

Land Use and Coal Development in North Dakota

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Future coal energy development in southwestern North Dakota should be based on and guided by the concept of balanced development. Balanced development seeks to realize the most desirable combination of economic activities deemed to be in the long term local, regional, state and national interest. It must consider socio-economic and environmental factors that affect man's total well-being. It must recognize the natural environment as an integrated, sensitive system of land, water and air resources. It must stress the need to ensure that the health and stability of this resource system is maintained. It must regard all land as an irreplaceable resource and seek to ensure that its use does not impair its value for future generations.

In pursuit of balanced development that is capable of ensuring future public health, welfare, safety and comfort, there is need for area residents and representatives of local and state government to discuss and reach agreement on goals, objectives and priorities for future development. Major issues to be addressed include:

1. Evaluation of long term versus short term economic gains.
2. Impact on agriculture in terms of competition for labor, land and water.
3. Environmental and socio-economic impacts of various levels of industrial development.
4. Financial resources and the extent of participation of the industrial sector in providing required services and facilities to meet the needs of an increased population.
5. Means of achieving and maintaining a balanced economy in the event that certain segments of industry choose to leave the region.
6. Adequate protection for unique features.

Balanced development should allow and accommodate a consistent and steady population growth to a level determined to be in the long-term interest of the study area. The rate of growth must be in consonance with the ability of localities to provide for education, housing, health services, water and sewer facilities, police and fire protection and the needed institutions to maintain an acceptable level of governmental services. In this respect, there is need for a strong channel of communication between the private and public sectors. The extent of growth, however, should be influenced by the people of the area based on their emphasis and support for those objectives and policies of balanced development outlined later.

Balanced development for the Little Missouri Grasslands Study area as defined above can only

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NORTH DAKOTA STATE PLANNING REGIONS



■ LITTLE MISSOURI GRASSLANDS STUDY AREA

be achieved through coordinated planning and decision-making by local, state and federal units of government for the entire multi-state coal bearing region (Fort Union Formation). This must include active and continuous participation in the planning process by the private sector, special interest groups and citizens in general. There are limitations to the power and effectiveness of any one governmental unit acting on its own to achieve balanced development. Many governmental decisions made at state and federal levels will be the major determinates that influence future coal energy development in the study area. It is necessary that there be adequate input by residents and local units of government into the decision-making process of state and federal government. Two assumptions for balanced development in the study area are:

1. There is a national right to the development of the lignite reserves in the Little Missouri Grasslands Study area to meet national energy needs to the extent that such development is deemed reasonable and in the long-term interest of the area and the state.
2. Diversification of the present predominantly agricultural economic base of the study area through increased coal energy development is in the long-term interest of the area and the state.

Basic Information Requirements

In the pursuit of balanced development in the study area, there is some basic information that must be available to make sound decisions about future development. At the present time, however, some of this required information is not available and must be obtained. The present major limiting factors or voids in information are as follows:

1. *Location and Quantity of Coal Resources:* Published information on the location and quantity of strippable lignite in the study area is too incomplete and unreliable to allow meaningful public involvement in the

planned development of this resource. This information is essential to planned development, and the responsibility for obtaining accurate and reliable information should be shared by the federal government, states and private industry.

The most current information on the extent and location of the strippable lignite resources in North Dakota has been obtained by the private sector through recent exploratory drilling. Information that pertains to coal and other energy resources must be made public. Consideration should be given to adoption of federal and/or state legislation that would require privately held information on the location and quantity of strippable coal be made a matter of public record. Some firms have indicated a willingness to disclose this information. Management of nonrenewable natural resources such as coal should be a joint responsibility of government and the private sector. The complete release of privately held information on non-renewable natural resources, particularly those resources that are important to national energy needs, would help restore public confidence in the reliability of reported information.

2. *Ownership and Allocation of Water:* Agreement must be reached between the federal government, states and Indian reservations in the coal bearing area on the ownership and right to allocate water for developmental purposes. It is impossible for any one state in the coal bearing area to make valid commitments for the future use of water without legal assurance as to the ownership and control of this resource. Currently, meetings are being held between federal and North Dakota agencies to reach agreement on this matter. Representatives of other states from the coal bearing areas should also be involved in these meetings.
3. *Ground Water Studies:* Federal, state and county units of government should give a high priority to conducting or completing ground water studies in areas proposed for coal energy development. These studies should especially concentrate on gathering detailed information about the ground water resources between one and 200 feet below the surface; most of the water presently used for domestic and agricultural purposes is taken between these depths. Precautions must be taken to assure that water at these levels does not become contaminated from mining or coal energy development. At the present time, no ground water studies have been completed for McKenzie, Golden Valley, Billings and Slope

counties in the study area. Consideration should be given to state legislation that would require coal energy industries to provide evidence through extensive ground water studies that planned development would not be harmful to ground water. It is essential that this information be available before locations for mining or coal energy development are approved.

4. *Reclamation of Strip Mined Lands:* A coordinated effort must be made by all states of the coal bearing area to conduct required field studies to determine appropriate methods for the reclamation of strip mined lands. Such studies must also focus on the estimate of time needed to put strip mined land back into production and determine its suitability for different agricultural uses. Some of this research is presently being undertaken by federal agencies. However, there should be increased effort and cooperation to complete these studies.
5. *Environmental Impact of By-Products From Plants That Utilize Lignite:* A high priority should be given by state and federal government to conduct detailed research to measure the impact on the environment of by-products from energy producing plants that utilize lignite. This is perhaps the most critical, unanswered question about coal energy development. This research should include investigations of atmospheric conditions throughout the coal bearing area to determine (a) possible accumulative buildup or impact from potential plants at assumed locations, and (b) distances that effluents might be carried before they reach the earth's surface. The extent to which large quantities of SO₂ in the atmosphere would react with atmospheric water to form sulfuric acid (H₂SO₄) could greatly reduce the productivity of the land as well as be a hazard to the health of humans and livestock.

Major Determinates Affecting Future Development

In planning for the future of the nine-county study area, it is particularly important to understand that many of the major decisions that will affect future development will be made by agencies of the federal and state government. Powers available to units of local government to influence future development are limited. Residents of the study area and state must clearly understand actions taken at state and federal levels of government that will influence future development. Residents of the study area as well as units of local government must have input into decisions made at state and federal levels of government that will greatly affect their future. The major determi-

nates to be acted upon by agencies of the state and federal government that will affect future development are as follows:

1. *Environmental Impact Analysis*: The future level of environmental quality throughout the coal bearing area as well as the nine-county Little Missouri Grasslands Study area will largely depend on evaluations and actions by agencies of the federal government on environmental impact statements for proposed development. The National Environmental Quality Act requires environmental impact statements be prepared by appropriate federal agencies for development that requires some form of federal action. Unfortunately, federal legislation does not require private industry to prepare and submit environmental impact statements. Private industry should, however, be required to prepare environmental impact statements for review by the Environmental Protection Agency and state government for all proposed coal development.

The National Land Use Planning Act was recently defeated in this Congress, but we expect that a modified version will pass in the near future. This act required states to regulate land use for all large-scale development considered to be of more than local significance (this would include coal energy development). The state should act now to use whatever means are available to require the coal energy industry to file environmental impact statements with the state for all proposed development. The analysis of these environmental impact statements should be undertaken jointly by appropriate agencies of state government in each of the four coal bearing states. This is essential as development that occurs in any one state could possibly have as large or even larger impact on a neighboring state. Joint review is necessary to determine the accumulative impact that coal energy development throughout the coal bearing area would have on any one or all states.

Particular attention should be given to preventing overdevelopment or concentrations of development in any one area that would result in accumulative adverse socio-economic or environmental effect. It should be recognized that environmental impact statements consist mainly of conclusions that are drawn from existing information. Much of the information needed to properly assess environmental impacts of coal energy development is not available, and because of the large expenditures that might

be necessary, it is unlikely this information will be provided by environmental impact studies. The states working in cooperation with agencies of the federal government should take immediate steps to obtain all necessary basic information essential for environmental analysis.

It is doubtful that any one state has or could obtain the necessary qualified staff to make complete reviews of environmental impact statements. Consideration should be given to the advisability of forming a multi-state unit of specialists to serve in an advisory capacity and provide assistance to agencies of state and federal government to analyze environmental impact statements and conduct research on problems associated with coal energy development. If the states would pool their resources and efforts in this manner, it would improve the quality and reliability of information obtained and minimize expensive repetition of coal energy related studies.

It is particularly important in considering socio-economic consequences that would result from coal energy development that there be adequate input from citizen organizations and individuals from the area in which the proposed development would occur. The residents of an area who would be directly affected by proposed development should have every opportunity to express their views as to how they believe proposed development would affect their area.

2. *Leasing of Federally Owned Coal*: Another major factor that will affect the extent and location of future coal energy development in the coal bearing area of the Northern Great Plains states is federal policy on leasing of federally owned coal reserves. At the present time, there is a moratorium by the federal government on the leasing of federal coal interests in the Northern Great Plains states, but there is increasing pressure by the private sector for the government to remove this moratorium. The leasing of federal coal interests is of particular significance to the nine-county Little Missouri Grasslands Study area, as the federal government (acting through the Bureau of Land Management) has a total of 3,394,710 mineral acres of coal interests in the area, or 41 per cent of the total area.

It is extremely important that the state of North Dakota, as well as other states of the coal bearing area, have a voice in future decisions on the leasing of federal coal interests. Consideration should be given to the desirability of federal policy that would

allow trading of federal coal interests with other parties. This increases the flexibility of site selections for mining and plants within extractable coal areas. In the case of the Little Missouri National Grasslands, located within the study area, this would provide an opportunity to trade federal coal interests outside the National Grasslands with Burlington Northern that has extensive coal interests under public land within the National Grasslands. Burlington Northern has indicated interest in the development of its lignite resources within the National Grasslands area.

The ability to trade federal mineral interests would be a significant step toward the flexibility required for selection of sites for coal energy development that would have a minimum adverse impact on agriculture and the natural environment in general. This could result in saving many unique features of southwestern North Dakota that might otherwise be destroyed.

3. *Leasing of State Owned Coal:* Another important factor that will affect the extent and location of future coal development in southwestern North Dakota is state policy on leasing of state-owned lignite deposits. The state of North Dakota, through the Board of University and School Lands, presently has a 100 per cent interest in 287,640 mineral acres in the Little Missouri Grasslands Study area. The state owns the surface as well as the subsurface on 270,427 of these acres. The state also has 50 per cent interest in 320,720 mineral acres in the study area which includes lignite. Future policy by the Board of University and School Lands for leasing the state's mineral interest will greatly influence the location of coal energy development. Local residents and units of local government should have an active part in the formulation of future policy for leasing the state's coal interests.
4. *Protection of Unique Features:* The state should work closely with local planning bodies and with citizen groups within the nine-county study area to determine the views of residents in identifying unique features that should be protected from future development. The state should take an active part in obtaining the views of residents throughout the entire state on this matter and it should be remembered as well that these are national resources. The Medora and Watford City Ranger Districts of the U.S. Forest Service who have responsibility for management of the National

Grasslands containing the Badlands should be an active participant in this process.

5. LEGISLATION:

- a. *Air Quality Standards:* In view of the fact that emissions from coal energy plants could have a detrimental impact on areas well beyond the state in which the plants are located, there is a need to have uniform air quality standards agreed upon by all states that might be affected by such development. It is important that uniform air quality standards be adopted and enforced by all states within the coal bearing area. This is particularly important in view of the fact that the federal government is presently considering lowering the national air quality control standards, including present federal requirements for emission from electric generating plants. Consideration should be given to having the states of the coal bearing area enter into a multi-state pact that sets minimum standards for air quality control.
- b. *Taxation:* State laws on the taxing of coal energy industry should be carefully studied by state and local units of government to determine the adequacy of these laws to produce revenue for state and local units of government so they can provide services and facilities to support the increased population that would result from employment by the coal energy industry. Laws should also be reviewed to determine their adequacy for equitable distribution of tax revenues to those political subdivisions in which the increased population would reside. Because of the fact that lignite is a non-renewable resource, consideration should be given by the North Dakota State Legislature to adoption of a severance tax on lignite with the provision that tax receipts be deposited in a permanent trust fund. The permanent trust fund would be comparable to the trust fund established by the U.S. Enabling Act of 1889 for the deposit of funds received by the state for the sale or leasing of State University and School Lands. Payments by the Board of State University and School Lands to the common schools and universities is confined to interest and income made from the investment of funds in the permanent trust funds. States within the coal bearing area have different tax laws that might affect the coal energy industry and these laws should be compared to determine how differences might

affect the location of coal energy development.

c. *Water Permits:* At the present time, the power of the State Engineer and State Water Commission to review and act on applications for water permits is one of the means available to the state of North Dakota to influence coal energy development. The authority invested, however, in the State Engineer under Chapter 61-04 of the North Dakota Century Code enacted in 1905 appears to limit consideration of an application for a water permit by the State Water Commission to determining the availability of water as requested by the applicant and whether or not the intended use will have an adverse affect on water users with a higher priority. The law does contain language to the effect that action taken on a water permit shall include consideration of the public interest; however, the law does not define what is meant by the public interest and this provision is therefore open to question as to what was intended by the State Legislature according to the staff of the State Water Commission. It would seem appropriate for the state to make a liberal interpretation of the provisions of Chapter 61-04 of the North Dakota Century Code and consider the consequences of all pertinent factors that relate to coal energy development before applications for water allocations are approved. Consideration should be given, however, by the State Legislature to amending Chapter 61-04 of the North Dakota Century Code to clearly provide authority to the State Engineer and the State Water Commission to consider all pertinent factors in considering applications for water permits. This should include consideration of the extent to which development should occur as well as appropriate locations for development. If this authority is not specifically granted by law to the State Engineer, it should be given to some other agency of state government.

ORGANIZATIONAL STRUCTURE FOR PLANNING

The Little Missouri Grasslands Study area is not an island unto itself; balanced development in the nine-county study area can only be accomplished through balanced development in the entire coal bearing area of the Northern Great Plains states. One of the essential requirements in pursuit of balanced development is to have a well-defined organizational structure to coordinate planning and decision-making. This structure

should include representation from units of federal, state and local government with adequate provision for input from citizen groups, private enterprise and citizens in general. The following suggests how this could be accomplished and what the designation of responsibilities should be.

Multi-State and Federal Levels: There is a definite need to establish a resource planning group at the multi-state and federal levels in the coal bearing areas of North Dakota, Montana, South Dakota and Wyoming. An appropriate name for this planning organization is the **Fort Union Resources Planning Council**. The primary purpose of the Fort Union Resources Planning Council would be to coordinate planning and decision-making at multi-state and federal levels and assure that input on goals, objectives and priorities for future development, determined at local levels, become an integral part of the state and federal decision-making process. Another of the functions of this planning council would be to make recommendations to the four states on:

1. Schedules, extent and locations of industrial development from a multi-state regional viewpoint.
2. Environmental impact statements for proposed development.
3. Leasing of specific tracts of federally-owned coal.
4. Leasing of state-owned coal.
5. Protection of unique features.
6. Legislation on air quality standards.
7. Taxation of energy producing industries.

In addition to making recommendations to the four states and coordination of goals and policies, this planning body could coordinate efforts to obtain needed basic information that is not presently available. This information is essential in planning for future resource development in the coal bearing area and, as previously mentioned, includes:

1. The location and quantity of strippable coal reserves.
2. Ownership and right of allocation of water.
3. Information on ground water.
4. Methods and practices required for successful reclamation of strip mined land.
5. Impact on the environment of by-products from coal energy development that utilizes lignite.

This multi-state and federal coordinating planning body could be established by one of the following means:

1. Appointment of a multi-state, federal coordinating resources planning council consisting of representation from each of the states of the coal bearing area and the federal government. In this regard it would seem appropriate to have two representatives from each state, one from the legis-

lative branch, one from the executive branch and one representative from an appropriate agency of the federal government.

2. Incorporation of a coordinating resources planning function into the responsibilities of the Old West Regional Commission. (This might pose some problems as the Old West Regional Commission includes representation from six states two of which are located outside the coal bearing area. Also, the Old West Regional Commission is a Title V commission created by Congress with specific responsibilities and powers which might preclude the incorporation of a multi-state, federal resources planning function within the structure.)

In addition to the multi-state, federal Fort Union Resource Planning Council, it would be necessary to draw together a staff of persons with planning experience to assist in carrying out the responsibilities of the council. This staff would coordinate efforts to obtain the basic information required for planning as discussed previously. The staff would draw upon the advice and expertise of a multi-state group of specialists also discussed previously.

Multi-County and State Levels: In addition to a resource planning council at the multi-state and federal levels of government, it is necessary to have a means of coordinating planning within the coal bearing areas of each state represented on the multi-state and federal Fort Union Resources Planning Council. In North Dakota, this could be accomplished through designation of representatives from multi-county State Planning Regions I, II, VII and VIII and the state government to serve on a Western North Dakota Resources Planning Council. It would be most desirable to have the North Dakota representatives from the proposed Fort Union Resources Planning Council serve on this body with representatives from local units of government, citizens in general and coal energy interests. The main objective of this body would be to reach agreement on goals, objectives and priorities for future development in the coal bearing area of North Dakota. Input from area residents, citizen organizations and private enterprise could be received by this body for consideration.

It is extremely important that a multi-county and state planning coordinating body be established at the earliest possible time, as extensive coal energy development in any one of the four state planning regions could have a substantial impact on an adjoining region. This is particularly true with regard to proposed coal energy development presently being considered for Mercer and Oliver counties in State Planning Region VII. Extensive development in those two counties

would have a substantial impact on counties located in adjacent State Planning Region VIII. Much of the information required for planning in State Planning Regions I, II and VII is presently being gathered by the Northern Great Plains Resource Program. This information should be brought to the same level as that provided by the Little Missouri Grasslands Study for State Planning Region VIII.

In planning for State Planning Region VIII, it is important that a working relationship be established between the Roosevelt-Custer Resource Conservation and Development Council, the planning body for that region, and comparable multi-county planning bodies in the adjoining states of Montana and South Dakota. This could be coordinated by a multi-state and federal Fort Union Resources Planning Council. Coal energy development in any one of these three states that occurs close to a state boundary could have as great or even greater impact on the adjoining state than the one in which the development occurs.

In organizing for multi-county state planning coordination in the four state planning regions of western North Dakota, it should be understood that the Resource Conservation and Development Councils that presently serve as planning bodies for three of the four state planning regions were not created under state law and therefore have no legal status at this time. Consideration should be given to using the provisions of North Dakota's law on the joint exercise of governmental powers, Chapter 54-40 of the North Dakota Century Code, to give legal status to these planning bodies until such time as more appropriate state enabling action is enacted.

Local and Multi-County Levels: The Little Missouri Grasslands Study has provided a base for meaningful multiple land use planning for nine counties in southwestern North Dakota. This includes State Planning Region VIII, plus McKenzie county to the north. Copies of published reports, resource maps and related data produced by the study were provided to the Division of State Planning and will be made available to the Roosevelt-Custer Resource Conservation and Development Council, the multi-county planning body for Region VIII. The council should take immediate steps to disseminate results of the study and initiate public discussions throughout the study area. Representatives of special interest groups, private industry and residents of the region should be invited to participate in the discussions.

Once general agreement is reached, land use plans to guide future development can be prepared for each county. These land use plans will serve as a basis for the preparation of county zoning ordinances.