Can 'Austrian Economics' Provide a New Approach to Environmental Policy?

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A b s t r a c t

Whereas 'traditional environmental economics' { considering pervasive 'market failure' in the form of negative externalities as the root cause of the problem of environmental degradation { argues for speci¯c government intervention in the market process via a host of di®erent measures to correct that 'perceived failure', this paper sets out to challenge that somewhat super¯cial view. At least since the seminal contribution of Coase it has become clear that it is the 'underlying institutional structure' of the market economy, the structure of the 'property rights', that determines the 'degree of e±ciency' in a particular 'real economy'. However, taking the dynamic and more encompassing view of North the pivotal question becomes asking about the determinants of the evolution of appropriate institutions to protect the environment and what can be done to foster that development. This calls for a 'retreat' of the pervasively meddling state in this respect, highlights the pivotal role of the Schumpeterian entrepreneur in a typical 'Hayekian setting' and constitutes a new { an Austrian { approach towards environmental policy. Key words: Property rights, institutional evolution, entrepreneur. Address of the Author:
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'As technology, population growth, and resource needs draw the nations of the world closer together, the relevance of collective action increases. An understanding of collective action and its supporting processes and environment will allow policymakers to foster the required preconditions to achieve e®ective collective action. With current ¯scal crisis confronting cities, counties, states, and nations, the ability to promote collective action without resorting to government intervention increases in importance. Collective action is achievable when the con¯guration of incentives to participants is supportive. This formula for successful collective action can be designed into emerging institutions.'
Todd Sandler

1. The 'Traditional View'

Contrary to widespread preconceptions economic theory has a long tradition of dealing with 'environment'- or 'natural resource'-related topics and problems. Two of the 'founding fathers' of economics, David Ricardo as well as Thomas Robert Malthus, were primarily concerned with the long-term economic development and therefore with its limitations, the prime being the insurmountable appearing scarcity of natural resources { although 'natural' resources by that time primarily meant the agricultural production capability. Neither should the fundamental contributions of John Stuart Mill with respect to a wider view of the 'quality of life' be overlooked (Mill 1862). It must be admitted, however, that apart from William Stanley Jevons' concerns ('The Coal Question' 1865) such 'natural-resource' or { as we are used to say nowadays { 'environmental concerns' receded { if not vanished completely { during the 'Neoclassical' and 'Keynesian Revolutions' which shifted the emphasis either towards perfect competition and (its 'big brother') general equilibrium models or macroeconomic problems. Environmental and resource economics as a distinct and well-established sub-discipline of economics exist only since the late sixties, when such questions started to come increasingly to the forefront of political and scienti¯c discussion (Kneese-Russel 1987). In their own view economists then were well prepared for the upcoming task (Baumol-Oates 1988), ¯rmly rooted in the neoclassical par-

adigm and mostly still little worried about the relevance of the insights of the Public Choice School (Buchanan-Tullock 1962). 'Traditional' environmental economics, as it nowadays appears in most modern textbooks and journal articles, is strongly based on the concept of externalities which was ¯rst elaborated in great detail by A. C. Pigou (Pigou 1920) in the early twenties of this century and which is so frequently and, of course, also wrongly confused with the completely di®erent concept of 'market failure' (Ledyard 1989). However, it seemed that most economists were so hooked by the 'externality-problem-setting' and the proposed solution, the famous idea of the 'Pigouvian tax' that could internalize external costs perfectly and so restore Pareto-optimum that they overlooked not only the insurmountable informational requirements for the successful implementation of the Pigouvian tax (Hayek 1945) { thereby wrongly justifying state intervention { and proceeded starry-eyed on the ¯ction of a benevolent government but { what, of course, amounts to much more { failed to recognize also the root cause for the very existance of externalities, be they positive or negative.

2. Coase and the Consequences

It took more than 40 years before the almost unanimously accepted Pigou solution was severely challenged by the seminal contribution of Ronald Harry Coase (Coase 1960) that spawned a hot and fruitful debate { sometimes even a ¯erce controversy { by ultimately spotting the real cause that gives rise to externalities, namely transaction costs which, in turn, are crucially in°uenced by the 'state of the property rights' (Coase 1992). Besides the still raging controversy about the 'true contents' and 'meaning' of the so-called 'Coase-Theorem' (Stigler 1989) { which is not the subject of this paper { Coase, almost undoubtedly, raised the right question, the question for the causes of existance of externalities that was hitherto almost completely neglected since externalities were simply taken as given. And Coase came up with the right answer: Absent, improperly de¯ned, or simply (at a certain stage of development) unde¯nable property rights and therefore too high transaction costs ultimately give rise to externalities. In this view existing externalities are not deemed worthy of internalization by the a®ected parties, because otherwise they would have already taken the appropriate action to internalize them. In economic language: the marginal costs associated with the e®ort of internalization must exceed the marginal bene¯t of doing so,

thereby leaving the situation rightly unchanged and, what is much more, 'e±cient' (Coase 1960). From the economic point of view then, there is no reason for internalization either, and therefore no justi¯cation for state intervention in the market process can be given on economic grounds. Except, of course, in one case: Some public goods which, without any objection can be viewed as (positive or negative) externalities, a®ect so large a number of people that the ensuing transaction costs for their provision become insurmountable. In this case government could { and even should { step in acting on behalf of the people and therefore { if not avoiding the problem of transaction costs altogether { at least reducing them. If we adhere to the classi¯cation of transaction cost given by North (North 1994a), what can be avoided in this case are the insurmountable bargaining cost of all the affected parties, however not the information as well as the surveillience and enforcement costs on the part of the intervening government.[1] However, a second and equally important insight that counts especially in the environmental context is that the 'market mechanism' or 'market process' always works on the basis of existing { su±ciently or insu±ciently distributed { property rights which therefore hold the key to the 'degree of e±ciency' of the outcome of the allocation process: 'what becomes immediately clear is the crucial importance of the legal system in this new world' (Coase 1992, 717).[2] Coase goes on: 'As a result, the legal system will have a profound e®ect on the working of the economic system and may in certain respects be said to control it.' (Coase 1992, 718). The legal system or, broadly speaking, the institutional framework within which the economic agents operate, is, however, assumed to be given by the traditional economic theory and therefore not subject of its investigation. One of the central insights of Coase therefore is that the 'degree of e±ciency' achieved by the market process always depends on the underlying 'institutional structure' which is primarily the structure of the property rights that simultaneously determines the level of transaction costs and therefore ultimately what { composition and level { is being pro-

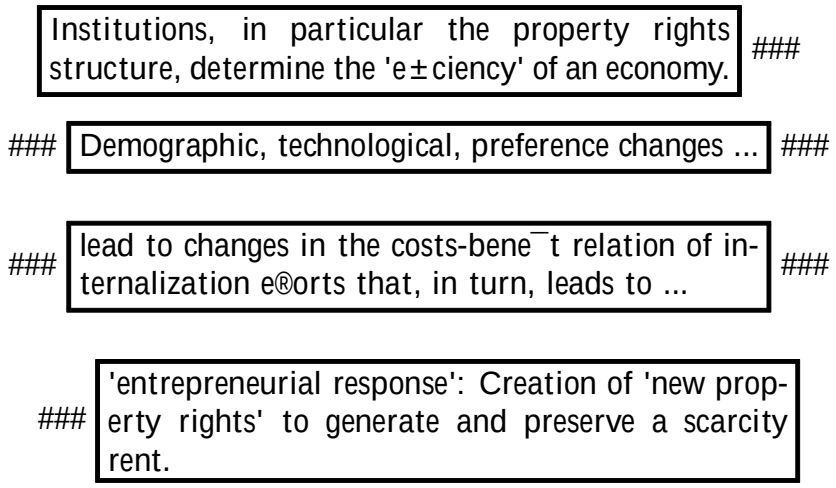
[1] Besides, this instance demonstrates the fruitfulness of the 'Coase-controversy' because it shows that the Coase theorem can be interpreted even as an argument in favor of state intervention, at least in certain cases. As Coase himself remarks: 'it does not imply, when transaction costs are positive that government actions (...) could not produce a better result than relying on negotiations between individuals in the market' (Coase 1992, 717).

[2] With the attribute 'new' Coase refers to the distinction between his approach and the traditional 'neoclassical' one.

duced: 'as these institutional arrangements determine to a large extent what is produced' (Coase 1992, 714). And it is exactly this that matters in the environmental context and in the formulation of successful environmental policy since private production of 'environmental goods' undoubtedly falls short of expectations. Economist have mostly been concerned with the initial distribution of property rights ('factors of production', 'goods', in fact, however, 'bundles of rights') and never hesitated to stress this aspect (which indeed should not be overlooked) when talking about the famous fundamental welfare theorems. But besides the distributional issue there is another, and hitherto almost completely overlooked one. Once one leaves the theoretical construct of perfect information characteristic to the standard economic model, transaction cost begin to matter in a most fundamental way. Because in a 'real word setting' { far from perfect information { the distribution of property rights is a key determining factor of the level of the transaction costs and therefore also of the ¯nal outcome as seen from the 'e±ciency point of view'.[3] If the structure of property rights leaves too much room for externalities, i.e. there is uncertainty about what can be done with certain resources (like e.g. air and groundwater, oil-¯elds or ¯sh grounds etc.) the handling of these resources can almost with certainty assumed to be far from e±cient. Seen from an 'Austrian' point of view it is essential that the Coasean insight must not be interpreted in a static way, as is commonly being the case, and even Coase himself seems to be unaware of the crucial dynamic implications of his ¯nding. Because demographic conditions, technology and preferences, and consequently particular environmental scarcities continually change, so will the costs and bene¯ts associated with internalization e®orts. Therefore { seen against the background of the property rights structure { what is or might appear to be 'e±cient' today, need not be 'e±cient' tomorrow. Now, according to the Austrian view it is ine±ciencies that give rise to entrepreneurial activities (Vaugh 1996) that tend to eradicate them. So, apart from the above mentioned 'demand side' for environmental output there is a 'supply side', too. What counts, however, the most, is that the structure of the property rights determines at the one hand to an enormous degree the new

[3]The 'strict' and therefore utterly unrealistic interpretation of the Coase-Theorem, namely the allocative neutrality of the distribution of the property rights never holds in a real world setting, where property rights themselves in°uence the level of the transaction costs.

knowledge that is being produced and therefore the particular way 'environmental development' will take and, on the other hand, that property rights are themselves { as shall be shown { subject to change (Dasgupta 1991). As North puts it: "Institutions determine the payo®s. They are the structure that humans impose on human interaction, and therefore they de¯ne the incentives that (together with the other constraints { budget, technology, and so forth) determine the choices individuals make that shape the performance of societies and economies over time." (North 1994b, 48).



3. Economic Development and Environmental Problems

Central to the Austrian view is the emphasis on limited and, in particular, dispersed information and evolution with the latter to be interpreted as a continual process to reduce the level of ignorance thereby allowing better decision making and increased wealth. We live in a world that is constantly evolving, with continual change being the constant feature of modern society. Due to continual and signi¯cant technological, demographic and economic developments, with these changes themselves quite often being initiated by reformed or new property rights, so that the process is one of mutual reinforcement, the institutional structure needs appropriate adaption from time to time if too high a degree of ine±ciency in dealing with the natural environment { and sometimes even outright disaster { is to be prevented. This can be neatly exempli¯ed by the discussion about the so called 'free goods', with

air (the atmosphere in general) or other main parts of the 'public' natural environment being prime examples. As long as these goods were so abundant { economically speaking: at a price of zero supply exceeded demand { there was no need to handle these goods economically since no problem of scarcity existed at all. In other words: the good 'air' has been treated e±ciently, simply by not caring about it. However, long gone are those days (Dales 1968)! Due to dramatic demographic and economic progress almost all natural resources, be they land, air, or other precious natural materials, are in high demand. Not so much to the surprise of economists those natural resources that can be traded { in other words: for which property rights are well and rightly established { do not pose an (e±ciency) problem. Even despite the enormously increasing demand during the last decades their prices in real terms have not risen much, in some cases even subsided markedly. The explanation given by resource economists { based on the central Hayekian insights as to how the market operates as a discovery process (Hayek 1968) { is as simple as it is convincing: Since scarcity was signalled through the price, successful substitution { sometimes even technological substitution that makes the natural resource nearly super°uous { is a mere question of time (cf. e.g. Beckerman 1995). It is essential to recognize that the necessary precondition for 'having a price' is that some forms of property rights, that rightfully exclude non-owners from using that resource without explicit or implicit permission of the rightful owner { must have been established.[4] Those natural resources, however, for which property rights so far have not been established or have been established improperly do pose a great problem indeed. In these circumstances the danger of the depletion or extinction of these resources arises with possibly harmful or even devastating e®ects on the entire mankind. If one thinks of the overuse of the atmosphere or the 'imminent' destruction of the rain forests or of the extinction of some valuable species like e.g. the blue whale, it becomes immediately evident that what these goods have in common is that they are public ones ('common' heritage) and that therefore the problem structure of the 'Tragedy of the Commons' applies (Hardin 1968). Being 'public', however, is and remains determined by property rights. Seen from this point of view it becomes imperative to governments and policy makers to see to it that such property rights are

[4]Here again Coase is right in urging 'mainstream economists' to 'include in our analysis 'features so obvious that (...) they have tended to be overlooked.' (Coase 1992, 713).

being de¯ned for almost all scarce goods { with scarcity itself a re°ection of demographic, technological and speci¯c demand conditions { that the process of their conservation or successful substitution gets started. Nothing new, one might say: it's the problem of missing markets! This, however, expresses the typically neoclassical static view which then almost automatically leads to the call for government interference, mostly in form of state provision of public goods. The proposal advocated here and based on Coasean and Austrian insights is that { in the light of dispiriting past experiences with massive public interference of di®erent kinds { most environmental problems can be 'solved' or 'remedied' neither by state provision of the good in question nor by the hitherto dominating 'command-and-control' approaches (themselves, of course, speci¯c forms of property rights)[5], but quite on the contrary, by retreat of the state and simultaniously granting maximum 'institutional °exibility', preferably and in particular on a local basis.

4. 'Government failure'

This case can be forcefully buttressed theoretically as well as empirically. Especially in the environmental context public goods create problems, even ones, neoclassial economic theory { due to its static character { tended to overlook. A prime analytical example in this context with high time for rethinking is the widely accepted theorem of welfare economics which states that if the consumption of a good yields positive marginal utility but is not associated with marginal costs, then the good in question { usually characterized by indivisibilities { should be provided free of charge to the users (Blmel-Pethig-Hagen 1986). However, this theorem becomes quite questionable on environmental as well as on economic grounds, simply because of the consequences that are almost bound to come { in a dynamic setting. Two can be expected almost with certainty: First: Sooner or later overcrowding will set in, so that ¯nally some costs of consumption accrue or utility vanishes, provocing ultimately the 'tragedy of the commons' (one certainly need not be reminded of the enormous costs of the public road system and the manifold problems that ensued, which shows the self-reinforcing developments of

[5]Seen from the property rights perspective, the usual distinction of the instruments of environmental policy becomes somewhat blurred. Because even command and control approaches constitute property rights in that they stipulate what must not be done with a certain good.

the existing property right structure). Second: Since the good in question is provided freely, no substitution will take place on the supply side, which means that it leads to crowding out of private supply. Under these conditions private ¯rms have no incentive to provide similar goods via the market. They simply cannot compete with the state who provides those goods freely.[6] Due to this 'institutional setting' then there is the danger of massive environmental degradation with the danger of extinction of some valuable sites or species.[7] In addition to this kind of government failure there are others like drastically wrong-placed government incentives and disincentives due to speci¯c property rights, in particular as to the right to the results of individual work e®ort: On the one hand heavily taxed labor makes natural resource inputs relatively cheaper and therefore increases its demand and consequently its usage. It also works as a heavy tax on recycling and therefore prevents a better preservation of the material stocks. On the other hand there are 'foolish' subsidies abound, not only for industries that strongly damage the environment like the coal and steel industries in 'Western' Europe, not to mention the environmental problems due to state subsidizing of agriculture (Stocker 1995) but also for the ¯shing industries which results in a dramatic run down of world wide ¯sh stocks (Johnston 1992). All these state subsidies are not only doing direct and indirect ¯nancial harm and therefore constitute a burden on the states' budget, but ultimately lead to a massive overuse, if not outright destruction of natural resources as well.[8] Seen from

[6]However, the ensuing deterioration in the quality of the publicly o®ered good will make some people look for other { superior { solutions. Then private supply will ultimately spring up, however just for those who can a®ord.

[7]A related question is, whether the governmental management of the natural resource itself is done e±ciently. It certainly is not an open question, since the people in charge usually lack the right incentives for ensuring e±ciency. So in this case another source of waste exists.

[8]In addition one should bear in mind the environmentally deleterious e®ects of protectionism, a trade policy still widely adopted in di®erent guises among industrialized as well as developing countries. Up to now { the successful completion of the Uruguay-Round of the GATT talks notwithstanding { especially Third World Countries have therefore been denied to fully specialize in those ¯elds where their competitive advantages really lie. So they are forced to look for other sources of income, and the pressure on natural resources grows, with the destruction of tropical forests being one short-term promising alternative. Not surprisingly the right property rights to the tropical forests have in most cases not yet been established. What happens there is the 'tragedy of the commons'.

this point of view, the 'state' { not the market { is to blame for not supplying the appropriate institutional structure and { even worse { for resisting and discouraging its adaption towards new necessities. Creating the appropriate institutional framework, therefore, becomes the prime task! But how can this be brought about?

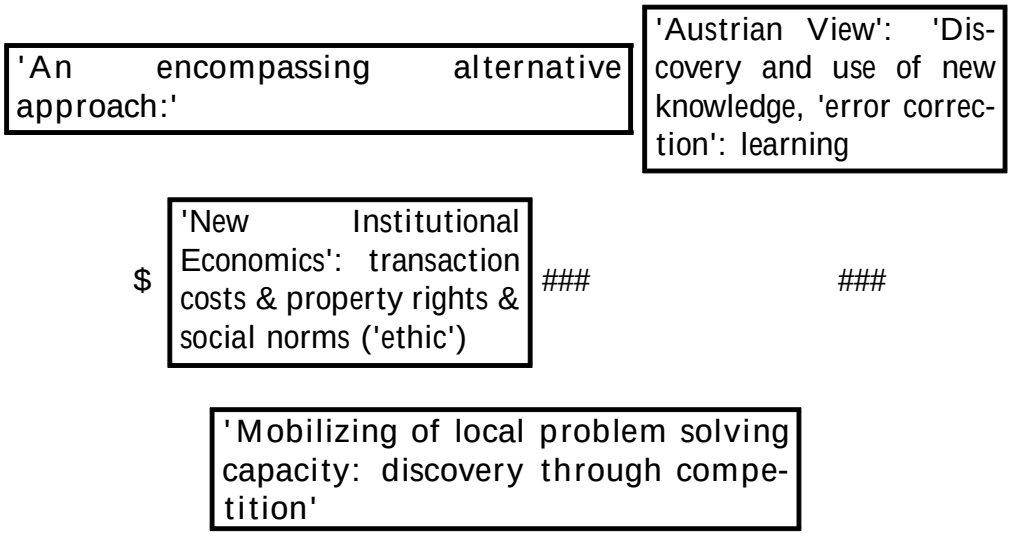
5. A Strong Case for 'Institutional Adaption and Evolution'

'Orderly' privatization of public natural goods ensures that there is an owner of the 'accordingly de¯ned' (Wegehenkel 1984) natural resource in question who has a strong and powerful incentive to protect, conserve, and cultivate it, or otherwise to put it into that use which is the most pro¯table for him as well as for the society as a whole. Apart from excludability, what is particularly important is easy transferability of the property right since then the 'true' opportunity costs are taken into account (Anderson-Leal 1991). All that counts here is 'orderly privatization' as opposed to 'unorderly' privatization, a process which is going on wherever one encounters the 'tragedy of the commons'. One must not forget that in whatever setting of the 'Tragedy of the Commons' privatization takes place as well, however in an unorderly manner { people take away some valuable resource {, so that { unless the institutional framework is changed either 'from above' or evolutionary 'from below' { the resource in question will be depleted or destroyed. As a consequence, more { not less { room for markets as well as for voluntary club transactions is required to improve the situation (Sandler 1992). What the government can do in this respect is not to hamper the development, but to provide the proper institutional structure which is su±ciently open to reform and change. As seen from the Austrian perspective the institutional underpinning must ¯rst and foremost make sure that people (have strong incentives to) come up with di®erent problem solutions, so that a competition for problem solution is fostered, a discovery process stimulated and ensured. It is therefore decisive that the institutional structure leaves enough leeway for an endogenous evolutionary development, especially for solutions 'form below' according to the 'subsidiary principle'. "The ideal incentive framework will not only reward productive activities but will provide a hospitable environment for the creative designing by entrepreneurs of new institutions to solve new problems" (North 1994b, 49). According to North a market economy with well de¯ned property rights has proven to be the most suitable institution for wealth creation. This insight should be increasingly applied in environmental policy, because "where the underlying institutional structure provides the proper incentives ... they can deal with a wide range of "common" problems" (North 1994b, 69) which is also supported very well empirically (Ostrom

1991, Ostrom-Gardner-Walker 1994). Especially the empirical studies show that 'public goods problems' should { wherever possible { be 'put' ¯rst on a local basis, so that on the one hand the number of a®ected parties diminish thereby sharply reducing transaction costs and on the other the prospect of an increasing rent to be reaped from a local public good materializes (Foldvary 1994). As environmental scarcity increases and the costs of exclusion of valuable environmental resources decrease { once again a fruit of the 'discovery process' inherent in a market economy { alert entrepreneurs will try to take advantage of the arising pro¯t opportunities and thereby even de¯ne the needed property rights. The property rights approach for natural resources shows that property rights evolve through time crucially depending on the costs and bene¯ts of de¯ning and enforcing them: the discounted asset value is put against the costs of the technology for monitoring and bargaining resource use. "Rising values of recreational and environmental amenities will provide an incentive for entrepreneurs to develop new technologies and institutions for producing and marketing these goods (Anderson-Leal 1991, 76).[9] In other words and generally speaking: the Austrian perspective advocats a process which allows individuals to search for new knowledge, being able to acquire some property right in what is being discovered, thereby ensuring that the person has an incentive to discover what is valuable for others.[10] The 'mechanism' responsible for the unprecedented increase of knowledge and wealth in the 'Western World' should therefore be applied to environmental problems as well: 'Environmental patents', patents for environmental goods, generally speaking: 'ways in which to handle environmental scarcity successfully, i.e. so that a particular scarcity is reduced' should be introduced or made appropriable. Then 'imperfections' such as externalities { once they become economically relevant { will with high likelihood lead to the creation of 'private' institutions { sole entrepreneurs or clubs or other institutional arrangements { that try to internalize them.

[9]However, a problem arises here: entrepreneurs may not only be quick to design institutions to capture externalities and as a by-produce conserve valuable natural resources, they can also turn to the state in order to ensure them a position not merited on economic grounds ('rent-seeking in the traditional way').

[10]Neoclassical analysis, on the other hand, does not explain how knowledge is acquired and produced.



Rather than directly evaluating di®erent policy options as is the case in neoclassical analysis it gets imperative to create an institutional environment in which the a®ected agents can easily come up with many di®erent proposals for the problem solution. What counts especially in environmental respects it the 'possibility of evaluating the institutional environment in terms of its potential to inspire genuine discovery' (Kirzner 1992). It must therefore be ensured that legislation and government agencies do not stand in the way, but, quite on the contrary, devise policies to reduce transaction cost. As opposed to the 'traditional' welfare economics with its closeness to 'social engineering' what can be termed as 'Austrian' approach leaves the engineering to those who dispose of the relevant knowledge, however, assisting them in providing incentives or letting those incentives come into being of their own. In devising environmentally friendly institutions hospitable to the creation of new and the di®usion of relevant information (Carraro-Siniscaldo 1994) quick error correction (Vaughn1996) should be ensured. The whole concept advocated here therefore is based on the paramount importance of making the best possible use of dispersed knowledge to accomplish environmental goals of the people a®ected.

6. Conclusion

For the market to work 'e±ciently' and therefore to minimize also ecological harm it is essential that the appropriate 'institutional underpinning', a

system of su±ciently de¯ned property rights, is provided. This, however, is no static a®air, but something that evolves continually, adapting and responding to the demands of time and place. In order to overcome many environmental problems, especially the ones relevant on a local or regional level, 'su±cient built-in leeway' in the institutional structure is essential, in order to ensure an endogenous 'bottom up' evolutionary development. As a ¯rst step towards such a 'rebalance of the property rights structure' a retreat of the state is required as regards the provision of certain public goods as well as other intrusions in form of too high taxes on labour as well as subsidies for energy, industry, and agriculture, simply because this has proven to be a major impediment for the solution of environmental problems. A second step, however, has to follow. It consists in creating a climate in which many new solutions can be developed and appropriate new property rights established according to the current and future demands and necessities of environmental protection. In this process a central requirement must be ful¯lled, especially as seen from the Austrian point of view. The new property rights must foster the creation of new knowledge and ensure quick error correction. All this served to solve and prevent problems, the source of which was already well known to Adam Smith who observed in the Wealth of Nations:

> "Laws frequently continue in force long after the circumstances, which ¯rst gave occasion to them, and which could alone render them reasonable, are no more."

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