

TCC Heping Industrial Eco Park

Construction Project Conceptual Design Competition



I. The Origin

Hoping's Mountain and The Sea

Old gray rocks and cement kilns ,
In a peaceful (Hoping) contemplation,
They are so timeless and so vogue.

Look at the flickering stars and the lunar rhythms.
Where the mountains touch the sea,
In nature, the green grass and flowers at the seashore,
In this simple crispy air.

*The wind from nature is calling,
Domes and beltways,
Cement is part of this mysterious culture.*

*In to the garden of all things,
The sea, the water deer, the white orchid,
Aristotle's harmony,
As the music of heaven rises into the sky,
It is always so quiet and peaceful (Hoping). ”*

Nelson A. Chang 10/2019

In over two hundred years after the onset of the industrial revolution, the expression “factory” has been repeatedly redefined...

The advancement in technologies and R&D has altered the production process, adjusted the impression of factories from the corporate point of view, and further changed the relationship between work and the living environment.

In fact, a factory can act as a classroom for knowledge transfer, a school without walls that collects cultural relics covering all kinds of knowledge, a leisure park, or a conservation area or museum to protect plants and animals. Hence, a grand park/factory could be a landmark totem of progressive civilization in the modern days.

Factories can also be closely combined with the local community. For example, Japan's Oshima Shipbuilding is fully committed to hosting festivals, fairs and cafes in collaboration with the community, as well as the production of the famous Oshima Island tomato and tomato juice. It not only revived the local industry, but also celebrated festivals together with nearby residents, and jointly built a special community culture for local residents under mutual trust.

Factories can even establish a new and unique recycling ecosystem. Denmark's Kalundborg Eco-Industrial Park developed an industrial symbiosis business model in the 1960s, which generates electricity through combined heat and power, and the flying ashes produced by the power station become raw material for the cement factory, while the industry's by-products become the best source of natural nutrients for local agriculture and aquaculture. Nowadays, there are 30 different combinations of energy sources and resources in the industrial symbiosis at Kalundborg Eco-Industrial Park, which relies on effective systems and mutual trust.

The treatment of human waste is as important to society as factories, and urban governance nowadays cannot evade the issue of urban waste treatment.

In 1997, TCC established the first cement zone in Heping, Hualien in cooperation with the government's eastward shift policy. The zone has used the circular economy business model since the establishment of the factory, which is a three-in-one model including the cement factory, Heping power station, and Heping industrial port. It optimizes the use of resources, and is currently the only circular economy park in Asia, with no waste generated from the factory due to recycling and reuse. In 2019, TCC is committed to achieving the goal of “proper recycling” by promoting co-processing of waste in cement kilns under high temperature treatment, in order to resolve the society's problems, create a zero-waste environment, and become an exemplary model of the circular economy.

In 2019, TCC's Heping Factory is about to enter its 20th year of operation, achieving a new milestone. At this point, we have also discovered a new opportunity for Heping Factory: The Suhua Highway will soon be open to traffic, and the first entrance in Hualien is at Heping! Thus, TCC decided to open the factory gate and establish a three-in-one industrial eco park in Heping, which will become the first “open factory” in Taiwan. The world will witness the ecological and environmental assets that we dedicated efforts to develop as well as the Truku tribe's culture preserved by villagers in Heping. We are now welcoming everyone to participate in this construction project to restructure the community and factory and support Heping to become a new hub for factories and communities to co-exist and share prosperity.

II. The Vision of TCC Industrial Eco Park

Dealing waste is a common problem for all mankind. The Hualien County Government, in an attempt to resolve local waste problems, has invited Taiwan Cement Corporation (TCC) to use its high-temperature cement kilns to help with the treatment of waste. Apart from applying its specialized technology, TCC also increases its corporate social responsibility by coming up with the vision for an “industrial eco park.” The aim is to develop Heping Village in Hualien County into the first community of its kind in Taiwan that features symbiosis between an open plant and its neighboring community.

A new exit for Suhua Highway, a new start for Heping

A new world of cement kilns

The cement sector was once considered as an industry that had adverse impacts on the environment. Cement plants thus existed with a bad reputation, alleged to be destroying the environment. In the past few years, TCC has seen the changing relationship between man and the environment and noticed that people now have different concerns. That’s why TCC has been persisting all these years with its plan to become an environmental engineering company that is friendly to man and the environment at the same time. TCC tries to do everything that is friendly to man and the earth.

Like any other green organizations, TCC takes “Living in harmony with nature” as a goal to go after. It is only that we use different methods and start from a different point. TCC thinks and operates from the perspective of management and more comprehensive consideration. With our experience accumulated over the years, we hope to open up more imagination.

We are here today not just to talk about the projects that TCC has activated in recent years and are still on-going. We also want to introduce TCC’s new plan for Heping in the next two decades.

We have been studying in the past few years a new development for cement kilns. We have been pondering how to lead the cement industry toward zero waste, zero pollution and zero emissions.

We have developed the “carbon capture technology” by capturing carbon dioxide emissions from the cement production process. The carbon dioxide captured is then turned into nutrients for algae, from which we extract astaxanthin, a top antioxidant.

So, cement kilns with a temperature of 1,300 degrees Celsius can be used to treat waste created by “man.” How high is the temperature of 1,300 degrees Celsius? It is as hot as underground lava. It can melt waste almost completely, leaving only some residue that can be turned into raw materials for

the manufacturing of cement. It is a waste treatment method that produces no polluting gases and pollutants. It has been adopted by many cities abroad.

The string of “recycling” examples as mentioned above form a “circular economy” that TCC takes as a mission and important task in its efforts to take care of the environment.

Being a member of Heping

The TCC Heping Factory was established in 2000. It has 266 staff, with 60 of them being local residents. Nearly 23% of the employees are natives of Heping. The Heping Factory has been a family within the big TCC family for a long time.

Several times at night, I drove on Suhua Highway heading south. It was dark along the road, with lights from the Heping Factory showing a direction in the distance. Driving in the mountains here, you can always see the lights from the plant whether you are going uphill or downhill. They have become a soothing sign. The Heping lights along Suhua Highway seem to have taken on the meaning of a beacon for road users. Over the past two decades, we have been closely linked with Heping in this way.

The TCC Heping Plant is now an asset to Heping.

As reflected on the TCC Heping Factory’s tasks in different stages, we also look into the development of the Heping community as a whole.

TCC can see it.

Heping has a population of 1,500. TCC members live here, with some getting married and settling down.

At the plant, we hear older employees talking about the changes over the years. While walking on the street, we chatted with local people and heard from them stories about Heping. We found that there is much to explore in Heping and that there are many beautiful things that we can share with more people.

What Heping has

As some people love to say, the Hana Beef Noodle Shop is a must-go place. The Steamed Bun Family that many tourists failed to locate, is also not to be missed. The Heping Elementary School on the

main street was established during the Japanese colonial rule of Taiwan. This century-old school sits right in the Heping community nestling in the mountains.

In the tribal festivals and celebrations each year, Truku people always impress us with their traditional clothes. These clothes represent a beautiful cultural heritage. Old people will tell you the bird divination myth and the rules set by the Gaya ancestral spirits. As you listen to them, you will feel the profundity and wisdom of their language, making you associate them with a Formosan sambar deer.

Apart from those, high-quality *bletilla striata* has been found in a mine in the mountains here. It is a very good herb that can be used in traditional Chinese medicine. The discovery was the result of the mine's environmental restoration. In the summers of recent years, fireflies have even been spotted on plant premises. It is a best indicator of what has been done in environmental and ecological conservation. Fireflies can only be seen in a clean, unpolluted place.

The industrial port of Heping has passed European Union (EU) Environmental Port Phase-1 Certification earlier this year. There are beautiful coral reefs here. You can see with the naked eye *diadema setosum* and gar fish that love to swim in clean waters. An employee in the plant told me proudly that it is a secret area of Heping, a Heping version of Australia's Great Barrier Reef.

They are in Heping. They are already existing. They just might have been ignored.

We are honored to be here to enjoy with the Heping people the assets that deserve to be preserved and managed.

What makes Heping different?

The TCC Heping Factory is to enter its 20th year in Heping later this year. Age 20 is a milestone for a youth, meaning that he or she has grown up. The Heping Factory should have something different this year.

The Suhua Highway Improvement Project will be completed and open to road users early next year. The new highway has an exit leading to Heping. After a road trip for some distance, drivers will stop in Heping for a rest. TCC has recognized the fact that this new section of Provincial Highway 9, once open, will bring some changes. As everybody can see, there will be more people stopping in Heping for a rest and the traffic flow will also increase. Public transport bus services will be adjusted because of the would-be opening of the new highway early next year. Heping, are you ready for it?

TCC is ready for it.

A new starting point: Heping Industrial Eco Park

In recent years, LDC Hotels and Resorts, an affiliate of TCC, has been investing in the tourism sectors of Taiwan and Italy. We have been used to discovering more possibilities with a discerning eye.

After the opening of the new highway, traffic flow will increase and more people are coming to Heping, where they stop and rest. However, we want them to stay longer. Heping shall not be a mere “rest area” for drivers. It has an abundance of assets that can make passers-by stop for a rest or stay for the night, which will give them more time to explore. The cultural assets they strive to preserve and the ecological assets TCC is developing are enough to turn Heping into a new recreation area along the Suhua Highway.

Starting from “Opening”

The Heping Factory is the first of its kind in the world that operates in a three-in-one “circular economy” mode in the sense that it combines a cement plant, a power station and a port. No waste shall come out of the plant premises. Only waste in and no waste out. It is a unique plant in Asia. We expect that such a mode of operation will turn the factory opening to the public into a “circular economy industrial park,” the first plant in Taiwan that is open to the public.

What is an open factory? An open factory is not something that TCC makes out of nothing. There have been successful precedents in Germany and Japan.

“Transparent Factory” of German automaker Volkswagen in Dresden

In downtown Dresden stands a world-famous transparent building, which is actually a car factory of the German automaker Volkswagen. The building, made mainly of glass, instead of concrete, is open to customers and visitors. They can come in to take a look at the car assembly process, which involves cutting-edge technology and sophisticated industrial machinery.

The open factory not just shortens the distance between the factory and its users. Its building plan and design, besides preserving people’s memories of a traditional factory, also create a locally representative building with artistic and aesthetic elements

City of Light

Kawasaki Marien of Japan

Japan once had many industrial areas. In 2011, it started to promote the “new sightseeing mode” and “factory night scene” to attract more tourists. The new measure indirectly contributed to a growing understanding among people of the development of Japan’s heavy industries.

In the Kawasaki Heavy Industries Area, the geographical proximity to a port and factories with lights on for 24 hours are taken advantage of to develop unique houseboat night tours. The tours are supplemented with guides, voice introduction, and entertaining experience. They bring you back to the history of the factories while educating and entertaining you through sightseeing. They have become a different kind of travel.

Horizontal expansion

Oshima Shipbuilding Co., Ltd.

Oshima Shipbuilding Co., Ltd. has also expanded horizontally to develop with neighboring residents its agriculture with special characteristics and wineries. They hold on the premises sports competitions and barbeques participated in by the local people on a regular basis. The triathlons that have become a regular event there later than the previous two are now a main attraction for tourists. The factory and neighboring community are integrated to make the factory no longer just a factory.

Heping Industrial Eco Park

(Circular Economy Plant)

The 20-year-old Heping plant also plans to open to the public to receive more visitors. We take it as an open “industrial eco park”.

Innovative industrial aesthetics and green ecological building

Heping owns a beautiful environment that contains mountains and the sea. For a long time, the TCC Heping Plant has been remembered by the public as a place with gray buildings. In the factory opening project, we try to change the cement plant’s stereotype image in the minds of people. A green ecological building that integrates into the environment is being planned. It will become a new landmark in Heping, also a new landscape in an ecological community with environmental education purposes.

A place for ecological education and knowledge exploration

The plant area is also a place for “ecological education.”

Besides the Heping version of Australia’s Great Barrier Reef and fireflies that come every summer, we will also set up here a “plant conservation center,” where more than 30,000 endangered plant species

conserved by the Dr. Cecilia Koo Botanic Conservation Center under TCC will have their second home.

A living museum based on reflections on the environment

The park area should be a “living museum.” We will make public data of the plant’s carbon dioxide emissions to make waste treatment by cement kilns transparent. People can see here the transformation of the cement industry that has greatly influenced the development of human civilization.

It is a place for environmental education, where man can live in harmony with nature. The Heping Plant is the result of efforts by modern people to keep the environment sustainable and preserve the earth. The three-in-one circular economy operation mode that combines a cement plant, a power station and a port, the capture of carbon dioxide through cement kilns, the extraction of astaxanthin and the development of other relevant products represent modern people’s awakening to environmental concerns. We strive to turn an industry considered to have adverse effects on the environment into one that can benefit humans and the environment. The Heping Plant is a best model.

Interactive exploration that makes you feel with the five senses and six consciousnesses

The plant area is also an “experience” classroom, where you can experience with the five senses and six consciousnesses.

Through your hand’s sense of touch, sense of smell memory, heart-touching visual sense, mind-calming sense of hearing, and even sense of taste experience, you can feel more interaction with this ecological community. Hands-on experience of all sorts will make this place a best ecological classroom.

We hope to provide a variety of hands-on classes, ranging from DIY with cement, creation with recycled materials, making foods with astaxanthin, to aboriginal culture experience sessions. Visitors can use their five senses to experience the six consciousnesses. The plant area shall be characterized by such “personal participation.”

We hope to include a “sea mountain listening area,” where visitors can hear the sounds of the Pacific Ocean, whale sounds and chirps of insects and birds and sounds of Formosan muntjacs in the “Warrior Mountain.” Interactive devices will make you feel the presence of mountains, forests, and the sea.

We hope to include a “contact with plants area,” where visitors can get to know more plant species. You can find here a peace of mind. Your mind, otherwise restless all the time, will wake up here again.

One more thing...

Community management and development off the premises

The “Heping Industrial Eco Park” project, in our view, includes not only consideration over the plant design but also thoughts on extending our reach to communities off the premises. The whole Heping area will become a closely-connected greater community because of the opening of the Heping Plant.

Taiwan Railway Administration (TRA) Heping Station could be designed as a major gateway to and from Heping. You can experience here tribal life, stories of Truku people, traditional delicacies of aboriginal people, or a hike to a mine formerly open only to miners. You can find here dragon-shaped wild orchids. We also seek to develop a resort port on the border between Hualien and Suao Counties. It will become part of the greater “community” in the future.

With its rich resources, TCC can do something beyond plant construction. We will invest our time and energy in community development along with the Heping people in the form of community service.

Tribal culture and creative cuisine

We can invite star class hotel chefs to design for the community and add creative elements to aboriginal foods. We can also authorize local residents to use our patented astaxanthin. We can jointly develop astaxanthin foods with them to make this place become Taiwan’s unique “astaxanthin foods circle.” We may also design a Truku Cultural Exhibition Hall and a holiday ecological plaza to form a new type of community that is closely inter-connected.

We aspire to develop Heping into Taiwan’s first new community that features symbiosis between a plant and its neighboring community.

Together we could do more in the future.

This is more than a plant opening plan. It is also a project that aims to construct a tourist ecological community.

The “Heping Industrial Eco Park” will attract more people to stay here. We know that more people will extend their one-hour stay to a mini trip for two days and one night. There will be a growing demand

for bed and breakfast accommodations and restaurants. More options will be available in days to come. The opening of the TCC Heping Plant is just a beginning. The plant will serve a point to connect with every single person in Heping so that many inter-connected lines may be formed to cover the whole Heping community.

TCC respectfully offers here an invitation to members of the public, calling on all people interested to join hands with us in the construction of Taiwan's only ecological community. Let's start from here and move toward peace for all.

III. Introduction to the project site and surroundings:



TCC “Heping Industrial Eco Park” is located in Heping Village, Xiulin Township, Hualien County, and is one of the landmarks at the border between Hualien and Yilan.

For future visiting plans, TCC provides a special bus to the observation deck in the mining area, overlooking the coast of the Pacific Ocean and Asia's first “three-in-one model” circular economy industrial park, which includes Heping port, Heping power station and the cement factory. Heping industrial port, also called the “Heping Barrier Reef”, is an eco-port certified by the EU, and has rich marine life: tropical fish, seaweed, sea urchins, rocket fish and precious and soft corals. Heping Power Station is marked by an indigenous totem, and is the only environmentally-friendly power station in the world with no ash pond. The cement factory is TCC’s main area of circular economy, of which the “Waste Recycling Center” is refuse disposal facility engaged in co-processing of domestic waste in cement kilns to support Hualien in general waste (domestic waste) treatment. The cement kiln has an average temperature of 1300 °C, which can decompose dioxin and various human waste. TCC’s waste treatment process is open and transparent, and provides practical visits and guided tours on “City Purifier” for the public to understand the waste recycling process. Next to the “Waste Recycling Center”, the world's largest test factory of carbon capture by calcium looping, with large-scale cultivation of microalgae outdoors, and laboratories for astaxanthin and *Haematococcus pluvialis* indoors, which provides vivid examples for carbon dioxide circulation.

TCC plans to build a “Plant Conservation Center” in the Open factory. It will be a branch of the “Dr. Cecilia Koo Botanic Conservation Center” in Pingtung, a world-class conservation base for tropical and

subtropical endangered plants. The center might cover greenhouses, flower and bird gardens or integrating new architectures to demonstrate the endangered plants, such as Taiwan's *Bletilla striata* and *Hydrangea longifolia*, and to show unique accomplishments in plant reproductive ecology of local and mining areas. TCC aims to set up “Multi-Purpose Venues” such as for permanent exhibitions, themed exhibitions, audiovisual exhibition spaces, and DIY classrooms related to the environment and ecology to improve public interactions and communication channels. We would like to demonstrate that the industrial sustainability can coexist harmoniously with the environment and ecology.

1. Schematic diagram of the factory



Blue section: The entrance, eco plaza and parking lots are expected to be completed in January 2020, and design is not required.

2. Current Status of the factory

● Observation deck in the mining area: A 20-centimeter high platform (Figure 1) is set up at the mountainside of Heping mining area, and people can take the coal mine special bus (Figure 2) which is about 15 minutes to arrive at the observation deck. Thus, the special vehicle could be a part of the design with the observation deck.



(Figure 1)



(Figure 2)

- A. The ecological restoration plan of Heping mining area introduces diverse plants, and cultivates tree species at the age of 4 and above, including White Beech, Griffith's Ash, Formosan Alder, Chinese Soap Berry, and Ring-cupped Oak, totaling around 4,000 tree saplings, coupled with the native Yunnan Bletilla which is a unique Chinese herbal medicine. In addition, TCC also planted cherry blossom saplings in mining trails as the symbol of ethnic spirits, creating a vibrant mining area.
- B. Vertical shaft mining and tunnel conveyor belt systems:
TCC's mining combines the mountain peak platform with three sets of shafts and rapid transit systems, which is the world's most environmentally-friendly and advanced mining technique. The gravel and transportation are completely underground and automated, which significantly reduces dust and use of diesel.

●Cement zone

1. Waste Recycling Center (the designs of factory structure and equipment hardware have already been commissioned, so only the appearance of the building requires designing):

This facility supports Hualien's general waste (mainly domestic waste) treatment, and is the first high tech factory engaged in co-processing of domestic waste in cement kilns, in the aim to provide education on environmental protection as well as promenade, sitting areas with an open and transparent design concept.

2. Carbon Capture Test Factory (already existing and planning to expand its scale):



Next to the Waste Recycling Center, TCC and ITRI have built the world's largest test factory of carbon capture by calcium looping, with large-scale cultivation of microalgae outdoors, and laboratories for astaxanthin and *Haematococcus pluvialis* indoors, where TCC focuses on the R&D of biomass energy and extraction of astaxanthin, in the aim to be integrated with the Waste Recycling Center to build an area of circular economy.

3. Multi-purpose venues (requires design and construction):

The venues contain space area required for exhibitions, events and teaching. The architectural concept is based on the sustainable cycle, and focuses on integrating the features of the factory area and the community environment.

4. Plant Conservation Center (Seeds of Hope Hall) (requires design and construction):

TCC has set up the Dr. Cecilia Koo Botanic Conservation Center in Pingtung, which is a world-class conservation base for tropical and subtropical endangered plants, and aims to build a second plant conservation center in Heping. It is not limited to any particular design concept, and can include designs such as open greenhouses and flower and bird gardens. The design will integrate catering or education requirements, symbolizing sustainable recycling and regeneration.

Note: 3 and 4 are for overall applications and planning.

IV. Eligibility for competition:

1. Professional Group:
 - Any licensed architect(or architect firm)of Taiwan(R.O.C), along or in teams.
 - Any licensed architect(or architect firm)of foreign country, along or in teams.
2. Student Group:

Students of universities and colleges worldwide majoring in space design and related disciplines, individually or in groups.

V. Competition rules and awards:

1. Professional Group (at 2 stages)
 - (1) Preliminary screening – proposals of concept and design:
 - A. Document review in the preliminary screening process.
 - B. Three (3) teams will be chosen to the finals in the preliminary screening process.
 - (2) Final – detailed design proposal:
 - A. The 3 winning teams in the preliminary screening process will give a presentation of the design proposals to the Screening Committee in mid-January, and proceed to in-depth revision and proposal of detailed design at the 2nd stage to the recommendation of the Screening Committee.
 - B. The scoring in the finals will include document review and Q&A in the briefing of the design.
 - C. Completion in the finals – each team in the detailed design proposal will be awarded NT\$1,000,000 and one trophy.
 - D. One champion will be chosen on the basis of the evaluation result, who will be granted the right for negotiation of the contract for the construction project.
2. Student Group (1 stage)
 - (1) Final – proposals of concept and design:
 - A. Document review.
 - B. Three (3) teams will be chosen and each will be awarded a price of NT\$100,000 and a Certificate of Merit.

※ The organizer reserves the right to grant no award or additional awards.

VI. Event timetable: (Taipei Time GMT+8)

Date	Content
2019/9/18	Open call for the preliminary screening, site visit, orientation, proceed to registration.
2019/9/30 18:00	Deadline for registration for site visit https://reurl.cc/M7k1Wp
10/2, 10/3, 10/14	Site Visit
10/14 18:00	Deadline for raising questions (email to: hpcproject@taiwancement.com.tw)
10/15 17:00	Deadline for registration for the orientation
10/16 14:00-16:00	Orientation (Add: No 113 ,Sec 2 .Zhongshan North Road, Taipei, Taiwan)
11/29 16:00	Deadline for open call. Refer to “報名及繳件” in the website
12/27	Announcement of the result of preliminary screening (Professional Group, Student Group)
2020/1/1-10	Award ceremony for the winners of preliminary screening. (Exact time to be informed.)
2020/1/11-20	Briefing of the design proposed by winners of the preliminary screening. (Exact time to be informed.)
2020/2/27 17:00	Deadline for submission of proposals for the finals
2020/3/1-20	Briefing on the final of the Professional Group. (Exact time to be informed.)
2020/3/31	Announcement of the result of the finals

VII. Content and scope of open call:

1. Registration and submission of proposals:
 - (1) The participants should provide the information on the team in the section of “報名及繳件” at the website. The organizer will provide a link to the team for upload to the cloud via e-mail so that the participants could upload the registration form and the documents on the result of the proposals within the registration period. The content of the data contained in the electronic file for submission must be identical with the content of the hard copy. If there is a discrepancy between the content of the uploaded file and the hard copy, the former must prevail.
 - (2) Download the registration form, declaration of intellectual property right and related documents from the section of “[參考資料下載](#)”, fill in the form and upload to the link of the team cloud.
 - (3) The required image and text file in the formats of soft copy and hard copy must be

submitted by the deadline on November 29 2019, at 16:00 together with the registration form and related documents like the declaration of intellectual property right. The soft copy must be submitted by upload and the hard copy must be delivered by mail (the content of both must be identical) to complete the registration. The letter of confirmation must be the proof of successful upload and this letter will contain a registration number. For hard copy and model (if applicable), send to: 10F, No. 113, Sec. 2, Zhongshan North Road, Zhongshan District, Taipei City; to Conceptual Design Competition of Open Factory Work Team.

2. Content of documents for submission: applicable to the preliminary screening/final of the Professional Group, and the final screening of the Student Group.
 - (1) Image and text file: image and text file must be submitted in the format of PDF. The content should cover the result of design at each stage, and the introduction to the design and the team.
 - A. The result of design at each stage must be presented in PDF format, and uploaded to the website of the event. The content of the whole package must be limited to 100MB. The content of the result should be presented horizontally in A3 size pages flipping to the left side. The resolution of the file must at least be 300 dpi and expressed in Chinese. Two-digit page number must be assigned at the bottom right corner of each page and the title of the file must be marked on the cover page of the file.
 - B. The file for the introduction of the design and the team should be produced horizontally in PDF format on A4 size pages and upload to the website. The content of the file must be limited to 10MB with at least 1 page of description of the overall design idea. Participants in the professional group should provide a profile of their employer, members, and track of record of the team. Participants in the student group should provide a profile of the members, the departments and schools, the year of study, and the academic advisors (if applicable).
 - (2) Hard copy: Present the result of design at each stage in horizontal format in A2 size papers in triplicate with binding to the organizer (the same address as the submission of proposals for competition).
 - (3) Animation file: The result of the design at each stage may be presented by animation. The animation file should be produced in AVI or MP4 format and uploaded individually to the website of the event. The content of the file must be limited to 500MB and the time should not be longer than 3 minutes.
 - (4) Model: The result of design at each stage may be presented in physical models with focus on the cement kiln and the composite waste treatment center. The scale of 1/300 should be applied with clear presentation of the materials and the physical

appearance of the structures preferred.

- (5) Correction, modification, or addition to the result of design at each stage is prohibited after submission.
- (6) Timing for the submission of different types of documents: (Taipei Time GMT+8)
 - A. Image and text file, animation file: Upload to the website of the vent by the following deadlines. The letter of confirmation must be proof of a successful upload.
 - B. Drawings in hard copy: Delivered to the following address on or before the following deadlines evidenced by the date marked by the postal stamp.
 - C. Models: Delivered to the address for submission of documents by the following deadlines with confirmation of the work team.

Item	Preliminary screening of the Professional Group	Final of the Professional Group	Final of the Student Group
Image and text file	2019/11/29 16:00	2020/2/27 16:00	2019/11/29 16:00
Hard copy	2019/11/29 (Postal stamp)	2020/2/27(Postal stamp)	2019/12/2(Postal stamp)
Animation	2019/11/29 16:00	2020/2/27 16:00	2019/11/29 16:00
Model	2019/12/6 16:00	2020/3/6 16:00	2019/12/6 16:00

- (7) Content of the electronic image file (up to 50 pages for the content):
 - A. Team profile: Including the name of the team and the names of the members, address of the employer, telephone, fax number and e-mail.
 - B. Design concept: Within the scope of recycling and sustainability, ecology and environmental protection, and industry culture so as to inspire the overall design and planning of the whole plant site.
 - C. The idea of environmental protection technologies: Integrated with the application of frontier technologies (new work methods, materials, and technologies), and give the design idea of green energy, carbon reduction, and sustainability.
 - D. Site analysis: Including the environment of the site and the immediate area, consider the natural environment in which the site is located, the integration of industrial facilities in existence, or the influence of related policies in the future.
 - E. Design drawing:
 - Site Plan: Including the design boundary and the peripheral environment to show the relation between existing facilities and the design space.

- Plan, elevation, section: Description of the layout on the main structure or space (waste recycling into resources facility), explain the idea of the space structure, physical appearance and the relation between the interior and exterior space.
 - Perspective: show the future use of the park with design concept for the materialization of the image.
 - Other drawings for elaboration of the use of space.
- F. Materials and equipment: Introduction to the materials of the physical appearance of the structures, and the main equipment and system used.
- G. Cost estimation (only for the Professional Group Participants): Including the projected progress of construction of main structures or space (the waste recycling center) and the estimation of the cost of construction.

VIII. Evaluation standard

1. Method of evaluation: The Screening Committee will be organized by the Taiwan Cement Corporation for document review and briefing of the participants on the result of competition at different stages, evaluate the result or give feedback from the evaluation.
2. Items of evaluation and distribution of scoring:

Professional Group			Student Group
	Preliminary Screening	Final	Final
Document review	Design concept: 35%	Completeness and presentation of the layout: 30%	Design concept: 40%
	Idea of environmental protection technologies: 30%	Design concept: 25%	Idea of environmental protection technologies: 35%
	Completeness and presentation of the layout: 25%	Idea of environmental protection technologies: 20%	Integrity and presentation of the layout: 25%
	Cost estimation: 10%	Cost estimation: 10%	
		Materials and equipment: 5%	
Design briefing	N/A	Design briefing and Q&A: 10%	N/A

- (1) Design concept, Idea of environmental protection technologies: Feasibility and innovation should also be taken into account alongside the concept of sustainable environment, and should be comprehensively presented in the drawings and materials submitted for competition.
- (2) Completeness and presentation of the layout: The content requirements as mentioned

must be satisfied, such as the means for the materialization of the design concept and idea.

- (3) The finalists and related rights will be determined by the ranking method. The members of the committee will add up the scores of the participants and rank the participants by the scores drawn (the participant with the highest scores will be ranked the “1st” place; the participant with the second highest score will be ranked the “2nd” place; and so forth). Ranking to specific position may be omitted and participants who scored the same will be compared by the items of higher score.
- (4) The 3 team of finalists of the Professional Group will be engaged in the final round by design briefing and document review, and ranking will be given by the result of scoring.
- (5) Design briefing and Q&A: Each team of participants will be given 30 minutes for briefing, and the time for Q&A will be limited to 15 minutes. The committee members have the rights to adjust the timing and each participating team must provide the identification documents for reference.

IX. About the site and peripheral environment:

The subject matter of competition is the Hoping Cement Plant of Taiwan Cement Corporation and its peripheral space. The site is located at No. 263, Heping Village, Xiulin Township, Hualian County 972. The plant is engaged in the manufacturing of cement, ecological power generation, port service for materials transport. The plant site covers the office space, accommodation of personnel, logistics warehouse and other processing space.



Figure: Location of the subject matter of competition

Note:

1. Red dotted line: Taiwan Provincial Route No. 9 on east Taiwan.
2. Red shaded area: Heping Cement Factory, in operation.
3. Green shaded area: Heping Power Plant, in operation.
4. Blue shaded area: Heping Industrial Port, in operation.
5. Orange shaded area: Heping Railway Station, in operation.
6. Observation Deck: located on the slope to the west of the site, the feasibility of inclusion into the overall planning is recommended.

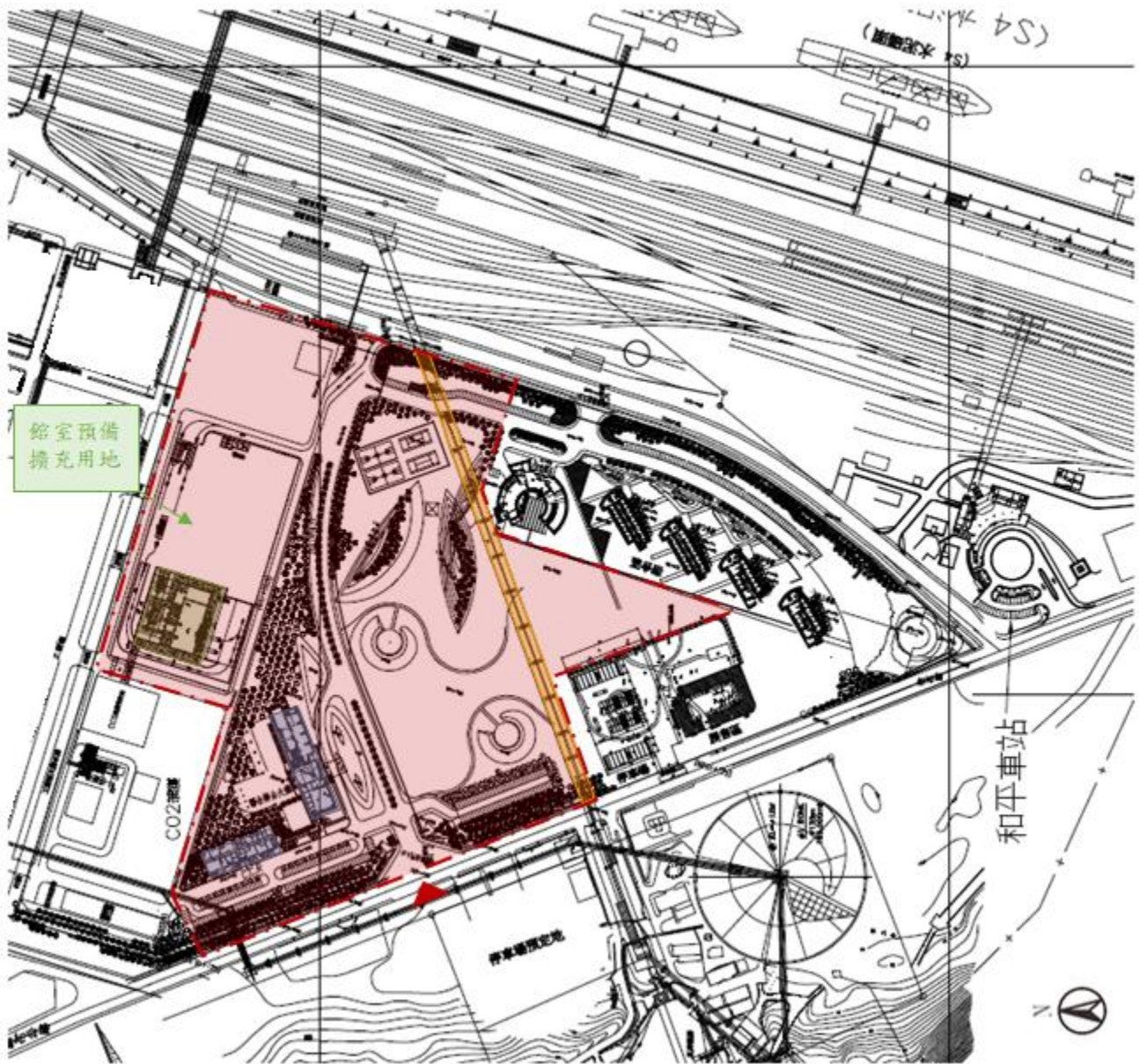


Figure: Layout of the entire area of the subject matter of competition

Note:

1. Red shaded area: Area for design in the competition.
2. Green shaded area: Designated zone for the construction of a waste recycling center. Currently, there is only the basic design layout of the plant and equipment. The design already in place should be taken into account in the designing of physical appearance, and expand on the land reserved on the east side of the plant (could be planned in combination with the center).
3. Blue shaded area: The office building (south side) and the central control office of the cement plant (north side) are now in use, must be kept intact.
4. Orange shaded area: Elevated pipeline, keep intact.

X. Declaration of intellectual property right, right of use and privacy right:

1. Participants should sign to declare their intellectual property right and duly observe related rules and regulations.
2. Taiwan Cement Corporation is entitled to and has the rights of using the design documents, drawings, plans, works and other related materials of the winners and finalists awarded by Taiwan Cement Corporation whether or not these participants will enter into appropriate agreement for the design of the park (including without limiting to the entitlement of copyright of the works).
3. Taiwan Cement Corporation may avail or assign the rights of using the materials to other entities, and sell the design to companies in Taiwan and other countries.
4. Taiwan Cement Corporation or other parties may express an interest in the works not chosen for the final round of competition for purpose of business, communication and/or construction, and may engage in private negotiation with related participants on joint venture or the acquisition of related rights.
5. The finalists must permit Taiwan Cement Corporation and its subsidiaries and business partners to circulate their design in their catalogues, books, professional magazines or other mass media vehicles. The finalists may not object, but Taiwan Cement Corporation must give the finalists the right of signing their works.
6. **The personal information of all participants and competing teams will be properly kept by the organizer, Taiwan Cement Corporation. For assuring the smooth progress of the competition, finalists agree that the organizer may use their respective personal information in related procedures of the competition. Likewise, the organizer must duly observe the Personal Information Protection Act of the Republic of China and owes a duty of care of the personal information of the participants as a good administrator.**

XI. Important Notice:

1. If any of the works chosen for award was found plagiarizing, or infringing on the intellectual property rights of a third party, the winner concerned will be disqualified at once. Likewise, the award and the price will be taken back and the participant concerned will assume responsibility of the criminal and/or civil consequences thereof.
2. Participants in the competition are advised to keep their own original version as backup. The works submitted for the competition will not be returned.
3. The works for competition must be submitted by the deadline through uploading, mail delivery, or courier service. No work will be accepted beyond the deadline.
4. Those who have registered and submitted the materials for competition online to the website of this event will be construed their through reading and agreement of abiding all the rules and regulations governing this event.

5. This competition is governed by the law of the Republic of China. In the event of dispute deriving from the competition, the parties concerned agree to submit the jurisdiction of the first instance to Taipei District Court of the Republic of China (Taiwan) for settlement.
6. **About the Winners**
 - (1) **All the award winners must be responsible to present the idea of their design, and take part in the marketing and promotional events pertinent to this competition.**
 - (2) **The prizes offered for this competition cover applicable taxes imposed on the winners due to the participation in this competition and the winners must not make any claims otherwise. According to Article 88 of the Income Tax Act of the Republic of China, withholding must be applied as required and any others must be governed by related rules and regulations of other government agencies.**
 - (3) **The organizer will remit funds for the prizes in 2 months after the announcement of the winner list with no pending controversy. The winners should present their identification documents and correct account information for facilitating the remittance of funds.**
 - (4) **The winners of the Professional Group are entitled to entering into an agreement on construction design project. If the parties hereto cannot reach agreement, no side of the parties are obliged to enter into an agreement.**
7. Anything not mentioned in this document will be subject to adjustment by the organizer in matters pertinent to the detail of competition and the prices. The organizer has the right to interpret and make final decision of this competition.