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**Czech minerals policy in transformation:  
the search for legitimate policy approaches**

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**Abstract**

Analysts of environmental policy in the former Communist states of Central and Eastern Europe have increasingly recognised the need to interrelate inherited social institutions and new political dynamics. This perspective is developed by examining the transformation of minerals policy in the Czech Republic, focusing on regulation of the aggregates industry. This sector highlights specific problems for

institutional ‘capacity-building’ for sustainable development. Efforts to move beyond the centralised, legalistic and poorly implemented regulatory regimes of the early post-Communist period encounter significant dislocation between bureaucratic capacities for data-gathering and effective mechanisms for the implementation of strategic policies. This reflects a particular concentration of expertise in the geological sciences rather than policy design, and the importation of policy mechanisms from other EU countries that depend heavily on multi-level planning, for which there is little capacity in the Czech Republic. Understanding hesitant regulatory transformations in the aggregates sector also show the need to articulate national-level analyses of capacity-building with the uneven progress towards ecological modernisation in particular economic sectors.

**Key words**

mineral resources, policy style, Czech Republic, sustainability, capacity-building

**Figure 1: Framework conditions in the promotion of sustainable development.**

<i>cognitive-informational</i>	environmental knowledge and the conditions under which it is generated, distributed, interpreted and applied, including values, cultural traditions and paradigms of policy development
<i>political-institutional</i>	including participative capacity, integrative capacity and capacities for strategic action
<i>economic-technological</i>	economic structure, state and direction of technological innovation

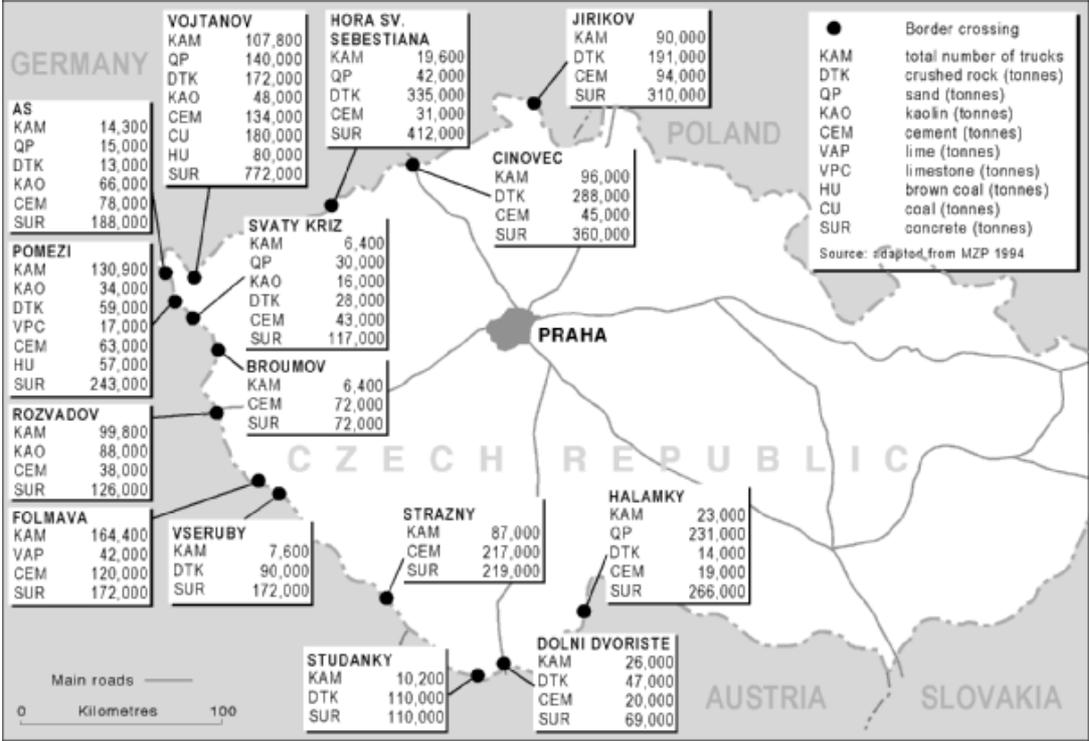
Source: adapted from Jänicke and Weidner 1997 (4).

**Figure 2: Extraction from reserved deposits, import, and export of crushed rock 1988 - 2001 (million tonnes)**

<b>Year</b>	<b>Total extraction</b>	<b>Import</b>	<b>Export</b>
1988	50.80	0.00	0.10
1989	50.48	0.00	0.03
1990	45.87	0.00	0.42
1991	26.66	0.00	1.29
1992	23.46	0.05	3.03
1993	22.62	0.23	2.60
1994	22.83	0.23	1.87
1995	24.36	0.38	1.15
1996	26.71	0.52	1.03
1997	29.28	1.06	1.21
1998	25.73	0.43	2.70
1999	25.49	0.49	0.66
2000	25.52	0.26	0.81
2001	26.18	0.26	0.77

Sources: Ministry of Environment, Ministry of Trade and Industry, Geofond.

**Figure 3: The transport of minerals and cement by road through the most frequented border crossings**



Source: adapted from MŽP 1994 (29).

**Figure 4: Extraction of aggregates from reserved deposits in selected landscape protected areas 1989-2001 (000 tonnes)**

<b>LPA</b>	<b>České středohoří</b>	<b>Český kras</b>	<b>Třeboňsko</b>
<b>Year/Commodity</b>	<b>crushed rock</b>	<b>limestone</b>	<b>sand</b>
1989	2762	4938	5009
1990	3416	4436	3971
1991	2087	2669	2043
1992	1918	2771	2442
1993	1764	2677	2981
1994	1746	2858	2659
1995	1583	2345	2426
1996	1755	2715	2576
1997	1909	3223	2591
1998	1666	3549	2115
1999	1296	3634	1781
2000	1314	3557	1655
2001	1375	3260	1435

Sources: Ministry of Environment, Geofond.

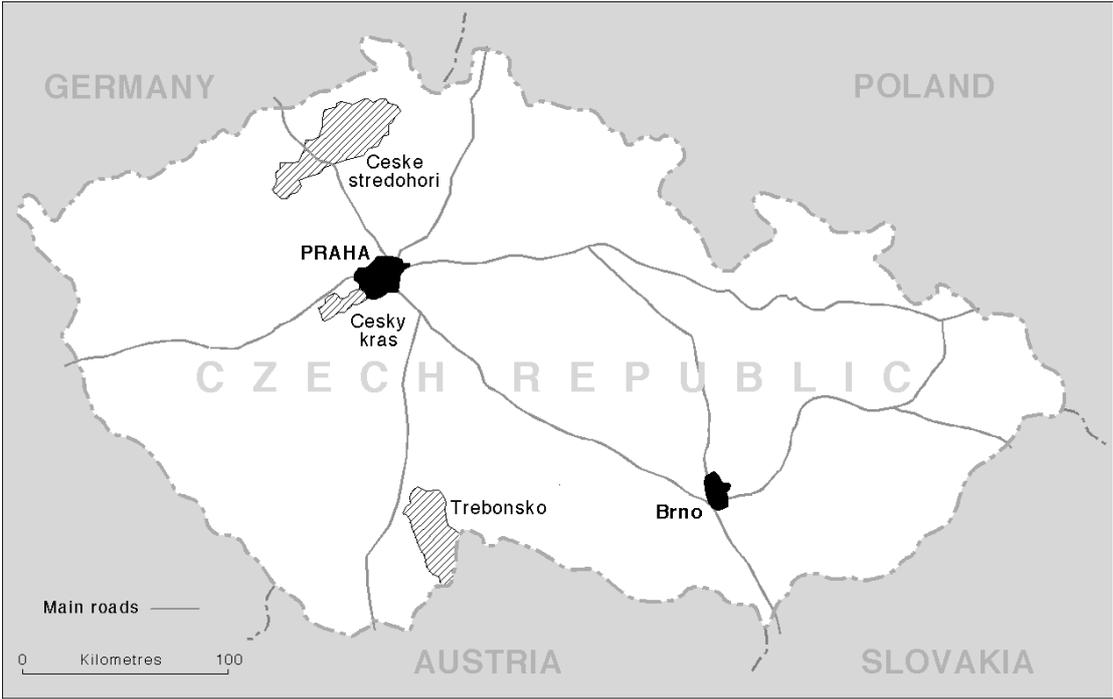
### Figure 5: Key stages in drafting the new National Minerals Policy

- a) the MIT prepared the first draft of the document, officially in co-operation with the ‘Council of Minerals Policy’;
- b) the MIT then invited experts from the MoE to provide their input in the first draft of the policy;
- c) the MIT on the basis of the result of an open tender commissioned a specialized consultancy company to conduct an SEA of the minerals policy, and produce an impact statement covering the likely environmental effects;
- d) both the draft of the policy and the statement were made open to consultation through the ‘usual means’ by the heads of district offices and mayors of statutory cities in order to solicit views and comments from the concerned members of the general public;
- e) at the same time these documents were submitted for comments to relevant parliamentary committees, professional and civil associations;
- f) using the grant provided by the MoE, the environmental group *Hnutí Duha* organized a public hearing with the consultancy that carried out the SEA;
- g) the draft policy was amended according to the results of the SEA and comments were obtained from the concerned public and submitted to the MoE for final approval (in accordance with Act No. 244/1992);
- h) the MoE issued its approval of the policy.

**Figure 6: The main goals of the Czech National Minerals Policy**

1. to create the conditions for securing the minerals requirements of the domestic economy while heeding the principles of sustainable development and environmental exploitation limits;  
to achieve the conditions common in countries of the EU in the area of utilization of domestic mineral resources and assessment of their availability;
2. to further decrease the consumption of mineral resources as a result of structural changes of the economy and technological advancement;
3. to reach the level of EU countries in lower consumption of limited resources of mineral raw materials by their efficient utilization and higher degree of utilization of secondary materials and recycling;
4. to specify raw materials policy in detail in particular regions and areas for purpose of decision making in the areas;
5. to supplement information systems in order to provide accurate lifetime data of reserves of individual kinds of mineral raw materials and introduce statistical observation of individual materials;
6. to resolve the issue of utilization of mineral resources in large protected natural reserves, by gradually reducing exploitation of mineral raw material in these areas.

**Figure 7: Locations of České středohoří, Český kras and Třeboňsko landscape protected areas**



## 1 INTRODUCTION

Within the ‘radically disjointed process’ of planning for sustainable development (1, p.167) much attention has focused on assessing national progress towards this complex goal. This is no easy task. One reason is that changes in environmental quality can give misleading messages about the capabilities a society possesses for grappling with long-term environmental, social and economic problems. These concerns are pertinent to the turbulent context of post-Communist Central and Eastern Europe (CEE), where improvements in the quality of the physical environment in the years following the collapse of Communist regimes can be attributed as much to declining production as to improved technology or regulatory institutions (2; 3).

Recognition of these difficulties has prompted interest in ‘capacity-building’, which is concerned with the constraints upon successful societal action to promote sustainable development (4). This approach requires that attention be given both to ‘the capability of organised proponents of environmental protection and the institutional, informational, and economic background conditions (or resources) for their actions’ (4, p.vi). The main dimensions of these background conditions - cognitive-informational, political-institutional and economic-technological - are summarised in Figure 1. Thus, Jänicke and Weidner invite policy analysts to take a broad approach to capacity; looking beyond the technical merits of policy instruments to examine the effectiveness of organised proponents of environmental protection (4, p.8) and the structural characteristics shaping the opportunity structures that they face. One important implication is that assessment of the ‘formal institutionalisation’ of sustainable development principles (in law, for example) should be set against the ‘substantive institutionalisation’ of capacities for effective policy formulation and implementation (5), and this means looking beyond the capacity of government to consider environmental groups, the media and firms, and the relations between them, the market and civil society (3).

*FIGURE 1 ABOUT HERE*

The conditions set out in Figure 1 are clearly relevant to understanding environmental policy-making, but a number of questions arise about this framework. The first concerns the appropriate level of analysis. Jänicke and Weidner (4) have concentrated on comparing *national* capacity-building against typical trajectories towards sustainability; similarly, many analysts of transition within former Communist societies identify national variations in pre- and post-Communist experiences as key explanatory variables (see 6; 2). A national emphasis has also dominated efforts to characterise variations in 'policy styles' (7) - the standard operating procedures for making and implementing policies and legitimising norms for political activity. Following Enevoldsen (8), however, national styles may not always transcend policy *sectors*. Many features of the national policy style may be reflected in sectoral governance but the latter can also exhibit distinctive capacities for, and constraints upon, institutional development. Since 'capacity pundits acknowledge the importance of the situative context in shaping capacity' (3, p.591), it makes sense that this can reflect the constellation of actors, technologies and environmental problems involved in a given sector. Moreover, in an era of growing national openness to global capital and supra-national governance – notably, in the CEE context, the European Union (EU) - the articulation between multiple scales and sites of policy development assumes increasing importance. While the capacity literature 'makes only latent references to what might be termed the global arena' (3, p.591-592), environmental regulation in different sectors intersect with uneven patterns of economic development and distinct networks of expertise running between, within and beyond post-Communist European states.

The second question emerges from the observation that while concepts of sustainable development may draw upon globalised principles, its operationalisation is keenly contested and practices in different locations exhibit distinctive characteristics. If identifying effective policy approaches for sustainable development requires sensitivity to differentiated, inherited institutional capacities and regulatory practices, then perhaps one should not expect capacity-building activities always to converge over time (9). This is important given that scholars of 'transition' in former Communist states emphasise the relationship between imported practices and institutions inherited from the Communist era in explaining their future development (see 6; 2; 10). Altvater (11) goes further, arguing that ideas of 'transition' that

assume a binary shift towards ‘modern’ societies and market economies must be qualified by specific national, regional and sectoral experiences of ‘transformation’.

This paper takes Jänicke and Weidner’s capacity-building concepts as a departure point for analysing the changing style of environmental policy in the Czech Republic (CR), focusing on minerals regulation, particularly policy for aggregates (crushed rock, sand and gravel).<sup>1</sup> Public policy for aggregates has received little detailed analysis within debates on post-Communist transformations, despite being a key resource for the economically powerful construction sector and having clear potential for environmental damage (12). The Czech experience of formulating strategic policies for minerals provides important insights for understanding progress towards sustainability in CEE, highlighting the additional value of disaggregating national experiences of transformation to address patterns of capacity-building within specific policy sectors. Policy can be linked to the particular couplings (and antagonisms) between sectoral change and the politics of regulation – state, market and societal - around a given resource (10).

The situative context is also illuminating for the extractive nature of the minerals industry, its interconnection both with non-material land-based environmental values and the politically powerful construction and transport sectors, makes it an awkward candidate for anticipating ‘win-win’ trajectories of ecological modernisation. It also highlights the multiple scalar dimensions of capacity-building. Although Jänicke and Weidner (4) do not identify strong local government as a determining factor in the effectiveness of environmental policy (13), in sectors such as minerals with significant site-centred environmental impacts, power relations around individual mines and quarries are undoubtedly of key importance. Where local authorities and communities raise few concerns about the effects of extraction, there is unlikely to be much pressure on national governments to reform their policy approach. Before turning to the case study, however, we expand briefly on the application of capacity-building concepts to Czech environmental policy-making.

## 2 CAPACITIES FOR EFFECTIVE POLICY IN THE CZECH REPUBLIC

From certain binary logics of transition, the CR might be regarded as one of the most advanced former Communist European states, being the first to join the OECD. However, its national policy style retains elements of state-centred technocracy characteristic of the Communist era. Firstly, there is a strong preference for creating a 'clean system' which means a policy drawn and implemented by experts (many of which are former Communist state bureaucrats) to which external actors have a restricted access. A second feature is a widespread belief that 'correctly' drafting law and selecting the appropriate instrument for implementation will guarantee the achievement of policy goals. One corollary is the propensity to determine policies with little attempt at sectoral integration. At the same time, national policy-making systems often exhibit considerable cognitive-informational capacities for data gathering and classification. Given the prevalence of highly-educated, technically and scientifically trained personnel is one of the most characteristic remnants of the socialist system (14), the national policy style exhibits a strong propensity to tackle any problem technically:

Complex problems are reduced easily to questions of technical knowledge or natural sciences. In the sphere of environmental protection, this tendency is perhaps even stronger than in other spheres, because it undoubtedly is an area where technicians, engineers, and natural scientists feel at home (14, p.452).

Because of this educational legacy, and the rigid departmentalism of former Communist bureaucracies, political-institutional capacities for analytical and strategic thinking are weakly developed.

The restricted participation of external actors is another legacy of Communism, although here things have started to change. In the second half of the 1990s, Czech policy-making became increasingly open to business interests. This is connected with the replacement of 'velvet revolutionaries' occupying key posts in the first democratic government of the early 1990s, with their loose connections to the economic sphere, by the political parties forming subsequent governments which have had far closer relations to business. Other changes in national policy style reflect marked political-ideological reactions to the Communist reign, in conjunction with international political and intellectual influences. Whereas

Communist ideology 'saw the solution to environmental problems as laying in better planning and improved management production activities' (2, p.8), under Václav Klaus's right-wing coalition, in office from 1992 to 1997, state intervention in managing demand or supply became anathema (16). With the election of the minority social democratic government in 1998 state action became less stigmatised. In many contexts, nevertheless, this machinery still operates within a narrow technocratic paradigm, lacking mechanisms either for combining information with effective action, or for improving political legitimacy through extending public involvement.

If Czech environmental policy through the 1990s illustrates many features of the national policy style, it also shows important differences. Firstly, despite Václav Klaus's discrediting of the environmental movement, it is still marked by greater access of actors from civil society, although the picture is highly differentiated between groups. Some Czech non-governmental organizations (NGOs) enjoy relatively open access, often being hired as expert advisors, attributable to the fact that they usually involve past employees of the Ministry of Environment (MoE) or friends of officials. Others, which are little different in their criticisms of government policy but which may be newer and have a history of direct action, remain marginalized. Secondly, the impact of the EU has had profound effects on environmental policy style, driving capacity-building in particular directions (3). Czech bureaucratic and political elites frequently look to European approaches as means of replacing inherited Communist state machinery. In practice, instruments and concepts have often been adopted in a 'hollow' fashion, focusing on formal codification in law and policy to pave the way for full EU membership (17). Consequently, environmental policy is a hybrid of institutions inherited from the past and adopted western instruments with little attention given to the feasibility or cost of implementation in domestic framework conditions (5). The position of planning provides a particular ideological and organisational mismatch. Whereas sub-national spatial and land use planning is regarded by the EU as essential for promoting more economically competitive, socially inclusive and environmentally sustainable patterns of development (18), it was a mere technical adjunct of central economic planning in Communist Czechoslovakia and, despite retaining its legal standing, remains weak (19).

It is our argument that particular policy sectors combine the capacities and constraints found in national and environmental policy styles in distinctive ways, as the case study of Czech minerals policy below elaborates. The analysis traces the regulatory system for minerals that emerged during the 1990s, focusing on the tentative steps towards a new national policy in the twenty-first century. What one observes is that although the new policy adopts the language of sustainable development, the government has given little consideration to how these principles may be carried forward. In explaining this attenuated policy development, four factors deserve particular prominence: the dominance of a geological science tradition within Czech public administration; the delegitimised status of planning and the weak institutional capacities for implementation at national and sub-national levels; and the absence of sustained public and NGO pressure. In the conclusions we consider possible routes for future capacity-building, but these must be understood within the shifting economic geography of Czech minerals extraction, which provides the fourth factor in our explanation, and it is this that we address first.

### 3 AGGREGATES PRODUCTION AND MINERALS POLICY IN THE CZECH REPUBLIC

#### **3.1 Environmental Impacts and Changing Policy Styles**

While brown coal production has ‘liquidated the landscape’ in much of northern Bohemia (12), the environmental effects of aggregates production in the CR are also significant. There is the noise, dust and air pollution associated with producing and transporting aggregates, the majority of which are moved by road, and the impacts of quarrying on landscape, ecology and local amenity. These effects have been intensified by the spatial concentration of aggregates production, with a disproportionate number of quarries located in landscapes designated for their national importance. More than 25% of Czech aggregates production<sup>2</sup> comes from landscape protected areas (LPAs), which cover 13.2% of the country.

*FIGURE 2 ABOUT HERE*

*FIGURE 3 ABOUT HERE*

These impacts have to be viewed in the context of wider changes in the Czech economy. Crushed rock production halved between 1989 and 1995 (Figure 2), following a decrease in GDP of 20% since the velvet revolution and the dissolution of state-subsidised, resource-intensive production (20). While domestic consumption fell, the same period saw an exponential increase in aggregates exports, responding to the reduction of trade barriers with the West. Price differentials were a major factor, with Czech aggregates being sold in Germany and Austria at prices considerably lower than domestic output. The high costs of exporting a bulky, low-value product like aggregates has meant that the environmental impacts of extraction and transport have also concentrated on a relatively small number of quarries, roads and border crossings (21; see Figure 3). Protected landscapes close to the borders with Germany and Austria have been particularly badly affected; notably the České středohoří and Třeboňsko LPAs (see Figures 2 and 4), with significant degradation of their distinctive landscape features. Some analysts regarded the growing export of raw materials as evidence that the CR was reverting to its pre-revolution economic base; being incorporated into the European economy as a bulk producer of cheap, energy-intensive products (22).

*FIGURE 4 ABOUT HERE*

Bound up with this dramatic environmental and economic history are more gradual changes in the organisational structures and capacities of the minerals regulation system. For much of the early 1990s, legislation dominated the national policy agenda. Mineral prospecting and extraction are regulated by three acts: the Geological Act No. 62/1988; the Mining Act No. 44/1988 (aimed at protecting and effective utilization of extracted minerals), and the Act on mining operation, explosives and state mining administration (No. 61/1988). These acts all originate from the pre-1989 period, and therefore reflect the Czech Communist style of issuing general legislation with few guidelines to assist interpretation and enforcement. The net product of the three Acts is a highly complicated legal

framework, leaving various parts of the state apparatus responsible for different categories of minerals. Efforts have been made to up-date the legislation, notably by introducing requirement that applications for mining proposals go through Environmental Impact Assessment (EIA) (in accordance with the EIA Act No. 244/1992). This innovation has had relatively little effect, however, given that few new applications have come forward since the collapse of Communism: thus the legacy of past mining rights is an impediment to improved environmental performance in the new economic context.

The collapse of Communism led quickly to the removal of top-down, productivist industrial planning geared to a strategy of meeting output targets, but other features of the minerals policy system have proved more enduring, particularly the centralised institutional apparatus and professional culture for data gathering. One legacy of the planned economy was that mineral operators had to provide Geofond - a state agency with responsibilities for mining data - with details of their exploration work as well as production figures (23). Deregulation and privatisation of the minerals sector has, in some instances, relocated this capacity: from 1997 the registration of information on aggregates exports shifted from the Ministry of Industry and Trade (MIT) to customs declarations, a step linked to the extension of the European single market. In other areas, resource appraisal has become more technically sophisticated. The Department of Geology and Protection of the Geological Environment (hereafter the 'Department of Geology'), part of the Nature and Landscape Protection section of the MoE, has embraced concepts of 'environmental geology', where minerals exploitation is linked through GIS to other dimensions of land use change.

Perhaps the most remarkable legacy is the dominance of geologists in the minerals and environmental policy communities and, indeed, their pervasive presence in Czech policy-making as a whole, many of which studied at the Faculty of Sciences of Charles University in Prague. The first post-Communist minister of the environment was a geologist; as was the environment minister in the Social Democratic government of 1998–2002. The three key officials in the MoE Department of Geology as well as the director of the MIT Department of Minerals Policy are all graduates of geology from the same faculty. The former minister of defence in the 1997/1998 interim government and subsequently an MP for

Freedom Union, and a former deputy mayor of Prague during the first half of the 1990s, both studied geology at the Prague Faculty of Sciences. So too did the Czech representative to the German-Czech-Polish project on The Black Triangle, sponsored by the EU PHARE Programme. A number of diplomats, including the second highest ranking officials at the Czech embassies in London and Ottawa are also geology graduates of the same faculty. If geomorphology is regarded as part of geology, the former Czech ambassador to the USA is also a member of the community of geologists-turned-politicians.<sup>3</sup>

This extraordinary pervasiveness can be explained by the priority that geology enjoyed under the Communist regime as a scientific discipline that was crucial for resource development in the planned economy. As a result, there was a relatively high number of places for geology students as well as job opportunities. At the same time, however, the Prague Faculty of Science often accepted students who, under the previous regime, were excluded from other universities for political reasons: as well as being geologists, these people were often involved in environmental protest and joined democratic political parties and movements at the beginning of the velvet revolution, achieving rapid promotion. With the demise of the former regime and the concomitant collapse in domestic job opportunities for trained geologists many sought employment outside their original profession.

The dominance of geologists has had deleterious impacts on the CR's political-institutional capacities. One concomitant has been the blurring distinction between regulators and regulated, with geologists often tooting and froing between working for commercial companies and state bureaucracies. Such close networks were dramatically exposed in gold mining, where an employee of the state Czech Mining Office (CMO) responsible for issuing permits and regulating extraction was found to be simultaneously working for the extraction companies.<sup>4</sup> Equally problematic is the fact that while these tight professional networks hold important cognitive-informational capacities for monitoring the minerals sector, they face difficulties taking the more overtly politicised steps of restructuring the direction of policy. With several exceptions (including the above mentioned environment ministers), large sections of the resource policy community have retained a technocentric, scientific operational culture, which hinders analysis of political, economic and social dimensions of environmental problems.

A related problem is that some regulatory arrangements for minerals have retained the centralisation associated with Communist rule. Mining companies seeking to operate or extend an extraction site have to apply to a regional branch of the CMO, the state mining authority, which supervises proceedings. Relevant environmental information may be required at this stage and the mining company, the municipality and other affected parties are consulted. While the MoE can check the legality of proposals under environmental law, responsibility for making a decision rests with the regional branch of the CMO. The enforcement of standards for dust and noise is a function of environmental health agencies (the Hygienic Services); compliance with air quality, water, forest and nature conservation legislation falls to the Czech Environmental Inspection. Gauging how far standards are actually enforced is extremely difficult (24). Czech minerals policy also reflects the national policy style in its heavy reliance on formal instruments of law and neglect of implementation, creating problems with legal loopholes. One prominent example is the system of export limits devised in the early 1990s. In this system, companies wishing to export aggregates needed to apply for licences from the MIT, with overall volume limits set for the export of different commodities. However, the licence system applied to the quarry *owners* not specific quarries, allowing the owner to distribute permitted exports to sites convenient for exporting.

To fully explain the implementation deficit in minerals regulation means situating these cognitive and institutional capacities in a wider social context. As Fagin and Jehlička (20, p.120) argue, ‘in a post-authoritarian period, legal instruments are not in themselves sufficient to bring forth the degree of participation that environmental abatement and democratic governance requires’. While companies making mining applications are required to submit confirmations that they have resolved all conflicts of interest to the regional CMO, local communities and municipal government in the CR have limited capacities to participate in decision-making (20; 25), and minimal leverage over the conditions under which minerals extraction can take place. Municipal councils had little autonomy under Communism - Czechoslovakia being more centralised than its CEE neighbours - and many are small in population (13). Although local municipalities subsequently became legally autonomous of central government, with

standing in many mining conflicts and statutory powers of land use planning, in practice local regulatory and planning action has been poorly resourced, incomplete, or not enforced (18; 26).

At the same time, only sporadically have the environmental impacts of aggregates extraction attracted public protest. In part, this reflects the broad experience of totalitarianism which left the Czech public with little faith in government. However, it is also necessary to recognise that quarrying activity and its technologies are a familiar presence and employer in many rural localities. Rural authorities typically associated with aggregates extraction not only lack the trained staff resources but often the will to confront sizeable, employment-providing enterprises. Only at Tlustec in north Bohemia, where a whole hill-top was threatened with removal, have the local community and municipality been vocal in their opposition and succeeded in getting the Ministry of Environment to restrict extraction.<sup>5</sup> Environmental NGOs, after an initial period of high activity in the early 1990s, have not sustained vigorous campaigns on minerals issues and many nature conservation groups share with the national geological agencies a preference for apolitical 'expert' stances and technical-managerial solutions.

In summary then, the fall of Communism has had uneven effects on minerals production and regulation, illustrating how 'existing capacity is rendered irrelevant or made inadequate by the emergence of new challenges' (27, p.11). The environmental despoliation of industrialisation was a galvanising issue in the political challenges to the old regimes, sparking an 'enthusiastic period' (28) of state policy formation, focusing on the most severe, politically visible problems. This included spatial limits being placed on certain forms of minerals extraction, notably strip-mining of brown coal. Other aspects of minerals policy show greater continuity. While central government retains significant data handling capacities and regulatory arrangements have improved, these centralised capacities provide weak forces for the critical re-evaluation of policy, especially in the absence of political or public pressure. Little has changed with the environmental planning capacities of local government, or with the continued state prioritisation of economic over environmental considerations (2). For much of the 1990s, the government was bogged down in debating the merits of reforming the system of mining laws.

That is not to suggest that nothing has changed, but the responses to new challenges highlight both the potential and limitations of post-Communist environmental politics. While aggregates exports have decreased since the mid-1990s they did not disappear and protected landscapes are still threatened by quarrying (see Figures 2 and 4). Pressures for bulk exports remain intense for brown coal and related products like electricity (20). The new rounds of uneven development experiences in the mid-1990s, notably the aggregates exports issue, also helped to create a sense of crisis in the traditional minerals policy approach and, in so doing, to galvanise pressure for change. These issues prompted the MoE's Department of Geology to produce a meticulous and, by standards of official publications, rather critical three-part report (29; 30; 31), examining the environmental impacts of minerals production trends. Changing relations with the EU were also influential here, since the EU Association Agreement (entering into force in 1995) required the repeal of the Czech system of export limits for commodities such as aggregates, removing one - albeit ineffective - mechanism for reconciling economic and environmental concerns. This 'structural imperative' of EU requirements was articulated internally (32; 33); some government officers argued that ending export limits meant that new measures were required to manage non-renewable resources, requiring a national policies with land use planning and measures to internalize the external costs of production (34).

The research carried out by the MoE prompted a wave of articles during the mid-1990s, both in specialized magazines read by environmentalists and in the mainstream press.<sup>6</sup> Environmental NGOs too pressed for a new minerals policy, although their prime motivation was the public and political concern surrounding the production of brown coal and gold. In the media, concern about aggregates extraction was superseded by a much fiercer public and political reaction to the prospect of gold mining at various locations across Bohemia. This was intensified by powerful discourses of environmental concern: unfamiliar pollution risks and foreign multi-national companies 'stealing' Czech land. However, the MoE's reports exhibited the traditional emphasis on extensive data collecting, and did not relate assessments of the environmental problems to the various institutions and interests involved, or connect domestic processes to events outside the country, despite concerns over aggregates exports. While the exports issue, conflicts over gold and the MoE's research stimulated debate, they had an elite quality that

gave little consideration to the effects of quarrying on communities and failed to spur any significant grass-roots activity. So, while it appeared that there was a clear opportunity for mobilising a significant policy change, this did not mean that appropriate capacities existed to construct a new strategic approach, as can be deduced from the ‘hollow middle’ of the new minerals policy.

### **3.2 The New Minerals Policy**

In 1999, the MIT published in co-operation with the MoE, an official document entitled ‘The Raw Material Policy of the Czech Republic in the Field of Mineral Materials and Their Resources’ (thereafter ‘National Minerals Policy’). By December of that year it had been approved by the Czech government. Prior to the government’s approval and in compliance with Act No. 244/1992, the document was subjected to strategic environmental assessment (SEA). To the extent that SEA is commonly regarded as a key instrument for environmental integration and thereby for shifting policy towards sustainable development, it could be argued that the process of producing the National Minerals Policy represented the beginning of a new and more coherent approach to environmental policy in the CR. Given that this was one of the first sectoral policies subjected to the SEA procedure, and given the vague character of the law on the SEA, the whole process was marred by some confusion. Nevertheless the protracted process of producing the new official minerals policy appears to have run along the lines set out in Figure 5 (35).

*FIGURE 5 ABOUT HERE*

The National Minerals Policy is a curious amalgam, reflecting the characteristic political vacuum of Czech policy-making in which political structures provide important determinants (32) - in this case a struggle between the geological competencies of the economic and environmental ministries. The MIT set up a ‘Council of Minerals Policy’ as a working party to oversee policy formulation, involving other government ministries, the CMO, minerals companies, trade unions and an environmental NGO.<sup>7</sup> However, initial drafts were prepared in isolation by the MIT’s Department of Minerals Policy, only to

be rejected by the MoE. Subsequently, the environment minister persuaded his counterpart in the MIT that the MoE should be treated as equal partners in the preparation of minerals policy: itself a significant organisational development. Far from leading to a collaborative text, however, the result was that the MIT were denied a right to modify sections written by MoE officials which were inserted, unaltered, into the text. While *Hnutí Duha's* involvement in the Council of Minerals Policy illustrates the growing legislative role of environmental NGOs with the post-1998 Social Democrat governments (3), formal consultation with other groups was minimal.

Turning to the text of the policy (see Figure 6), this too draws heavily on the particular cognitive-informational capacities of Czech administration. Provisions are dominated by what is quantifiable - with 31 of the 44 pages given to a lengthy description of historic trends: beyond this the analysis is superficial. The input of officials from the MoE's Department of Geology is clear but isolated and, as Figure 6 shows, borrows heavily from the globalised language of sustainability and approaches taken in other European countries.<sup>8</sup> In common with minerals policies elsewhere in Europe (37), echoes of ecological modernisation feature prominently, notably the encouragement given to efficient use and aggregates recycling.

*FIGURE 6 ABOUT HERE*

One should give due recognition to the importance of policy discourses as 'declarations of intent' which may have a persuasive role in shifting institutional norms. Yet the new language also serves to highlight weaknesses in political-institutional capacities; especially the inability of the actors involved to identify legitimate or appropriate levers by which environmental goals could be pursued. Indeed, during the SEA procedure, the vague character of the National Minerals Policy document came in for criticism. In response, the MoE issued its approval only on condition that those goals that had been formulated rather vaguely without determining deadlines and responsible institutions, would be specified greater in detail and that concrete tasks would be allocated to specific agencies (35). Thirteen such tasks were published in the form of an annex to the government's decree approving the official policy document. From the

environmental point of view the most important are: the analysis of economic instruments for minerals policy in EU member states; the analysis of principles of sustainable development in EU member states' minerals policy; the preparation of proposals for changes to Czech mining law on the basis of the analysis of mining law in EU member states; the development of regional minerals policies; the development of recycling programmes; the forecast of minerals consumption; the re-assessment of minerals resources in protected areas; and the development of a new system of taxes from mining claims. Arguably, only once these additional tasks have been completed will the CR have the basis of an effective minerals policy.

The interpretations of sustainable development used in Czech minerals policy suggest that the process of transformation, as in other spheres, is associated with 'the emergence of "search processes" to identify and institute new institutional structures of regulation and accumulation which are being crucially determined by the interpretation and implementation of "western" development discourses' (38). Tracking these search processes reveals the extending reach of professional 'epistemic communities' (39), and the framing effect of EU accession on institutional development. As in other areas of environmental policy, the achievement of European standards, based on investigations of EU member states, features heavily in the new minerals policy and annex. Given the weak position of environment ministries within CEE governments, it comes as a little surprise that Czech MoE often uses the process of legal and institutional approximation with the EU as a power enhancing tool by which they seek 'to outmanoeuvre rival ministries in a "two-level" game' (40). The importing of EU environmental *acquis*, with its emphasis on environmental integration, empowered officer demands for inter-departmental coordination, leading to the (albeit hesitant) efforts by the MoE and MIT jointly to prepare the National Minerals Policy. Perhaps more importantly, the traditional preserve of state mining interests in the state administration - the CMO - became involved in new policy development and was forced to share with the MoE some of its data.

The reality of these 'search processes' were that MoE Department of Geology officials drew their inspiration from a British review of European mineral planning systems (37), and took much of its

environmental language from English policy. The irony here is that although British neo-liberalism was much admired in the post-revolution political culture of the CR, the English system of mineral planning has a powerful, top-down planning apparatus, linking national demand projections, via technical bodies at the regional level, through to precise quantities of aggregates provision that local planning authorities must try to accommodate (41). As we shall see, inspiration may not lead straightforwardly to implementation.

### **3.3 From Formal to Substantive Institutionalisation?**

Overall, the new minerals policy shows how the powerful cognitive-informational capacities available to Czech state geological agencies have an uncertain relationship with those institutions that might be capable of substantively institutionalising a more sustainable approach to minerals regulation. In some areas strong connections can be forged with long-standing capacities, notably with the proposals for green taxes on all crushed rock aggregates,<sup>9</sup> which resonate with the still powerful pro-market ideology of the government. The Czech fiscal administration is better organised than elsewhere in CEE and the basis for a system of externality charges already exists, based on former Communist frameworks (15, p.11). Department of Geology experts have ambitious proposals for developing and differentiating the current externality taxes on mining;<sup>10</sup> adjusting taxes according to the environmental value of the land and the conditions in which extraction takes place (underground versus open cast pit extraction; and stepping up fiscal incentives for utilizing secondary and recycled construction materials. At the time of the research (winter 2001/2002) such ecological tax reform had yet to be implemented.

In other areas, the framework conditions for policy implementation are less conducive. First, as we have noted, there have been political problems for efforts to align technical expertise in the service of publicly accountable, integrated and effective planning. Part of the problem is ideological: Václav Klaus's administrations consistently voiced strong hostility to government planning, regarding it as tainted by the legacy of Communist central planning. In presenting the English approach to minerals planning at a conference, one officer involved in drafting the new Czech policies said (at interview) that he met with

the response that it is 'only planning, planning, planning - it's like under the Communists!' The concept of sustainable development was also regarded with suspicion, being derided by as 'a static dogma undermining economic development and resulting in state dirigisme' (cited in 42, p.vi-vii): so too was sub-national government, seen as an unnecessary, distorting administrative impediment to neo-liberal economic reforms (43). The subsequent Social Democratic governments of 1998 and 2002 gave greater voice to the view, always present within the Czech state apparatus, that there are significant shortcomings to neo-liberalism and a need for planning capacities at national and sub-national levels. Nevertheless, there are clear difficulties for 'policy learning' between governance systems with distinctly different institutional capacities. Those states which have most vigorously applied concepts of sustainability to minerals planning - notably the UK and the Netherlands - do so through detailed and multi-tier systems of planning. Clearly, while some have suggested that 'accession into the EU ... provides easy access to expertise and knowledge' in land use planning (44, p.22), generating action from knowledge requires resources and legitimacy unevenly available to Czech local government.

Second, and relatedly, the National Minerals Policy still exhibits problematic characteristics of the national policy style: a departmental style of operation with officials poorly trained for collaborative activities between policy sectors (45). The resulting tensions with transport policy are especially prominent, although here Czech minerals policy may simply be reflecting the limited integration of economic and environmental objectives within EU institutions, and the almost continent-wide intransigence of consumption politics around growing mobility. Building new Trans-European Networks is a major consumer of aggregates, notably the upgrading of Berlin-Prague-Vienna railway and the Prague-Dresden motorway, which will cut across (and presumably consume aggregates from) the Český středohoří LPA. Connections between areas of environmental policy are also weak. Selecting flue-gas desulphurisation equipment as an end-of-the-pipe solution to reducing acid emissions from Czech coal-fired power plants was expected to increase consumption of high-purity limestone by a factor of six between 1995 and 2000 (31), threatening the karst landscapes of Český kras LPA.

*FIGURE 7 ABOUT HERE*

A third issue is that where commitments to better planning are made, the National Minerals Policy delegates these tasks to new and poorly developed institutions, notably the self-governing regions intended to reform central government regional institutions. Experts and officials from central government departments and agencies expect that the key actor in the implementation of the CR minerals policy will be regional authorities employing civil engineering acts and regional mineral policies including, as the policy states, 'a territorial plan' (36, p.32). However, regional authorities were established only at the beginning of 2001<sup>11</sup> and at present suffer from severe staff and financial shortages. While achieving integration between elected regional government and the regional state administration was a key domestic rationale for setting up the authorities (43), many of their competencies have yet to be specified. In itself, the National Minerals Policy says little about the responsibilities of different state agencies, companies or the apertures available for public or interest group representation at regional level. Furthermore, the law on self-governing regions was framed by the incentives of EU integration, with the improvement of autonomous administrative capacities at regional level being important to facilitate participation in the structural funds after accession (43). All this might explain why regional minerals policies are being prepared centrally by the Czech Geological Institute and funded by the MoE.

At the time of our research (winter 2001/2002) only one regional mineral policy was completed, but one can detect a tendency towards 'contracted out technocracy' in these sub-national planning processes. The whole document collated a number of GIS-based scenarios drawing on regional development plans, supplemented by data on other kinds of land use, and organised its policies around the optimization of the distance of supply of minerals. Again, the shifting employment patterns of trained geologists may be casting a shadow. Many geologists and mining engineers previously working in state organisations were forced by the downsizing programme to leave for the private sector. Many of them began working in private consultancy but personal links from the past remain quite strong. As both state and private actors have a shortage of contracts, it seems that there are incentives at ministries

to provide jobs for their former colleagues. The decision to prepare regional minerals policies in the absence of regional bodies themselves invites this kind of speculation: after all it was the MoE that decided who would get contracts for the development of regional policies. This contracted out technocracy not only distorts the content of regional minerals policy but it is a poor substitute in the long run for developing capacities and skills in sub-national government (13). It also creates conflicts of interest, notably where consultancies with close links to the industry get involved in preparing minerals policies for LPAs.

This begs the question of whether greater impetus for effective implementation might be expected at the local level. Existing territorially-situated bodies such as protected area authorities are particularly interesting in this regard: partly because aggregates extraction has concentrated in numerous areas designated for their national scenic and ecological value; but also because protected area authorities enjoy legal competences and planning powers comparable to local authorities (see 15).<sup>12</sup> Indeed, the České středohoří LPA Authority has successfully used its regulatory powers to reduce the impacts of current quarrying operations but has also been vocal in advocating changes to strategic policy, many of which now find echoes in the new National Minerals Policy. Although threats to the romantic beauty of ‘traditional Czech landscape’ forms a deep-rooted basis for environmental concern in Czech society (9, p.156), political authority in some protected areas is disputed, with local communities regarding protected area authorities as instruments of centralised interference (15). Shifting the relations of governance within protected areas towards greater local representation may, in some locations, mean that priority is given to mineral production and employment. Wilson and Švihlová (13) point out that asserting the potential importance of local government as an alternative power-base for sustainability initiatives has to confront the limited tradition of autonomous local government action and political unwillingness to challenge the centre. In this respect, the weakness of local government reflects the weak development of civil society in general.

Changing relations in the sphere of economic-technological capacities also provide some, albeit uncertain, apertures for a new, more sustainable minerals regime. The European Commission has

expressed a distinct unwillingness to make aggregates provision a strategic environmental or economic issue, beyond the creation of a level terrain for international competition (46), suggesting that changing market regulation may be increasingly significant. Already privatisation and liberalisation has allowed a significant influx of foreign capital into the CR, with the British multinational Tarmac plc purchasing the former state quarrying company, *Severokámen*. New interest networks supporting improved environmental performance might develop, especially given Tarmac's efforts to take the environmental high ground in Britain with a series of independent environmental reports (47). To date, however, significant managerial autonomy is still devolved to the national level. Moreover, while international mining companies have proved supportive of narrow, ecological modernisation measures that improve productive efficiency or control pollution, evidence from elsewhere in Europe shows that companies still tend to resist measures that seek to manage demand or raise prices (41). As a consequence, efforts to pursue stronger conceptions of sustainable development in the minerals sector must confront the still formidable ideological reliance on the European single market and forces of privatisation to 'bring about the increased effort of entrepreneurs to reduce energy intensity, make better use of materials and to introduce progressive technologies' (36, p.32).

Despite the reservations expressed above it is beyond doubt that, at least in the cognitive sphere, the Czech minerals policy has started to evolve in the direction of greater sustainability. Policy objectives are derived from the experience of the most advanced EU countries (in terms of their own minerals resources management), using language that represents a paradigmatic shift. It is significant that the Czech minerals policy expresses less overt concern with supplying domestic economic growth (indeed, there is a political desire to downplay any sense that the country is still dependent on mining) than in ensuring national self-sufficiency in minerals. However, as most of our Czech respondents observed, the National Minerals Policy has not yet delivered any results in terms of changing the impact of minerals extraction and processing on the environment. It is a legally non-binding document facing great uncertainty about its implementation. In addition, the National Minerals Policy has not been fully integrated into the policies of other sectors that may have a significant impact on the use of mineral resources, namely transport and energy. Furthermore, the issue of mineral extraction's impact on the

environment has retreated from the realm of social protest that it occupied in the mid-1990s to the realm of scientific and technical expertise. The political controversies that gave rise to the new policy have largely disappeared and there is a little pressure from society for the realisation of its proposals.

#### 4 CONCLUSIONS

This paper has argued that national assessments of capacity-building need to be linked with the distinctive time-space paths taken by individual policy sectors, as these may combine the capacities and constraints found in national and environmental policy styles in distinctive ways. We conclude that the Czech minerals policy has been shaped by four features attributable to the particular institutional inheritance and recent environmental history of this sector. First, the professional networks in Czech minerals policy appear even tighter than other areas of government, partly because the policy community is very small but also because of the remarkably common formative experience as trained geologists. Second, although systems of minerals regulation exhibit significant cognitive-informational capacities for data gathering, the political-institutional framework conditions for developing effective policy are weak. The dislocation between these data-gathering capacities and strategic planning (national and land-use), is particularly problematic for the minerals sector given the inherently land-based nature of extractive activity, its environmental impacts, and the structures of ownership and control in mining rights. Third, only occasionally has aggregates extraction attracted the concern of the public, local communities or environmental NGOs in the CR - an extreme illustration of the limited participation in planning and political life as a whole and a contrast to the considerable environmental conflict that aggregates extraction has prompted in other European countries. Fourth, the shifting economic geography of Czech minerals production has been affected less by EU environmental policy than by the single market. Privatisation and trade liberalisation have diminished the capacities of former Communist countries to exercise strategic *national* control over resource provision, and allowed the Communist (and pre-Communist) inheritance of mining and heavy industry in the CR to become encompassed within

new, trans-boundary circuits of uneven development. These factors all have important implications for capacity-building, and for the scope to improve environmental performance.

The efforts to institute a coherent policy for minerals illuminate some of the struggles that Czech governments are undergoing in trying to find a legitimate and effective post-Communist policy style. In general, however, given the fundamental nature of changes now being faced across CEE, 'we may expect that in the relatively short time of ... transformation a coherent set of regulatory practices superseding, yet building upon, those of the past is unlikely, if not impossible' (10, p.31). Our explanation has drawn on post-socialism studies, observing how the persistence of inherited institutions has informed the way in which minerals policy has developed but not eliminated the scope for strategic choice (10), responding to changing political opportunities, supra-national influence and perceived environmental problems. By focusing on a specific sector, however, it has been possible to highlight the varied intersections of structural constraints and capacities, as well as to pinpoint lines of tension for future capacity-building. Problems arose not just from the *absence* of certain capacities but also their inappropriate application. The delegitimised position and technocratic orientation of state strategic planning capacity, and the resulting deficit of effective and legitimate policy levers, creates the risk that government pursues approaches that may not make the best use of existing capacities. Similarly, nascent professional 'epistemic communities' (39) that are linking the language, methods and agendas of land use, minerals and environmental planners across the former Iron Curtain (48) may not always provide applicable directions for policy learning.

The patterns that we have identified are not wholly specific to the minerals sector (45) or to the CR (see, for example 5). Indeed, our sector-specific study alerts us to wider pitfalls of treating former Communist states as wholly exceptional. While sub-national regions are widely regarded as a key level of government for promoting more sustainable development, evidence from the West suggests that one cannot assume new regional bodies will readily acquire the technical and political capacities effectively to mediate economic, environmental and social objectives (49). Moreover, 'implementation deficit' is a characteristic of environmental policy across most of Europe (33). Demand management in the sense of

actually *reducing* primary aggregates demand, and thus extraction, is only beginning to inch beyond rhetoric in the UK, for example. Equally, the CR shares with much of Europe the problems of environmental damage from old quarrying operations, with difficult legal and resource problems in renegotiating (what are now privately held) mining rights in environmentally unacceptable locations.<sup>13</sup>

What problematises the likelihood of significant progress in CEE, however, and is amply illustrated by its minerals policy, is Baker and Jehlička's warning that (2, p.24):

'the problems of implementation and policy effectiveness can not merely be resolved through improving institutional capacity. Improved environmental policy effectiveness is ultimately linked to efforts to ... facilitate the growth of civil society'.

This interconnection between policy development and such profound issues as democratisation, administrative reform, and public trust in the institutions of government problematises instrumental approaches to capacity-building. Moreover, as Fagin (3) points out, the more rapid development of neo-liberal economic ideologies in advance of civic virtues and democratic practices makes an uneasy basis from which to progress sustainability. Our minerals case study also indicates that future capacity-building needs not only to focus on national governance but with the developing *spatial* structure of regulatory regimes, including the linkages between local circumstances and supra-national governance. As Tickle and Welsh (9) suggest, capacity-building needs to be directed at international sites of strategic regulation (notably in the regulation and audit of multi-national company activities) but also towards initiatives that increase political and technical capacities of local communities to negotiate effectively with major investors.

Finally, our analysis of minerals highlights the redistributive political ecology of progressing sustainable development, as CEE countries become incorporated into wider capitalist relations. Most Western European states have enjoyed greater success in addressing those environmental problems amenable to technology-based regulation than with cultural-political challenges to the absolute level of resource

inputs (4). Significantly, Jänicke and Weidner (4) identify the construction-transport-mining complex as a key area of policy failure in the transition towards sustainable development, since a re-orientation of their societal role rather than a technical fix is required. Hence, continued dependence on current modes of production – in this case seeking to meet rather than manage demand for mobility, built infrastructure and, therefore, aggregates - often means postponing crises of supply ‘through the spatial expansion of extractive industry into increasingly marginal areas’ (50, p.324). This now includes parts of CEE. Thus, state-centred accounts of ‘capacity-building’ need to be articulated with wider, trans-national processes of uneven development which drive unsustainable practices in specific sectoral and regional contexts.

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<sup>2</sup> Treating all limestone as aggregates.

<sup>3</sup> The post-2002 environment minister, the environment minister in the 1998 interim government, and a minerals expert in *Hnutí Duha* (Rainbow Movement – the Czech branch of Friends of the Earth) are all graduates from the same faculty, although from a different discipline – environmental protection.

<sup>4</sup> Steps undertaken in 1996 to relocate the mining permit issuing competencies of the former Ministry of Economy (responsible under Communism for production planning in the minerals sector) to the Ministry of Environment's Department of Geology could be regarded as an improvement.

<sup>5</sup> Dominant elevations have been removed elsewhere, in Obřice and Kamýk-Trabice, near Libochovany, with a similar fate likely at Horní Tachovice and Brniště.

<sup>6</sup> The report was published in consecutive issues of the official Ministry of Environment newsletter.

<sup>7</sup> The Council has 25 members, including six officials in the MIT, two officials in the MoE, one official from the Ministry of Regional Development, chairman of the CMO, seven representatives of mining companies and their associations, four academics, one member of parliament, one NGO activist (*Hnutí Duha*), chairman of the Mining Trade Unions, and a chairman of Energy Commission of the Social Democratic Party.

<sup>8</sup> For example, prominent among the 'Long-term Objectives' for the new policy is an aspiration that the 'utilisation of mineral resources will be considered in particular with respect to sustainable development that enables present generations to fulfil their needs without limiting future generations in their needs' (36, p.32).

<sup>9</sup> They were already applicable to limestone.

<sup>10</sup> Interview 9 October 2001.

<sup>11</sup> The *kraj* authorities were directly elected for the first time in 2000, but with a very low electoral turn-out (Brusis, 2002).

<sup>12</sup> In theory designated areas have strong legal protection. The Nature and Landscape Protection Act (No. 114/1992) rules out extraction of minerals in three categories of designated areas - national parks, national nature reserves and the most scenic and vulnerable zones of LPAs.

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<sup>13</sup> Although issues of rights and liability were scarcely addressed in the National Minerals Policy, the Czech ‘State Environmental Fund’, raised from hypothecated levies, at least provides a vehicle for addressing such public interest objectives.