

NORTHERN BOHEMIA REVITALIZATION PROJECT

An Investment Challenge
For the Future

Ministry for Economic Policy and Development
of the Czech Republic

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Economic Union

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The Territory of the Coal Basin Districts in Northern Bohemia

Czechoslovakia, ČSFR, is divided into two republics, the Czech Republic and the Slovak Republic. The Czech Republic is geographically located in the western half of the ČSFR. Administratively it is divided into 122 districts with its capital in Prague.

The Northern Bohemia territory is the northwest part of the Czech Republic borders on former East Germany. It is a primarily industrial area and contains the Northern Bohemian brown coal basin. This area contains the districts of Ústí nad Labem, Děčín, Teplice.

The Coal Basin districts have an area of 3,500 square kilometers and a population of 650,000 people. They are important for the Czech Republic for their high concentration of industrial activities. In these districts brown coal output comprises 70 percent, electric power 42 percent and gas production 50 percent of the total production for Czechoslovakia.

The centers of the towns are mostly of medieval origin. Some of these towns were damaged by bombing during World War II, 1944 - 1945. In addition some towns lost their integrity by industrial or mining activities, and by the lack of maintenance. For instance the town Teplice is one of the oldest spa towns in Europe and was visited by such well-known artists and scientists as: Goethe, Beethoven, Chopin, Liszt, Humboldt and others. Today it has been damaged from the war and from mining.

The coal basin territory lies in a badly ventilated valley, surrounded by mountains. The range of Krušné hory (The Ore Mountains) is a barrier for the prevailing west wind from the Atlantic Ocean. The Coal Basin air-pollution comes from its own sources, but also from coal basins in western Bohemia, former East Germany and Poland.

Today this territory has many economical, environmental and many other problems. However, due to political and economical changes in the last two years there is an opportunity for stopping the adverse development of this region and improving the economy and environment, by utilizing the regions favorable characteristics efficiently and effectively.

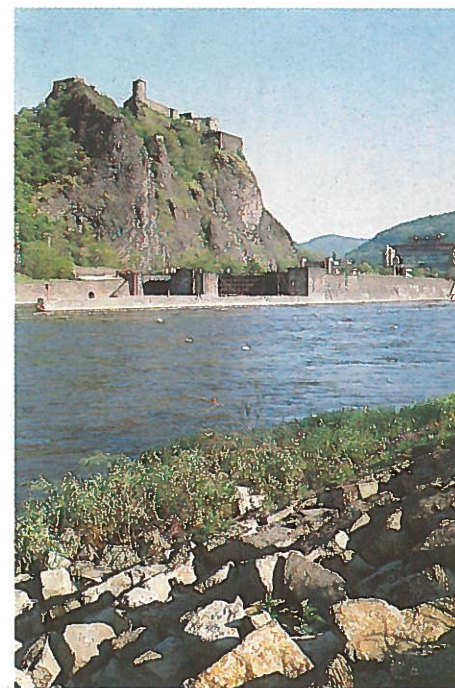


Economical and Environmental Challenges

Northern Bohemia has developed as an industrial center due to several significant factors which have made it desirable for industry. These factors which continue to offer industry advantages in Northern Bohemia include:

- abundant natural resources such as coal and water
- an industrious, skilled population, eager to work
- a large market for goods and services in nearby countries
- a good transportation system with easy access from Northern

Bohemia's Central European location However, the recent industrial management approach has emphasized an increase of production volume without environmental considerations. This has resulted in an unbearably high concentration of industrial activities, producing large amounts of wastes, and emissions which destroyed the landscape and environment. Since market economics and product competitiveness were not factors, the technologies and management used here are outdated, in comparison to western countries. Thus, the

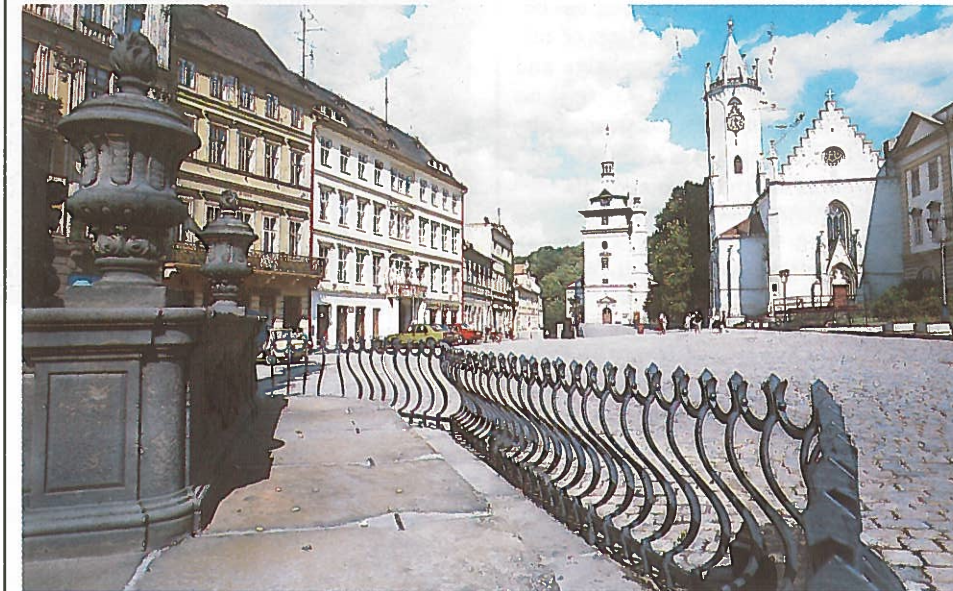


Ústí nad Labem - Střekov, the hydro-power-station switchyard and the castle

challenge now is to balance industrial and economic development and modernization with environmental needs.

Industry

The industrial base of Northern Bohemia includes power-stations, heating stations, pressure gas works, engineering works, metallurgical works and rolling mill plants, glass and china factories, chemical plants,



Teplice - the old town square

paper mills, and food production. Power output and chemical production are of particular importance for the Czechoslovak economy. The bulky raw materials needed for metallurgical and chemical plants are transported by railway and river boat.

Future industrial recovery will be aided by recent land and building developments and the existing technical infrastructure and transportation network. Currently, capital sources and management are the bottleneck to the revitalization of this area.

Brown coal extraction and mining operations

The mining of brown coal is a major industry in Northern Bohemia. In the middle of the coal basin the coal seam has a thickness of 30 meters. The brown coal extraction output reached the value of 105 tons in 1984. Since then, output has decreased as nuclear power use has experienced a relative increase. The volume of coal deliveries to power stations is now 80 percent of the total coal output in the coal basin. The open-cast mining has continued to the deep deposits, where the overburden above the coal seam is 200 to 300 meters.

Forestry

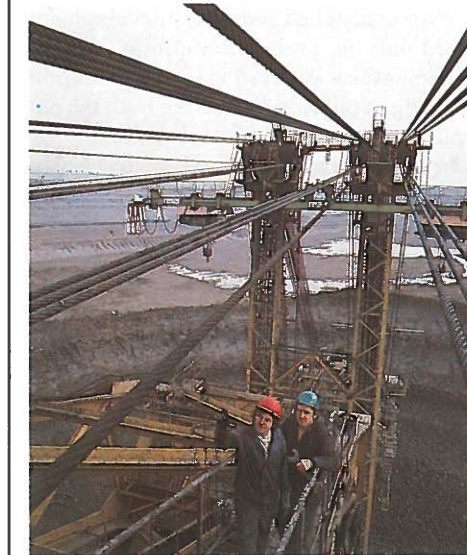
The spruce mountain forest has been dying off under the impact of sulfur dioxide emissions. The wood in the dying forests is deteriorated and of poor quality.

The resulting premature cutting of the forests and a lack of sufficient capacity in the saw mill and timber industry has caused economic losses. In addition forest destruction causes the groundwater quality and quantity to diminish. The recovery of the forest land requires reforestation and replanting destroyed areas with resistant kinds of plants and trees, and the elimination of the harmful emissions.

Agriculture

Most of the land is covered by state farms - one organization in one district, and by so called integrated farming cooperatives. There is a trend to restore individual family farms and cooperatives of the farmers. There is a lack of proper buildings and machines for future farmers, and a lack of financial support.

In the mountains there is an opportunity to restore cattle-raising. The lowland plains farming is based on the available arable



Mining operations - the KU-800 machine for the overburden removal

land for vegetables, sugar beets and grain. In the Louny district there are hop gardens, in the Litoměřice district there are hop gardens, wine yards and orchards.

Transportation

The rail and road network had been developed by industrial and public transportation needs. In addition the Labe River was made navigable in the last century. The development of surface coal mining has occasionally required the relocation of railways and roads. They are expensive and often complex constructions. There is no civil airport in this territory, the nearest airport is in Prague.

Water supply and treatment

The drinking water supply system is based on long distance pipelines from the Krušné hory Mountains. The water for industry and for power station use is taken from the Ohře River and from the Labe River. For the flood protection of the mines several river dams were built. The future mining development plans may require the relocation of some mountain water sources.

The quality of surface water and groundwater is adversely affected by industrial and municipal discharges, and by agricultural runoff.

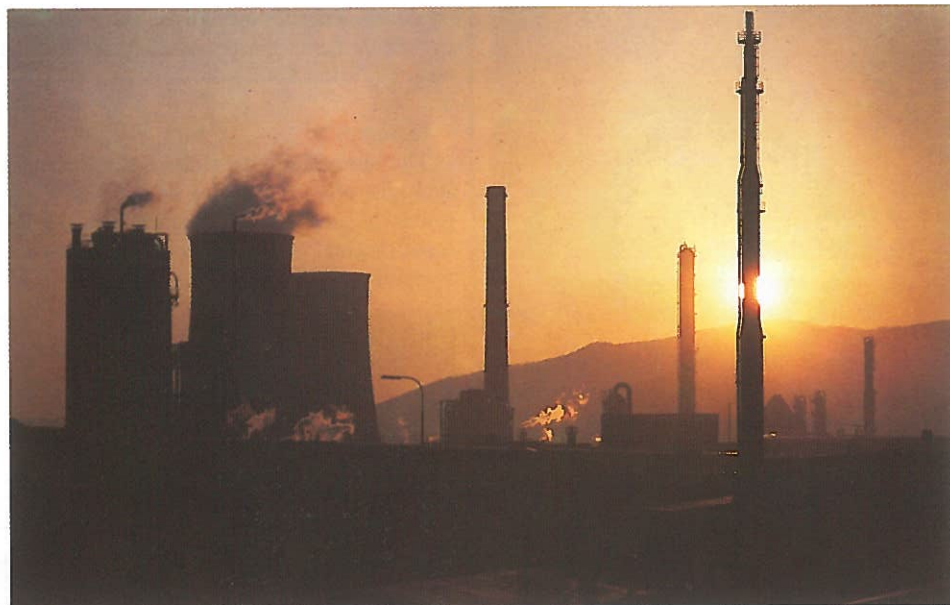
The infrastructure.

The electric power, gas, heat, water transport lines and distribution grids are adequate to the needs of the region. There is a lack of facilities for the handling of solid, liquid and toxic wastes from industry and for sewage water treatment of municipal wastes. The telephone network is not adequate for the needs of the region.

Environmental Problems and Solutions

With unchecked industrial development based only on production quotas, the environment has suffered major degradation resulting in problems affecting both the natural environment and human health.

In the Northern Bohemian coal basin districts there are a large number of pollution sources having major adverse effect on the environment. The districts Chomutov and Most account 42 percent of the total sulphur dioxide emissions in all of Czechoslovakia. The coal basin districts are affected not only by emissions from their own sources, but also from other parts of Central Europe, such as former East Germany and Poland which form a "Bermuda triangle of pollution" in this part of Europe. The danger to human health and nature is not only limited to this area as the prevailing winds transport the pollution across a wide geographic area. Most of the air pollutants have their origin in combustion processes.



Litvinov chemical plant



Krušné hory Mountains - the forest destruction caused by sulfur dioxide emissions

Program: The Revitalization of Economy and Environment

The Federal and Czech government have decided within their authorities to support a revitalization program of Northern Bohemia. The realization of the program and its cost will be a great burden for the national economy and for both the federal and republic governmental budgets. Objectives will be set and the Master Plan developed for better coordination, and synergy. The Master Plan will define the time framework and the logical interrelations for the future territorial development. An attractive environment with a well functioning administration, favorable economic conditions for foreign investment, and a reliable legal guaranty must be created. The Master Plan will include consideration of:

- Economic development - industry, coal mining, farming, forestry, transportation, infrastructure and banking
- Landscape reclamation and population health recovery

Investment in Northern Bohemia

Legal and Economical Situation Analysis

After-war changes in owner and user rights

Between 1945 and 1948 the majority of private property was nationalized. In the following years the remaining private ownership in industry, business, trade and farming was abolished - owners were deprived of their rights

Property restitution acts

The Law of Extrajudicial Rehabilitation

- Protection and rational use of natural resources:
 - air protection
 - biosphere protection
 - water protection and water supply
 - mineral water and spas environmental protection
- Creating a balance between environmental and industrial needs by means of:
 - regulations and technical standards administered by a legal system and governmental supervision to assure adherence to the standards and regulations
 - objective collaboration of individuals and organizations to assure the achievement of regional goals
- Definition of quality-of-life goals such as:
 - sound life style
 - improvement of cultural values
 - self-governing bodies and citizen associations and institutions
 - support for the development of services including leisure time facilities
 - domestic and foreign tourism support
 - social services and facilities support
 - bank services network development
 - support to educational and training facilities - assistance to opportunities for increasing the knowledge and individual approach for effective, entrepreneurship, advanced management theory and practical implementation.

Act (Feb 1991) and the Restitution Act will return the property, confiscated after Feb 25 1948, to those persons claiming the property, if they are Czechoslovak citizen, and if they do so in the stated legal time-limit.

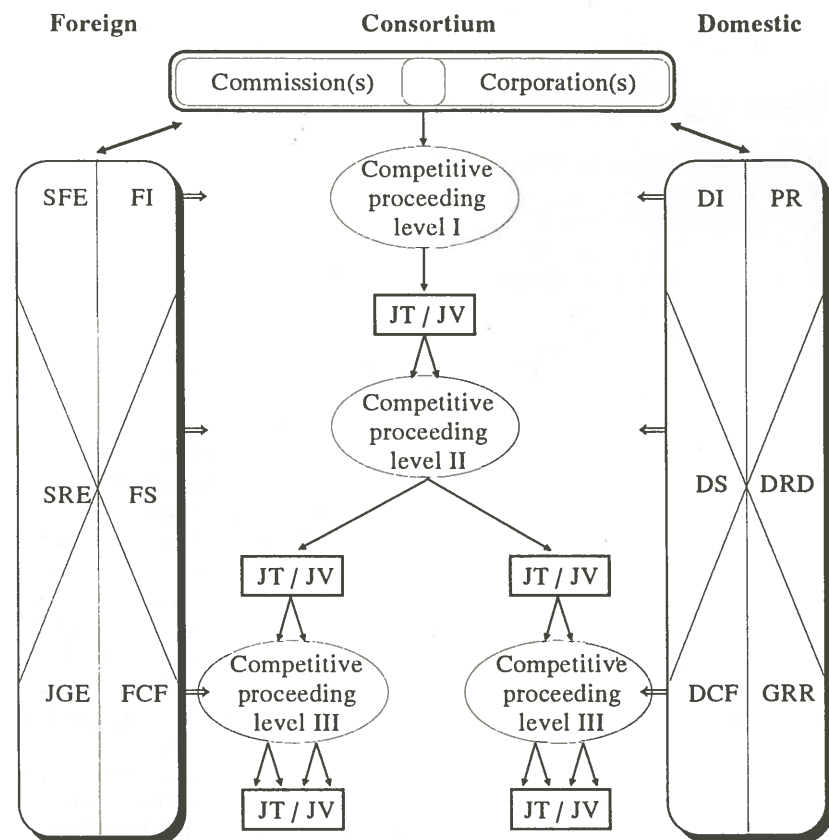
The Small Privatization Act allows the government to auction small state-owned enterprises (shops, workshops, restaurants, etc.) for cash to citizens.

Large industries will be privatized by the Transformation Act. The large state organizations will be analyzed, appraised, restructured, and then shares will be sold by means of coupons or bank loans to citizens and to domestic entrepreneurs, or the shares will be offered to foreign entrepreneurs.

New legislation has opened the way for entrepreneurial activities. The possibilities for investment from abroad has been widened by allowing full ownership. In addition the internal convertibility of the Czechoslovak crown allows for the export of profit. The Czechoslovak government has signed bilateral agreements with many nations, to protect investment and to increase the flow of capital.

Mixed team solution - logic chart

How to create mixed team - joint team (JT) and joint ventures (JV) - with domestic and foreign experts. By means of competitive proceedings and by generating mixed experts working groups and companies on all needed positions and process levels for any defined or implemented project:



LEGEND:

- ↔ The flow of money and responsibility
- ⇒ The flow of experts' and firms' actions
- JT Joint teams, the cores of future private consulting industry in ČSFR
- JV Joint ventures, the cores of future private developers in ČSFR

- | | |
|------------------------------|---|
| FI Foreign investors | DI Domestic investors |
| FS Foreign suppliers | DS Domestic suppliers |
| FCF Foreign consulting firms | DCF Domestic consulting firms |
| SFE Senior firm's experts | PR Public representatives |
| SRE Senior retired experts | DRD Domestic research and development |
| JGE Junior graduated experts | GRR Governmental & regional representatives |

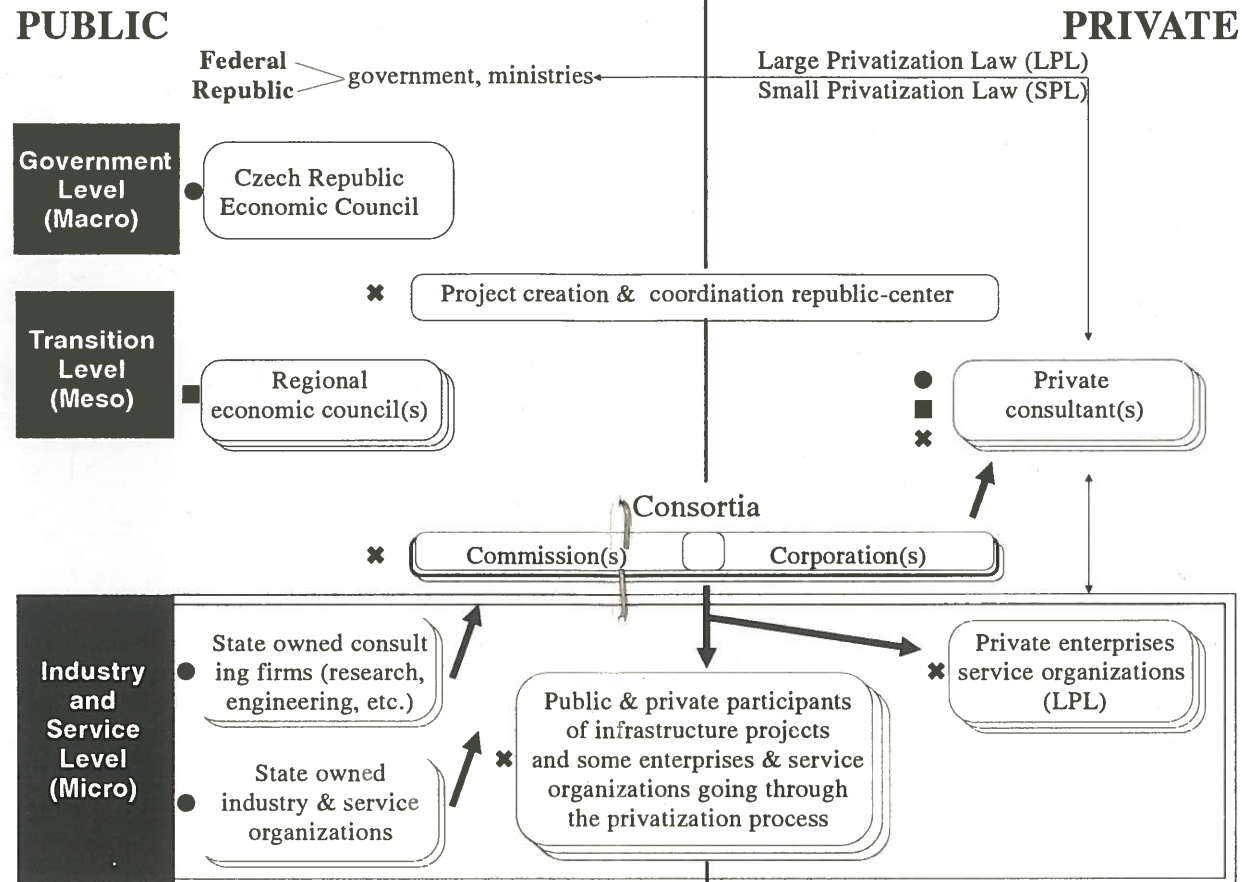
1. How we can implement a Master Plan in North Bohemia

A completely new structure of responsibility needs to be developed for the development of the North Bohemia region. The structure of this project can be used on other projects to show the proper format for the breakdown of responsibility. A Master Plan in Northern Bohemia is a good example of a project and therefore will be used as a pilot project. The Master Plan in Northern Bohemia will not only help us to solve the environmental, financial and agricultural and restructuring problems in this region but it will also provide us with a solution of how to implement similar projects in other regions of our country.

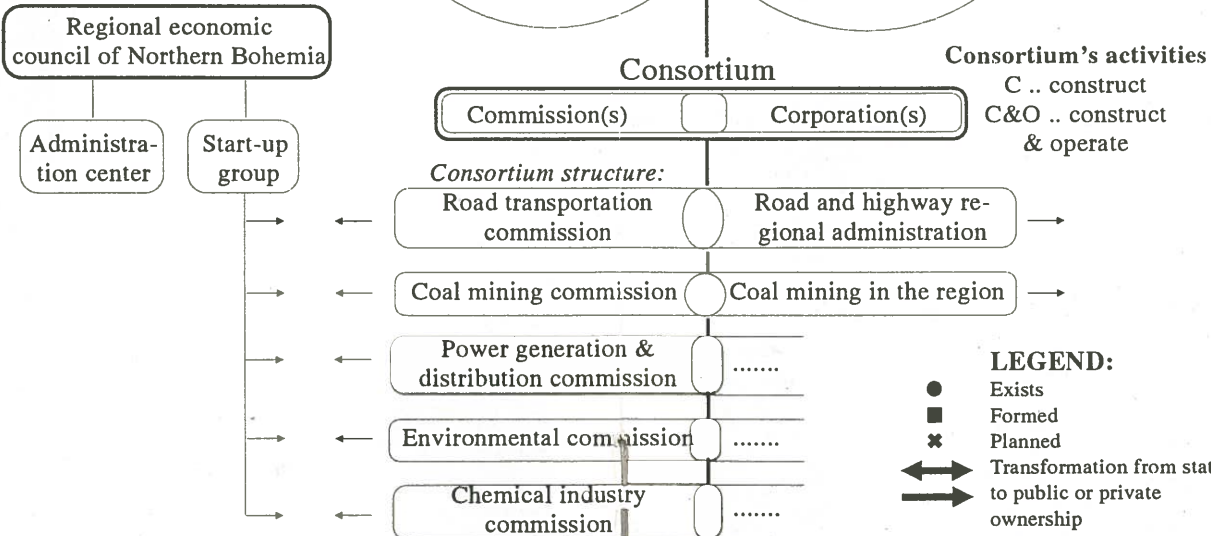
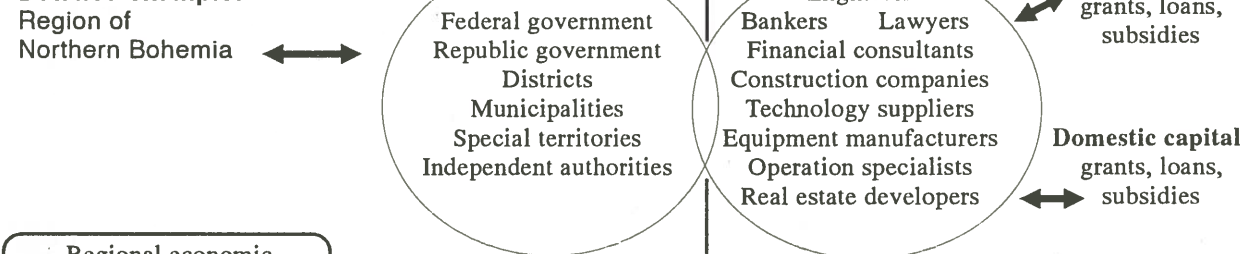
The Master Plan will facilitate the transfer of business knowledge, (financial management, project management, technology development etc.). Through the use of a Master Plan we will learn how to prepare the bid conditions for foreign investors and how to evaluate these bids.

The Master Plan is an opportunity for domestic and foreign experts to work together. For these two participants the region is both a challenge and an opportunity.

Discussion example How to form the future responsibilities



Detailed example:



How to create consortia in the existing conditions?

other organizations in the Northern Bohemia region

- ### LEGEND:
- Exists
 - Formed
 - * Planned
 - ↔ Transformation from state to public or private ownership
 - The Large Privatization Law
 - ← The Small Privatization Law
 - Past and existing situation
 - Desired future situation
 - ▭ Northern Bohemia example
 - ▭ #1 problem
 - Specification of the problem

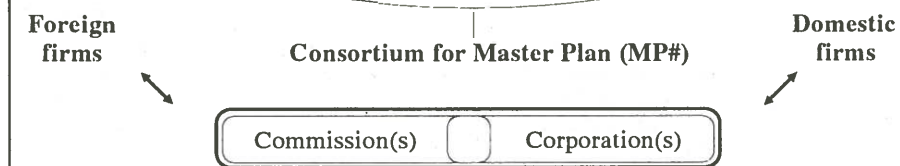
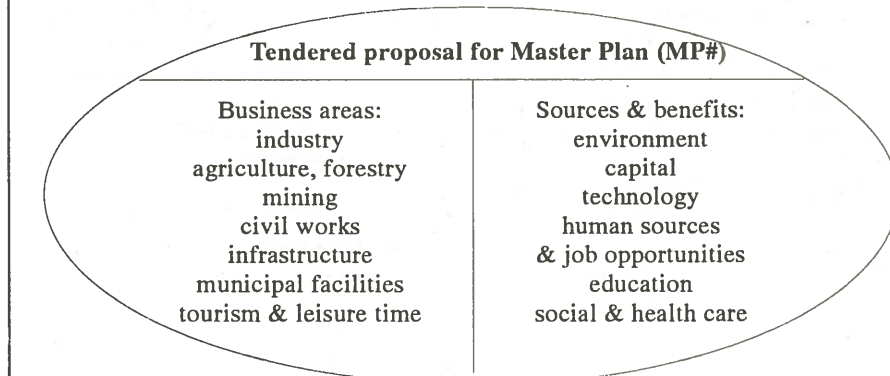
Consortium for the Northern Bohemian Revitalization Project

- an association of experts, both domestic and foreign, working for common interest
- defines objectives & tools in real time and the financial framework
- guarantees projects' coordination & effective flow of relevant information

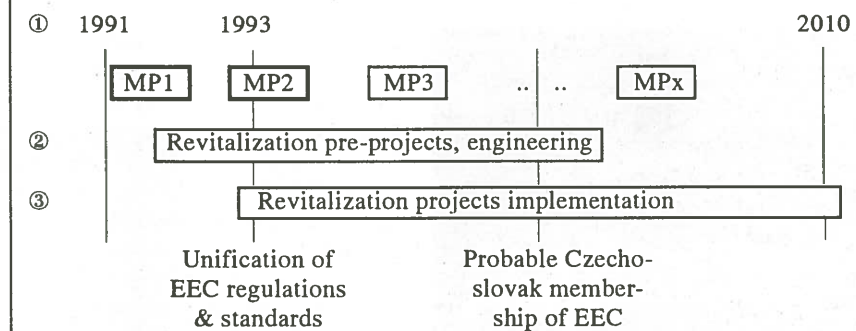
Revitalization project contains three phases

- ① Master Plan framing (strategic studies, setting priorities, management structure, responsibilities, tenders' inviting,...)
- ② Project planning assistance & control (bids' evaluation, engineering & design coordination, etc.)
- ③ Implementation assistance, economic and environmental impacts control

System state characteristics



Dynamic characteristics



2. How To Train Our Managers and Specialists?

The process of revitalizing Northern Bohemia is a method that can be used in many other regions until we finally achieve the standard and quality of development desired for Czechoslovakia as a whole. In this manner we see all the problems connected with the ČSFR and the Czech Republic in the region of Northern Bohemia.

In this region we have to support the private industry and small developer's firms for infrastructure improvement. Our goals can be obtained through the use of joint teams and joint venture formed with a mix of domestic and foreign participants. These teams will be broken down into small flexible private developers. These developers will break away from their foreign counterparts and become the future quality managers of our country.

Opportunities for Foreign Business Activities

The Northern Bohemia Revitalization program provides diverse opportunities such as:

■ Taking part in revitalization planning

- foreign consulting companies will be hired for the participation on set-up and implementation of the Master Plan
- environmental monitoring and control system and laboratory equipment
- outline, design, delivery and maintenance of the territory information system

■ Participation or individual enterprises in construction projects. Many fields are available: industrial reconstructions, new technology implementation, infrastructure development, etc.:

- consulting and engineering
- capital and management participation
- contractor or supplier
- project management

■ Industrial and business joint ventures in traditional branches based on local raw materials and labor sources:

- capital participation
- strategic planning assistance and marketing
- operations management
- new product line design
- quality management techniques

■ Enterprises founded by a foreign company in a new business branch:

- cooperation with local producers
- production and sales using own experience

■ Other forms of entrepreneurial participation:

- Business know-how
- contracts with dealers
- contracts based on commercial services
- management consulting and training contracts
- international data system service contracts.

their business partners, both domestic and from abroad. In addition the Union helps to find sales, manufacturing cooperations and financial participation or participants. The Union provides consultant services in operational and technical tasks, in commercial, legal and economical problems, and can help in investigating new technologies and investment opportunities. The Union works with an emphasis on the humanization of lifestyle and environment.

The Union has 27 member organizations today. This number comprises 23 manufacturers, the rest provides service in research and engineering. The Union possesses an information base and uses qualified assistance for their members to the benefit of all. The knowledge background enables them to provide assistance directly to foreign businesses to find the proper counterpart for their interest and to contact domestic and foreign partners with proven local specialized consultants. Through these operations the Union will contribute to success, and attempt to avoid or decrease business risks.

Domestic Firms Prepared for Business Cooperation

Northern Bohemian Economic Union

This Union was established in 1990 as an association of industries, research and service organizations, all residing in the Northern Bohemian coal basin districts. The Union integrates and coordinates actions of member organizations when dealing with authorities and self-governed bodies. When dealing with trade unions the Union acts as a deputy of employers.

The Union aims to increase the collaboration between the Union's members and

Member Companies of Northern Bohemia Economic Union

The Northern Bohemia Brown Coal Basin - SHD

SHD, společný podnik, 434 51 Most

tel.:(035)7850

The Northern Bohemia coal basin area is 1,400 square kilometers; this number includes 850 square kilometers of the coal seam. The brown coal has been mined intensively for more than one hundred years, total extraction to date totals over 3,000,000,000 tons.

In the basin the coal is mined in eight surface-mining locations. There is available 2,200,000,000 tons of coal in the existing surface mines. Known coal reserves of 1,800,000,000 tons are available for future mining in development mine sites, which are planned to open after 2030. In total 1/3 of that stock is of first quality brown coal, which may be treated in coal treatment plants and can be used for combined power and chemical processing. Two thirds of the coal stock is coal for burning in power plants.

In addition four deep mines have 50,000,000 tons of coal reserves. Annual output of the basin was 60.7 million tons of brown coal in 1990. Thus the share of this basin from the total brown coal output in Czechoslovakia comprises about 72.5 percent and more than 57 percent of the total solid fuels output. The long-term trend of extraction development is estimated to be 41.5 - 50 million tons in 2005.

To date national enterprises have been integrated into one common enterprise SHD - Northern Bohemian Brown Coal Mines, Most.

Enterprises joined into common enterprise SHD include:

Name, town

Doly a úpravny Komořany, Most-Komořany
 Doly Bílina, Bílina
 Palivový kombinát, Ústí nad Labem
 Doly Nástup, Tušimice
 Doly Hlubina, Litvínov
 Báňské stavby, Most
 Rekultivační výstavba, Most
 Báňské projekty, Teplice
 Výzkumný ústav hnědého uhlí, Most
 Krušnohorské strojírný, Most-Komořany
 SHD - Komes, Most
 Výpočetní technika SHD, Most

Branch:

coal mining & dressing
 coal mining
 integrated coal works
 coal mining
 underground mining
 mine construction
 reclaiming construction
 mining engineering
 brown coal research
 mine engineering works
 commercial service
 DP & computer service



The giant mining machine RK5000 in the surface-mine near Most

Válcovny trub, a.s.

43023 Chomutov

tel.:(0396)2318

One of the oldest manufacturers of one piece pipes; the company was established in 1870, and in 1887 was bought by Mannesmann. It was given the task to develop and implement the production of one piece pipes - and the first one in the world was made here. The plant was widely recognized. It also implemented the production of austenitic alloys for nuclear power station installations. The annual output was 80,000 tons in 1950, and since 1980 it has been increased to 400,000 tons. Half of the output was exported to the USSR, 10 percent to other European countries and 40 percent was consumed in ČSFR. Deliveries can be completed by Czech, German, or Soviet standards, and by ASTM, in all steel quality marks. The manufacturer has been approved for all deliveries in AK quality by TÜV, and possesses an allowance of Lloyd's Register of Shipping for pipes to DN 720 and wall thickness to 35 mm. They have their own testing facility for non-destructive tests.

ZKL - Závody kuličkových ložisek, a.s.

43151 Klášterec nad Ohří

tel.:(0398)935321

Fabrication of bearings.



Povrly - rolled sheets from non-ferrous metals

Member Companies of Northern Bohemia Economic Union

České energetické závody Praha, s.p.

11149 Praha

tel.: (02)2368327

The Czech Power Plants have their plants, substations and lines in all regions of the Czech Republic. In Northern Bohemia they operate 6 large power stations, all combusting North Bohemian brown coal. The total output of these 6 plants is 5010 MW, but it has been limited by the government since the beginning of 1991:

power station	output (MW) allowed to:	1990	1991	1995	1996
Tušimice I (6 x 110 MW)		660	330	220	0
Pruněřov I (6 x 110 MW)		660	440	440	440
Ledvice (1 x 200 a 4 x 110 MW)		640	640	440	440
Počerady (6 x 200 MW)		1200	1200	1200	1200
Tušimice II (4 x 200 MW)		800	800	800	600
Pruněřov II (5 x 210 MW)		1050	1050	1050	1050
total output (MW):		5010	4460	4150	3730

These power stations were constructed in the sequence shown in the table. The oldest one - Tušimice I, started operation in 1965, and the newest one - Pruněřov II, in 1979. Serious problems caused the amount of sulphur dioxide in the fluidized gases and discharged into the air. The desulphurization plant was built in Tušimice II, with not fully satisfactory results. Concurrently ČEZ has been considering the use of fluidized bed combustion technologies and coal gasification.



The power station Pruněřov II - a part of one turbine unit in the machine-hall



Válcovny trub Chomutov - manufacturing of one-piece-pipes, one of the final operations

Dům techniky ČsVTS

40011 Ústí n.L. tel.: (047)43103

The house of new technology - conference and training center.

TONASO, s.p.

40331 Ústí n.L. tel.: (047)6903

A chemical plant for soda production, an industry with a one hundred year old tradition. The enterprise has its own river harbor on the Labe River which is used for the transportation of bulk raw materials.

Spolek pro chemickou a hutní výrobu, a.s.

40032 Ústí n.L. tel.: (047)26300

Unified Chemical Works in Ústí nad Labem was founded in 1856 and now has 5,000 employees. The basic factory is in Ústí nad Labem, and beside that it has four other production units. The sum of sales was 3,300,000,000 Crowns. The product line includes:

- basic and special anorganic chemicals
- organic chemicals
- synthetic resins
- organic coloring matters
- auxiliaries for textile, paper and leather processing - home chemistry products

The company hopes to solve all environmental problems of its activity in the near future, and offers a collaboration in its production lines branch, e.g. by creating a joint venture. Spolek can offer its own inventory fund and qualified personnel, and welcomes capital participation for the implementation of new products.

Čížkovická cementárna a vápenice, s.p.

41112 Čížkovice tel.: (0419)725270

Cement and lime works - this industry has a tradition here from 1898. A new production facility was put into operation in 1975. Annual output is 670,000 tons of cement, and 170,000 of lime. Cement produced here fulfills all requirements of standards DIN and FN 196. Twenty five percent of annual cement production is exported to Germany. The quality has been now tested in LGA Nuremberg.

Prefa, a.s.

40082 Ústí n.L. tel.: (047)62740

This factory fabricates structure elements from precasted concrete, and produces and delivers wet concrete mixtures to contractors at construction sites, and pre-fabricates and delivers steel reinforcement skeletons. Prefa welcomes a collaboration in manufacturing and sale of reinforced concrete structure elements and in other construction business branches.

Severočeské papírny, s.p.

41108 Štětí tel.: (0411)92501

North Bohemian Paper Mills are the greatest producer of cellulose and paper in Czechoslovakia. The main factory in Štětí and four other works have an annual output of bleached cellulose of an amount of 250,000 tons, and 100,000 tons bleached cellulose. They are the only producer of newspaper paper in ČSFR now. Estimated output in 1992 is 100,000 tons. The annual amount of other kinds of paper and cartoon is 200,000 tons, incl. 30,000 tons of wrapping paper and 80,000 tons of paper for heavy paper bags, and 44,000 tons of bitumen insulation biases. The main works in Štětí have a very advantageous site by the Labe River with a good railway and road connection conditions.

Cukrovary, s.p.

43801 Žatec tel.: (0397)3895

Sugar works in Žatec, district Louny, include four factories producing raw beet sugar for industrial processing and several other products.

The enterprise offers free area and sheltered spaces and rooms in the closed sugar factory in Lenešice (site area 18 hectare)

and free parts of sugar factory in Postoloprty. There are railway tracks in both places. A partner for assistance in the solution of water treatment problems in Doksany will be welcomed.

ELBA

40035 Ústí n.L. tel.: (047)28751

ELBA is an organization providing engineering services in construction and related assistance. ELBA performs all tasks from the first negotiations with authorities to the final construction evaluation, and offers engineering and design works for recoveries of buildings and remodelling of equipment, etc.

Narcis, s.p.

41731 Novosedlice tel.: (0417)29679

This small state enterprise offers landscaping work in municipal and industrial construction, in the maintenance of natural parks and public areas, and in environmental reclaiming of land damaged by industrial activities.

ČSAV, sociálně-ekonomický ústav

40011 Ústí n.L. tel.: (047)43850

The Czechoslovak Academy of Science research institute for social and economic problems and solutions.

Severočeské teplárenské závody, s.p.

43401 Most tel.: (035)6516

North Bohemian heating plants and networks are a producer and distributor of heat in district heating. The heat is transferred in steam or pressurized hot water to industrial and municipal customers. The total installed thermal output is 1493 MW. The boilers are fired by brown coal, oil or gas. Some amount of heat is purchased from ČEZ - from power plants.

The enterprise is now facing the task of replacing the output of heat and power station Komořany (2 x 32 MW) with a new brown coal combustion or gasification technology with combined steam and gas cycle. There is a need for the improvement of small heating stations in the town Děčín, Litoměřice and Teplice - Novosedlice, and in heat and power station Trmice, where a new boiler with fluidized bed combustion is planned.

Other significant companies in Northern Bohemia coal basin districts

Company/Address/Telephone

Chemické závody ČSSP, s.p.
chemical works
43670 Litvínov
(035)6575

Severočeské chemické závody, s.p.
chemical works
41017 Lovosice
(0419)3701

Sklo Union, a.s.
glass works
41674 Teplice
(0417)3141

Železářny Chomutov
steel works
43013 Chomutov
(0396)3477

Kovohutě Povrly, s.p.
special alloys
40392 Povrly
(047)9462

Šroubárna Žatec, s.p.
screw fabrication
43842 Žatec
(0397)2611

Desto, s.p.
vehicles and machines
for material handling
40528 Děčín
(0412)26911

Severočeské tukové závody, s.p.
chemical works
(organic chemistry and cosmetics)
40129 Ústí n.L.
(047)31810

Elektroporcelán Louny, s.p.
electrical insulators
44015 Louny
(0395)2301

EKOFORUM
Northern Bohemian
environmental movement
Mr. Veselský
41500 Teplice:
(0417)27311