same facilities offered by a villa. This configuration increases the space capacity, multiplies the service possibilities, reduces the maintenance costs and increases proximity, without consuming the ground.

Density and freedom
Proposing a dense project enables to limit the footprint and to preserve the natural ground by avoiding spreading. The density is not, in any circumstances, contradictory with the feeling of freedom and of individuality of each and every one.
On the contrary, it enables the creation of spaces offering a quality of living for all the users:
- generous and warm spaces.
- views of the landscape, with open outlook.
Gaining height enables to open the view on the existing landscape: the skiable area and the Klekovaca mountain, and in the North part, the plain.

Verticality for a comfort of use
The vertical organization of the program enables a true comfort of use for the visitors thanks to the gathering of the various facilities in the same building. This proximity reduces the distances between one function and the other and participates to the improvement of the visitors’ life comfort on a daily basis.

Density and economy
Compactness and density are economical factors.
The building process is optimized and rationalized, the network efficiency is maximum, the maintenance if easier and rationalized, the quantity of material used is optimized and reduced, the management of the project site if more flexible and efficient.
II – Project Description

The project settles in three sites composing small and compact blocks in a vast natural environment.

- **1st site**: in the south part, The Resort center
  It fits the natural topography of the mountain first foothills, along the watershed, and behind a thick spruce, beech, fir and spinet forest forming a wall along the plain.

- **2nd site**: in the south-east part, the Climatic Health Resort
  Settled in the forest half-way up between the plain and the road.

- **3rd site**: in the north part, on the edge of the forest next to the northern road.

These 3 sites are completed by a series of villas implanted at the border of the forest, in thin lines mainly in the north part.

The settling on the 3 sites follows the same principles of implantation regarding the ground, according to our intentions:
To reduce to the minimum the impact of the project on the ground
To use as little territory as possible. Not to spread the project.
To eliminate the need of car use (or to limit it to the strict minimum for site accessibility)
A « plate » is built approximately 15m above the ground
It rests on the natural ground thanks to a great-span structure, held
by spaced posts, impacting the ground in only a few spots.
The plate is detached from the natural ground but, depending on the
shape of the topography, it sometimes meets at floor level the ground
of the hillsides.

This significant height frees an intermediate generous space beneath
it and enables a continuity between the ground and the land topogra-
phy.

The plate it widely hollowed with big circular holes. This allows ge-
erous amount of natural light and rain, as well as visual connexions
between the different levels.
The vegetation can continue growing thanks to the natural ground
being conserved.

The on-top buildings’ cores also go through it and into the ground as
foundations.

Is it made of two platforms superimposed creating a 6-me-
ter-high volume. The plate gathers a large part of the indoors
public places and services : supermarkets, cinemas, restaurant, art
center, studios, etc.

Above
The main circulation for housings and services
hotel, apartments and villas towers

The top platform (the roof) offers a level of circulation (2nd floor) with
access to the entrances of the buildings and to the hotels' lobbies.
The main circulation takes place on this 2nd floor (the buildings’
ground floor).
The platform of the Resort center, in the south part, meets the Skiing
Plateau, having thus the access to ski installations at the same floor
level as the housings.

Below
A vast space in continuity with the site’s natural ground
Indoors sport equipments
Parking lots

The wide and high generated space is a vast area housing equip-
ments : the three indoors sport centers and the market. The rest of
the space is left opened and freely accessible.
Its floor is natural – except the equipment floors – and continuous
with the natural ground.
The circulation is thus free and open in every directions and between
the equipments that only occupy a small amount of the ground floor.
Following a central axis, parkings are placed on the ground and cove-
red by a roof carrying a layer of earth reaching the natural floor level
and allowing the circulation continuity.
Hotels, villas and apartments.
These constructions rise in the towers above the collective service plate and gather different kind of housings: hotels, apartments, and half of the villas. This choice directly comes from the will not to spread on the ground and to prefer density as well as quality of use.

The access is made through the lobby, at the 2nd floor situated on the top platform of the plate. Above are the tower floors with different kind of habitat: hotels, rooms, apartments and villas.

On several floors are created « open spaces » dedicated to services and facilities: the children play area, the kindergarten, family spaces, bars and cafes, wellness center-spa, meetings and seminar rooms. These additional spaces enable to decompess the individual spaces, to make inhabiting the tower easier and more comfortable, to offer additional services compared to a horizontal spreading, which increases the possibilities of use and offers a better service to the visitors.

These programs are distributed in different levels of the towers, thus offering supervised and protected places.

The hotels and the apartments occupy the highest towers. The hotel floors contain in average: 16 standard rooms or 9 to 12 rooms for 4 or 5 stars hotels. For the apartment towers, each floor has 4 to 9 apartments.

Each room and apartment is extended by a continuous balcony. The villas are settled in the lowers tower. A villa occupies a whole floor which means a slab of 500 m², of which 250 m² are living spaces and 250 m² are large covered terraces.

Single villas
The other half of the villas is implanted in horizontal rows in the forest along the topographic level curves of the natural ground, mainly in the north.

The habitats are on one only floor detached from the ground, holding on high piles, blending in the landscape. Each villa has a 500 m² platform composed of 250 m² of living space and 250 m² of terrace. Its roof is a roof-top garden.

The total useable area of the villa and its exterior spaces is of 750 m². Elevated from the ground, the implantation and the building process are designed not to cut any tree. The deployment of the vegetation remains possible in total freedom as well as the continuity of the natural ground, without any waterproofing.

Equipments and services
They are gathered in large flat spaces, in the thickness of the plates. Spacious and open, at floor level, they are always in contact with the exterior and the landscape through large periphery glass facades as well as by the wide holes of the platforms. It offers the possibility of covered strolls, protected from the cold, while having the feeling of being outside. In the summer, the glass window are wide open and disappear: the space become a great covered market.

Parkings
The visitors access the site by car, by the national road in the periphery of the site. Three main exits, for each of the three sites of the Tourist Center, give a direct and quick access to the parking lots. The visitors access the site by car, by the national road in the periphery of the site. The car are parked during the whole stay. Then, it is by slow modes of circulation that users will move on the site: by foot or by collective car or buses (electric or Bio Gaz).

A system of light and handy caddies will be instaured to enable transporting luggages from cars to the housings.

For the 3 main sites of the Tourist Center, the parkings are gathered below the plates footprints and situated close to the roads (approximately 100 to 150 m for the Resort Center), to help the access by car for the visitors and the residents. From the parkings, the access to the housings and to the Skiing plateau is immediate, since they are directly located under them.

For the hotels, apartments, and villas towers, a vertical circulation allows the access to the lobbies and to the buildings entrance halls from the parkings, as well as to the ground floor’ sport infrastructure and to the 1st floor’s various services and equipments.

For the individual villas of the north part, parking lots are located on the edge of the protected forest, close to the road, enabling short access paths.

The spaces are covered and vegetalized to blend in the environment and protect the cars from freezing. The distance to the villas is variable, but always less than 250 m. The villas in the south part have their parking lots in the parkings of the 1st site – Resort Center, situated less than 250 m from them.
III Ecologie

Develop a new city far from the built and urbanized zones cannot be done without taking into account the current environmental challenges like climate change, and in particular referring to the measures set by the European Union:
- Reduce greenhouse gas emissions.
- Reduce energy consumption through greater energy efficiency.
- Promote renewable energy.

These measures have been taken into account in the Klecovaca Tourist Center project to create a sustainable city and a sustainable and responsible tourism.

LAND APPROACH

Strategic location of the project on the site.
The resort is built in 3 sites installed in specific areas of landscape and topography, which allow the lowest ground impact, the lowest visual presence and preserve in its entirety the great central plain of the valley.

The largest area, located near the Skiing Plateau and hosting all hotels, activities, services and most of the villas is orientated on the southwestern part of the valley. The east-west orientation enables most of the facades to face south and to be protected from cold winds (north-east) by a hill located in the foreground between the valley and the mountainside.

The other two parts are located in the north-east side of the valley with an east-west and north-east orientation to take maximum advantage of south sunlight and be protected from the wind by the mountainside.

40% of the villas are located in linear bands on the terrain along the north-east road. A few meters detached from the ground and only 1 floor high, they take advantage of direct south sunlight and are protected from the wind by the forest.

Preserving «flora and fauna» intact.
The aim is to lower the intervention on the privileged environment of the area, and create a «built balcony» looking at the nature, that adapts to the ground, without changing its geography or topography, and maintaining intact the areas of meadowland and forest.

The conserved vegetation promotes the preservation of the region biodiversity.

Creating a compact city also reduces the pollution of the place: reducing the impervious surfaces and the networks and facilities length: water system, electrical system, heating system, including the collection and transportation of waste.

It also promotes the use of common areas and human relations, since it generates proximity while respecting the individual privacy, leaving each person a spacious individual space.

A passive approach to energy design and comfort.

Compacting the buildings decrease their envelope surface. The buildings design helps to reduce the winter energy loss (high thermal efficiency of the envelopes) and protects against excess solar heat gains in summer (large balconies that make a shade on the facade and allow sliding windows, promoting natural ventilation). It reduces the energy losses and improves the use of heated volumes.

The large services platform’s green roof and the snow cover in winter will reinforce the insulation.

An optimized and efficient construction, cheaper and faster to build.

Promote the prefabricated building systems to enjoy all its benefits:
- Optimising the use and strength of materials
- Improving the efficiency on the build quality for a better indoor comfort: thermal, acoustic and air sealing.
- Optimizing and minimizing the construction time to take advantage of the ‘good season’
- Reducing the quantity of materials and the production of waste generated on site.

Using natural resources: sun, light, air

The orientation and shape of the buildings offer the possibility to enjoy the maximum of sun’s rays and natural light. The facades are widely glazed (with the use of high-performance windows with double glazing). They enable the users to enjoy as much solar energy (heat) than natural light and reduce the use of additional energy for the needs and functioning of the spaces.

The reflection occurring between the facades transfers the light to the lower zones or in the shaded areas in the lower parts of the construction.

In summer, these large balconies on all floors of the building facades, protect from the sun in summer and from the rain or snow in winter.
ENERGY SYSTEM AND WASTE TREATMENT

Heat and domestic hot water production

The compact city will take better advantage of the produced residual energies completed by the use of renewable energy. A low temperature distribution system may be created, supplied with the construction of an incineration plant for household waste that enhances the energy value of non-recyclable waste. The domestic waste incineration plant’s location will be defined according to the same principles developed for the project and in relation to the site: away from the inhabited areas to avoid the obstruction of the views, and near the roads.

The heat recovery from the parking, (produced by cars), and the heat of wastewater system will complement this system of energy production. Renewable energy resources will be widely used. Solar energy but also other resources will be studied, such as geothermal energy. This system will produce the necessary heat and a part of electricity. Energy recovery of household waste and residual energy can replace the fossil energy consumption (gas, fuel) for the district heating and domestic hot water and reduce the need of electric power transmission. The project aims to feed the entire resort with this network.

Electricity

The incineration plant will provide part of the electrical energy. Another part will be provided by exploiting biogas produced by the sewage wastewater treatment plant. The rest will come from the region network.

Water

30 to 50% water consumption doesn’t need to be drinking water (toilets, washing machines, garden watering, etc.). The water will be withdrawn in different pools of rainwater retention. It will be used in two ways: some will be treated lightly and used for toilets, washing machines and for watering plants, the other part will be treated in a purification and distributed to the three areas of the resort for the inhabitants consumption. The ski centre will integrate water consumption reduction and optimization systems, and will promote a preventing water wastage policy.

Wastewater treatment

The wastewater will be transported to the treatment plant through a network, which will be equipped with a system to recover heat and transport the wastewater to the waste recovery plant. The ski resort will have a treatment plant that values the sludge biogas. Anaerobic biological treatments will be sought. They have a remarkable advantage for the treatment of sludge and reduce 50% of the dry matter and create heat and electrical energy or fuel. This energy can be used both for heating buildings and for the functioning of various public transport (bus, chairlift, etc.). The gas produced by this process does not contribute to worsening the greenhouse effect.

Waste treatment

All waste will be sorted and collected on the parking level in the 3 built zones. Recyclable waste will be transported to the closest city to be valued. The non-recyclable waste will be used to create heat to power the heating system to produce energy for heating and domestic hot water.
2 - Phases
Phasing

The phases of the resort center (south-west site) are made according to access and a coherent working of the equipments, that have to remain active during the building process of the following phases.

3 phasing construction
### SITE 1
#### HOTEL CAPACITIES
- 247,752m²
- 39,794m² - 116 PLACES

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<th>Parking</th>
<th>Technical</th>
<th>Accommodation</th>
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#### APARTMENT BUILDINGS CAPACITIES
- 102,260m²
- 21,000m² - 768 PLACES

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<thead>
<tr>
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<th>Apartments</th>
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#### RESIDENTIAL COMPLEX CAPACITIES
- 43,581m²
- 22,500m² - 90 PLACES

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### SITE 2
#### HOTEL CAPACITIES
- 60,262m²
- 8,000m² - 268 PLACES

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### SITE 3
#### HOTEL CAPACITIES
- 20,672m²
- 8,000m² - 268 PLACES

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TOTAL ACCOMODATION CAPACITIES PHASE 1 + 2 + 3 = 534,304 m²