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**Advanced Sustainability Demands from Labour:
Re-embedding for Democracy and Ecology**

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Workers today find themselves navigating through an increasingly fast-paced, globalized, and deregulated “new economy”. In the “new economy” labour-movement struggle is confronted with a dizzying array of new trends and concepts. Workers are told that they are living in an economy where economic competitiveness is globalized and more pronounced, and where competition is increasingly reliant on innovation. Yet, policy-makers are increasingly ill-equipped to grapple with these new trends, because innovation and information-flows are concepts not well understood by mainstream economics. Workers should thus not be timid in contesting the way new economic trends are being depicted, and work towards developing alternative conceptions and strategies, particularly with regards to innovation.

Analysis of the new economy has been conducted by sociologists and others outside of mainstream economics. Manuel Castells, for instance, has undertaken exhaustive case-study research. Castells (2000: 77) states that information technology provides the “indispensable, material basis” for the new economy’s creation. Castells also emphasizes that the most successful corporations, as well as the most successful social movements, follow a “networked” organizational model to facilitate information exchange and social learning.

In reality, what is titled the “the new economy” merely represents a particular form of globalization. This form of globalization represents a further disembedding of the economy from society as outlined by Karl Polanyi (1944). The disembedding process threatens both labour and nature. As also outlined by Polanyi (1944), disembedding also creates new counter-movements: some progressive, some regressive. In this paper we will explore the potential for a labour-green alliance to become one vital part of a progressive counter-movement. We consider this movement progressive because it strives for a type of re-embedding where workers actively reshape the economy in a sustainable direction via innovative demands.

Today, the democratic left must decide how to remain relevant with the advent of the “new economy”, and the emergence of new social movements. A new techno-savvy, environmentalism informed by a discourse of “ecological modernization”, is of particular interest in this paper. This breed of environmentalism is using the tools of the information age (Castells 2004), and working to induce technological innovations as solutions environmental problems such as global warming (Gore 2006; Flannery 2005). We will explore these issues, in the context of Sweden: an industrialized country that has been seen as a front-runner on the path towards ecological sustainability and that for many decades benefitted from a strong alliance between one of the world’s most powerful labour movements and governments dominated by Social Democracy.

Sweden, presents an interesting site to explore the perils and contradictions encountered as worker’s movements confront the new economy and new social movements. By exploring an innovative labour-environment case in the information technology sector we wish to illuminate the potential for workers and environmentalists to form alliances in order to further advance sustainability demands. Such alliances can entice firms to the

“high road” while at the same time start to form institutions and develop new consciousness that can run counter to the current manifestation of the “new economy”.

In this paper we will discuss the increasing need for innovation in the new economy, and the discourse of “ecological modernization” in the environmental movement. We will explore the contradictions that arise between the new environmentalism and the labour movement. We will then briefly discuss the successes and shortcomings of a ‘green’ municipal investment program implemented in Sweden, and introduce Sweden’s more ambitious ecological goals that lie ahead. Since we emphasize the importance of innovation to meet both current ecological and economic objectives, we explore the case of TCO development, where the Swedish labour union federation TCO drove environmental innovations in the information technology sector. Finally, we analyze the lessons the TCO case teaches for establishing a strategy for a labour-environment counter-movement that seeks to innovate for sustainability.

Labour, Innovation and Ecological Modernization

The breakdown of Keynesian welfare states based on social bargains between capital and labour, can be seen as a starting point for the outgrowth of what today is referred to as “the new economy”. After the breakdown of the Bretton-Woods fixed financial system, national policy makers were faced with the increasing power of international currency and credit markets. In a globalized financial economy, a small-open economy, like Sweden, lost even more of its autonomy. The demand-side management policies of the Keynesian social bargains were engulfed by supply-side policies within each state aimed at increasing flexible production to compete in international markets. Bob Jessop (1994) explains this shift as a change from the “Keynesian welfare state” to the “Schumpeterian workfare state”, which aims:

to promote product, process, organizational and market innovation in open economies in order to strengthen as far as possible the structural competitiveness of the national economy by intervening on the supply side; and to subordinate social policy to the needs of labour market flexibility and/or the constraints of international competition. (Jessop 1994: 263)

Parties of the democratic left in the new Schumpeterian workfare state have adopted a strategy of “progressive competitiveness”, which aims to maintain at least parts of domestic welfare states by running export surpluses internationally. A highly skilled, flexible, workforce, new production processes and products for export are seen as methods to enhance international competitiveness without a race to the bottom for wages, working conditions and regulation. The state plays a key role in training, providing incentives and shaping comparative advantage.¹

¹ See (Albo 1994;, 1997) for a critical look at social democratic ‘progressive competitiveness’. Also see, Hollander 1995 and 2003 for a Sweden-centered discussion of the chances for “progressive competitiveness”, driven by advantages in sustainability dimensions.

Today, the democratic left is also challenged to clarify its relationship with emerging new social movements that contest market-state-civil society distinctions and top-down forms of state power. More decentralized processes of “governance” are coming to displace more traditional forms of government (see Jessop 1995, Magnusson & Walker 1988, Rosenau 2003). The importance of networks, partnerships and participatory activities that occur beyond the state are being given new importance by social movement actors, policy makers and intellectuals. The environmental movement has been particularly important in emphasizing forms of cooperation, communication and partnership building that occur on various local, national and international scales.²

The environmental corollary to progressive competitiveness and a new partnership based society is “ecological modernization”. The discourse of ecological modernization maintains that an ecological industrial transformation can create win-win scenarios between relevant stakeholders (usually business, government and environmentalists). It seeks to harness forces of capital accumulation and international competition to deliver environmental quality improvements. (see Mol and Spaargaren 2000; Murphy and Gouldson 1997; Hajer 1995; Dryzek 1997; Huber 2000). Ecological modernization theorists believe that “improving environmental quality hinges on the development, innovation and diffusion of new key technologies,” and also call for a “partial de-industrialization of ecologically maladjusted technical systems and economic sectors” (Mol 1995: 39). It hinges on innovation and technological development as the path to sustainability.

Parties of the democratic left have been relatively quick to adopt ecological modernization as the perspective that informs their environmental policy. Ecological modernization is enticing to some on the left because it promises to mediate the apparent contradiction between economic growth and environmental quality. This leaves moderate leftist parties free to continue with their traditional agenda based on mediating class conflict through economic growth. In addition, sources of growth from environmental technology exports and environmental innovations reconcile environmental interests with moderate left strategies that seeks to use forces of capital accumulation as a tool for social justice.

Thus in Sweden, a newly elected Social Democratic Prime Minister jumped head-first into the ecological modernization “discourse coalition”³ in the mid 1990s (see Lundqvist 2000; 2004b; Haley 2005). When Göran Persson, accepted the leadership of the Social Democratic party in 1996, he envisioned the construction of a green welfare state (*Ett grönt folkhem*):

² See (Micheletii 1991) for the discussion on the challenges new social movements and ‘governance’ highlights for Sweden.

³ See Hajer (1995) for explanation of the ‘discourse coalition’ concept, which highlights “why a particular understanding of the environmental problem at some point gains dominance and is seen as authoritative, while other understandings are discredited. This is taken on to analysing the ways in which certain problems are represented, differences are played out, and social coalitions on specific meanings somehow emerge.” (Hajer 1995: 44)

(Our party) once built the People's Home in broad consensus on the conditions for production, increased standards of living, and security for everyone. Now we have a similar mission. We will realize the vision of a **green** welfare state. (Persson quoted in Lundqvist 2004a: 1-2)

Persson advocated the construction of Sweden as “a model country for ecologically sustainable development” as a new mission for the Social Democratic Party (Persson quoted in Klevenås 1999: 217-218). Persson's presentation of the *gröna folkhemmet* as the Social Democratic vision for environmental policy, revived the notion of *folkhemmet*: a metaphor for the Swedish welfare state launched by Prime Minister Per Albin Hanson in the 1930s, that can be translated as the “People's Home”. The *gröna folkhemmet* is the “green people's home” or the “green welfare state” (Lundqvist 2004a). By attaching a green label onto the conception of the welfare state, the new Swedish Prime Minister attempted to reconcile environmental issues with traditional social democratic ideology. In the latest manifestation of the ‘green welfare state’ the new Minister of Sustainable Development, Mona Sahlin, has established targets in cooperation with the Left Party (euro-communist), for the country to achieve oil independence and to reduce greenhouse gas emissions by 25% of 1990 levels by the year 2020.⁴

A democratic left embrace of ecological modernization provides opportunities, challenges, and dangers. For one, it signals that social democratic environmental thinking is entering the realm of industrial policy, showing potential for environment-economy policy innovations to improve environmental quality and position progressive economic policy on a renewed offensive. It also, however exhibits a danger. The danger is that ecological modernization's support for growth and competitiveness, without contesting the power of international capital, will lead to forms of ‘competitive austerity’, whereby the export of unemployment and the downgrading of environmental quality become part of the policy mix (see Gindin and Robertson 1992; Albo 1994).

Given the multitude of possible trajectories for policy informed by ecological modernization, many authors have divided ecological modernization into separate categorizations based on ecological rationality and political ideology. For instance, Christoff (1996) makes a distinction between ‘strong’ and ‘weak’ forms of ecological modernization. The ‘strong’ form has robust ecological and democratic criteria; is driven by the environmental movement; is institutional and international. The ‘weak’ form places emphasis on economic criteria, with governments and business continuing the “instrumental domination and destruction of the environment”; it is characterized as economic, technological, national, hegemonic, technocratic and neo-corporatist. Keith Stewart (1998) draws a left-right distinction between ecological modernization discourse coalitions: ‘market environmentalism’ is closely tied to the corporate policy agenda, while ‘social environmentalism’ seeks to change social relations. Given the multiple trajectories for ecological modernization along left-right and grey-green spectrums, a left-green agenda will have to remain vigilant during its forays into ecological modernization discourse to ensure that existing structures of power are continuously contested.

⁴ The Green Party which initiated targets of this type wasn't part of the co-operation since it was of the opinion that the targets weren't backed by concrete policies to implement them (Berkow 2006).

Perhaps, the most vexing, and yet outstanding, issue for the democratic left is the role of the labour movement in ecological modernization. Labour unions, have quite justifiably, resisted forms of industrial restructuring because their members are often those that pay the brunt of the costs; yet an industrial strategy based on ecological modernization calls for a wide-ranging restructuring on ecological grounds. Ecological modernization would certainly catalyze the processes of “creative destruction” elaborated by Schumpeter (1942), where established modes of production are disrupted by new innovations. Schumpeter’s analysis of the sociology behind economic development examines how creative entrepreneurs face conflict from existing industries that are entrenched and conservative.

David Harvey (1996) discusses this conundrum for social movements by discussing local, “militant particularisms” (social movements that exist in a certain spatio-temporal reality, whose values become universalized), and emphasizes that labour-based movements can take on conservative characteristics when confronted with new movements that seek to restructure society:

Militant particularisms rest on the perpetuation of patterns of social relations and community solidarities – loyalties – achieved under a certain kind of oppressive and uncaring industrial order...Socialist politics acquires its conservative edge because it cannot easily be about the radical transformation and overthrow of old modes of working and living.
(Harvey 1996: 40)

This leads David Harvey (1996: 40) to ask if “the political and social identities forged under an oppressive order...can survive the radical transformation of that order?” Which for our purposes can be restated as asking if the ecologically beneficial innovations and industrial transformations called for under strong forms of ecological modernization will render today’s democratic left obsolete?

Given these considerations, we find green-labour alliances laden with numerous challenges and contradictions. The traditional democratic left is faced with the growing power of international capital spurring increased neo-liberalization of political ideology as well as new political challenges from other flanks in the form of new social movements demanding more decentralized and participatory forms of politics. The democratic left has to attempt to find the right balance between local, national and international politics, between state intervention and actor mobilization, and it has to do this without alienating its labour movement base. Indeed, if the democratic left is not to be engulfed by the new forms of politics emerging, it has to consider the complementarities as well as the creative tensions that can be formed between the green and labour movements.

Sweden's Ecological Modernization

The Swedish democratic left has at many points in time taken an interest in sustainability and modernization. Early signs were in the aftermath of 1968 (see Hollander 1995; 2003 p. 8-11). During the late 1990's the idea of "ecological modernization" gained new prominence, but concentrated mostly on infrastructure renewal in the local public sector under the banner of the Local Investment Program (LIP). The Local Investment Program became Sweden's largest environmental investment initiative. The national government provided approximately US\$800 million in government grants to municipalities from 1998 to 2003. The funding was coupled with funding from municipalities, making for an overall investment of US\$3.5 billion (SEPA 2004a). LIP funding was used for projects related to housing renewal, energy efficiency, and cogeneration. The LIP built on the strength of Sweden's national and municipal public sectors. It also attempted to incorporate considerations of governance by structuring the program in such a way that project ideas would come from municipalities acting as "development councils" (Eriksson 2004) made up of local municipal governments as well as businesses, individuals and NGOs.

The LIP was quite successful in local job creation and environmental quality improvements. Yet, the focus on infrastructure projects in the public sector failed to meet some of the basic criteria for strong ecological modernization and failed to mobilize democratic actors, most importantly the labour union movement. Jamison and Baark characterized Swedish environmental policy as "a return to the good old days of the Swedish model, when the state supported massive infrastructural projects of 'social engineering' in construction, housing, transportation and energy" (Jamison and Baark 1999: 213). They establish that Sweden's brand of ecological modernization is stuck in a technocratic paradigm (Jamison and Baark 1999: 205).

The LIP attempted to harness the knowledge from local policy actors, but has also been criticized for its top-down style of public administration (Lundqvist 2001). The central government took an active role in evaluating and directing local projects and exhibited a clear preference for "hard projects" with measurable results in the public sector (Eckerberg et al. 2005). This led towards a policy bias for projects that merely needed to be dusted off (Lundqvist 2004a: 79) as well as projects predominantly involving the public sector (Eckerberg et al. 2005), instead of riskier projects that could have contributed to innovation and involved new social actors.

The LIP very quickly lost any explicit policy direction with regards to encouraging innovation. Initially, LIP proposals were to be evaluated for their contribution to technological and workplace innovation, yet the technological development criterion was abolished within a year because of difficulties with private sector compliance (Government of Sweden 1999: 54). Such a quick abolition of the technological development component signals a failure to direct industrial policy goals fundamental to a strategy of ecological modernization. In addition, the labour movement in Sweden has been relatively silent with regards to the 'green welfare state' and projects like the LIP. The infrastructure bias of the strategies has not garnered resistance from the labour

movement, because it has done little to initiate the type of broad, ecological industrial restructuring called for by ecological modernization.

The Local Investment Program was successful in meeting its primary objective. Namely, moving Sweden towards meeting its initial greenhouse gas (GHG) reduction target under the Kyoto Protocol.⁵ However, Sweden has now adopted much more ambitious GHG reduction targets for 2020 and is likely to support a further 60-80% GHG reduction by 2050. These targets, consistent with environmental requisites⁶, will force Sweden to place greater consideration on innovation and a fuller mobilization of all societal actors.⁷ In addition, the industrial restructuring that will be necessary to meet these targets will force Sweden's labour movement to confront the consequences of a green industrial restructuring. While not denying the importance of state involvement in infrastructure projects, we believe that Sweden's new objectives will require a more thorough mobilization of policy actors and a focus on innovation in both the public *and* private sector. Such a mobilization will not be able to ignore the potential conflicts that exist between environment and labour, and it must explore the potential to channel these conflicts into creative tensions.

The Case of TCO Development

Ecological modernization will only become a progressive counter-movement in today's new economy if it actively involves the labour movement, and other movements, as social and economic innovators. We believe that the case of a Swedish union federation exhibiting enormous pressure on the international information technology (IT) environment, presents an instructive case for how a green-labour alliance can reverse the new economy trend towards further dis-embedding of social and ecological rationalities. The example represents a wide class of bottom-up innovations for sustainability initiated by progressive social actors⁸.

The story of TCO development began in the midst of debates over workplace health and safety in Sweden. TCO⁹ (The Swedish Confederation of Professional Employees) is Sweden's second largest union federation, representing non-academic, low-level, and predominantly female, white-collar workers. The TCO's membership was greatly impacted with the advent of information technology. During the 1970s the repetitive tasks associated with computers were increasingly of concern. During the mid-1980s a debate in Sweden erupted over 'Visual Display Unit (VDU) sickness' related to electric and magnetic fields. While many scientists and product manufacturers brushed aside health concerns, the TCO was obliged to represent the interests of an increasingly frustrated and

⁵ Sweden has established a target to reduce greenhouse gas (GHG) emissions to 4% below 1990 levels between 2008-2012, even though a 4% *increase* was allotted as their Kyoto Protocol target in as part of the overall European Union target.

⁶ See Climate Action Network Canada (2005).

⁷ See note above on Green Party criticism of the lack of concrete action plans to make the targets feasible.

⁸ See Hollander (2003) for an analysis of the patterns of bottom-up innovations for sustainability. Also see Hollander (1998) and Hollander's contribution to Hildebrandt et.al. 2001 – Towards a sustainable Worklife - for in-depth analysis in English of the TCO case.

⁹ Tjänstemännens centralorganisation – TCO.

vocal membership.¹⁰ The problem that confronted the union was that the best available technology on the market was unable to meet the demands of their membership. Per Erik Boivie (2004: 3) describes that:

To demand that the employers should purchase better equipment was hopeless, since among their range of products suppliers did not have any IT equipment with the sort of good working environment characteristics that were needed. Other ways had to be found, not least with the aim of applying pressure to the suppliers to develop their products in the desired direction.

In 1986 the TCO created a *Screen Checker* checklist for use by its members to ensure that the display unit being checked met standards for good quality. It was also meant as a way to survey the opinions and demands of product users so this information could be sent to manufacturers. Per-Erik Bovie, described by a leading Swedish work environment magazine as the 'man behind TCO Development' (Lundgren 1998) initiated this grassroots movement where 150,000 questionnaires were sent to the producers that co-operated in the scheme. After the IT producers received the multitude of questionnaires Boivie says, "something happened". IT producers were suddenly more willing to listen to TCO's concerns (Boivie 2004a). The *Screen Checker* was translated into 9 languages and spread internationally. A second document called *Screen Facts* was produced in 1991, which gave scientific reasoning for why high-quality visual displays units were important.

In 1992 TCO produced its first label for information technology equipment, titled TCO 92. It was launched in September at an international information technology conference in Berlin.¹¹ This label was quite innovative in its specification of specific criteria for visual ergonomics, electromagnetic fields, rapid restart after powerdown, and energy efficiency. Energy efficiency had connections to workplace environment issues, because a large room full of computers converting energy into heat degrades air quality and facilitates poor oxygen exchange, producing tiredness and headaches for employees (TCO Development Unit 1998). Rapid restart after powerdown reduced frustration in the workplace while also having the effect of encouraging electricity conservation by workers by turning off their computers when not in use. The label also prohibited the use of certain chlorinated solvents, freons and heavy metals.

The actor coalition that was involved in the creation of TCO 92 was diverse. A special department of energy efficiency within NUTEK (The Swedish National Board for Technical and Industrial Development) developed efficiency criteria. This special department was established as a government agency in 1991 after a government decision

¹⁰ The concern over VDU sickness was clearly boiling up from the grassroots of the union membership. Peter Magnusson, a former computer ombudsman of the Union of Civil Servants, was quoted as saying "that fall (1985) it was no fun to be a union rep." (Nordstroem & von Schéele 1989: 179)

¹¹ WWDU (Work with Display Units) is a tri-annual scientific conference on IT and also an international IT trade fair.

was made to start closing nuclear power plants. Its mandate was to encourage energy saving techniques, as well as show that energy efficiency could be technology driving and profitable.

Another organization, SEMKO, the Swedish Institute for Testing and Certification of Electrical Equipment, was active in developing criteria for electric and magnetic field emissions and became a tester for VDU's.

The Visual Display Units first had to be tested to develop the TCO standards. Per Erik Boivie eventually developed a network of independent computer experts who provided a vision of what was technologically attainable. While the original demand by TCO was for the Ministry of Labour to arrange for mandatory testing of VDU's (TCO 1987), the compromise reached would see the National Board for Measurement and Testing develop a system of non-mandatory testing in May 1986. The set-back in the union's initial strategy was soon transformed into a blessing because the TCO took control of a labelling system that became more stringent, dynamic and technology driving.

The TCO product demands also required the sympathetic ear of, at least some, producers. At first, large producers such as IBM showed little interest in discussing product quality issues with the union and the association of Swedish IT industries saw new energy efficiency requirements as a nuisance. Yet, a progressive company that was willing to break rank with other industry players was Finnish Nokia via its Sweden based Euro-market manager for IT - Helge Tiainen. After development work that took less than a year, Nokia VDU's could match the tough standards considered by TCO in the late 1980s. The company took this step because it wished to nurture a reputation of user-friendliness. Finnish Nokia experienced 150-fold growth from 1989 to 1997 (Hollander 1998: 5).

The dynamic networking between union, government agencies, progressive producers and IT experts was expanded to include an explicitly 'environmental' actor, when the Swedish Society for Nature Conservation (SNF) helped produce the environmental criteria for the TCO '95 label. This label banned brominated and chlorinated flame-retardants and also included criteria for recycling. The TCO label has been re-issued a number of times (TCO '99, '03, '05), each time pushing for higher ergonomic and ecological standards and new technological innovations; demanding new product specifications and technological improvements at a faster pace than other labeling schemes administered by governments and corporations¹². The TCO label has come to have a strong influence on the global IT market. In December 2003, 5,876 computer display models had been certified by TCO (Boivie 2004: 5-6).

Lessons from TCO Development

The TCO story shows how a labour organization can become an integral and driving player in sustainable production and consumption in the present era of governance and

¹² For instance, the TCO label has updated its standards much more regularly than the corporate-administered ISO standards.

what Bob Jessop calls the “Schumpeterian workfare state” based on innovation and international competition.

The strategy of TCO evolved to by-pass the government, which was reluctant to offer strict regulation of VDUs. Instead TCO formed a diverse actor coalition to demand advanced social and environmental qualities. With the information provided by the Swedish testing agencies, TCO as a determined and resourceful actor produced a labeling system that would be technology-driving. This contrasts with a system of regulation that was slow, bureaucratic and based upon what most companies could achieve instead of what was the most advanced.

The strength of social movement/user defined standards is further demonstrated through the Swedish Society for Nature Conservation’s (SNF) objection to European labeling schemes (see SNF 1998). An SNF eco-labeling project that started in 1990 was the major force behind reductions by a factor of 10 of hazardous tensides in detergents in Sweden. The SNF emphasizes that their autonomy from both business and government provides broad acceptance of the high standards of environmental labels. The TCO example (created with SNF as an actor) shows that the labour movement can benefit from the participatory and extra-parliamentary brand of politics practiced by the new social movements.¹³ Indeed, TCO pushed by frustrations and tensions in the workplace and following a strategy of mixing its traditional knowledge and experience of governmental institutions with network building activities and strategic market intervention proved to be remarkably successful.

The TCO story also meets the criteria for environmental innovation in production and consumption called for by ecological modernization. The significance of the TCO label is that it is based upon social and environmental demands related to both the workplace and outer environments. Following Polanyi’s (1944) concept of dis-embedding we can view the TCO labels as contributing to a partial ‘re-embedding’ of the economy within social and ecological rationalities. It would thus represent a progressive form of ecological modernization.¹⁴

The TCO example also highlights the relations that occur between social movements and industry in systems of innovation. Though many industries viewed the advanced social and environmental demands made by TCO as a threat or a bother, some more progressive and entrepreneurial fractions of industry (Swedish NOKIA in the TCO case) showed that interaction with users to develop products to meet advanced social demands could encourage their profitability and competitiveness. The fact that it was the labour and environmental movements that induced these innovations, debunks a misconception that it is free-markets, divorced from any social relations that play the sole role in inducing innovation. On the contrary, it is companies attempting to recoup their full return on sunk capital that often seek to suppress competitive innovations, that could also be

¹³ The SNF is actually not a new social movement in a strict sense since it was born in the early 20th century as part of the Swedish version of the Conservationist movement. Today, however, it has many of the typical traits of new social movements as discussed by Jamison (1990) or Castells (2004).

¹⁴ See (Mol 1995) for a discussion on the theory of ecological modernization entailing a ‘re-embedding’ of ecology, whereby ecological rationality is valued in its own right.

environmentally and socially beneficial. It is quite possible for workers and environmentalists, not capitalists, to play the chief catalytic role in systems of innovation.

The launching of a similar certification program by the Swedish blue collar union confederation (LO) in 1999, shows the generative potential of the TCO example. The LO program, titled UsersAwards aims to improve the quality of workplace software by assessing the overall user satisfaction of software used by workers.¹⁵

Following from the TCO example, the question we pose to the democratic left in the 'new economy' is if it is willing to make advanced social demands a tool for gaining international competitiveness? Or better yet, can alliances of the democratic left and green movements be instrumental in redefining the subjects of socio-economic transformation?

Strategies for a Progressive Counter-Movement

While we do not wish to deny the usefulness of the infrastructure projects we have mentioned above, we believe the democratic left must emphasize the type of dynamic and creative network building that occurred in the TCO development story. An industrial strategy inspired by the progressive elements of ecological modernization and the participatory politics of the new social movements requires government policies that can first and foremost enable and mobilize social actors.

Our particular emphasis is on the role of advanced social and environmental demands. Contemporary analysis of innovation in business schools and by academic economists more or less take for granted that innovative work will benefit from an ambience where pluralism exists, playfulness is encouraged, and where learning by trial and error is seen as the natural course. This same experimental attitude is rarely emphasized when considering the actors that use products and demand improvements in their design. The labour movement is particularly well placed to advance innovative demands because unions provide a highly organized and aggregated group of users that are able to consider the social and environmental dimensions involved in the numerous backward linkages associated with processes of production.

¹⁵ The UsersAward program includes national survey of user satisfaction with workplace software, a yearly "Users' IT Prize Contest" when all Swedish employees are invited to nominate their favorite workplace software package, and a User Certified instrument which certifies if the software has satisfied users, after one year of use in at least two independent workplaces. As in the TCO example, the UsersAward involves a network of actors which includes research groups at three universities, its sister union Confederation (TCO), and VINNOVA, a public innovation agency which sponsors R&D activities in many fields, for instance quality assurance and environmental sustainability.

The TCO and LO cases are just two of many examples. Cases of advanced social demands related to chemistry include mercury-free coatings for seeds, water-based paints for woodwork and environmentally-friendly cutting fluids (Hollander 1995; 2003). In Hollander 2003 the focus is broadened to also include IT as in the TCO case and urban planning as in the case of the Suburban eco-commune. Another case that is internationally celebrated but often misunderstood concerns low-chlorine paper bleaching. (references are found in Hollander 2003).

The Role of Unions

An analysis of the possibility for an active role for the labour movement in future industrial policy through their advanced social demands, no doubt, involves some significant changes in union culture, organization, and strategy. Labour will be challenged to develop a more holistic agenda and build new coalitions. The TCO example of a left-green coalition involved environmental and labour union actors, which have at times been in fierce opposition.

If unions are to play a role in shaping production and consumption they must consider their members as active creators of their work process and workplace environment. This agenda fits quite nicely into labour's traditional struggle against Taylorist work organization. It also requires a more educated, as well as vigilant, workforce. In the TCO example, the efforts to change technology would not have been undertaken if it were not for the initial militancy of the membership regarding their concerns about 'VDU sickness'. The labour movement should closely consider the role that workers can play in sectoral development strategies by demanding new innovations in production linkages. This creative potential can be encouraged through 'greening of industry' training, increased participation, and encouragement of experimentation at the workplace.

The TCO development story also signified a change in union political strategy. As mentioned above, the government's refusal to provide quick, binding regulation was a blessing in disguise because the TCO Development Unit soon found that it could actually push new technological development at a much quicker pace. The labour movement can be an active component of innovation, production and consumption instead of simply lobbyists to the government.¹⁶

What is perhaps most challenging for a union strategy based upon advanced social demands are the cultural divisions that can occur when innovators get too far ahead or seek to exacerbate certain tensions. The TCO development story entails its own "cocoon in the nest problem" whereby TCO development became increasingly segregated from the activities and associations within the central union organization. The same article that mentions Per Erik Boivie as the "man behind TCO Development" also discusses how hard it is to "find space for an enterprising and creative department" within the union federation (Lundgren 1998).

The Role of Government

The democratic left's traditional approach to government also encounters contradictions when trying to foster innovation. In "the good old days of the Swedish model", environmental and social movements met severe cooptation pressure (see Jamison et al.

¹⁶ This is fitting with the Swedish labour movement's history. Under the Rehn-Meidner plan, a significant part of the post-war 'Swedish model', the LO (blue-collar workers federation) together with the Social Democratic government pursued a strategy that aimed to equalize wages, reduce inflation, and improve productivity. The union's 'solidarity wage' policy initiated industrial restructuring towards higher-value added economic sectors. See Hedborg & Meidner 1984, Martin 1984, Milner & Wadensjö 2001.

1990) which at times stifled much of the dynamic, participatory network building activities that could lead towards bottom-up innovation for sustainability. The Local Investment Program in Sweden was in our view justifiably criticized for being typical of the darker side of the Swedish model because of its top-down style of implementation, which has the tendency to overwhelm participatory networks (see Lundqvist 2004a). Activist government is certainly necessary, but government intervention must understand its role within the social, economic and cultural context in which innovations occur.

A key role for government remains the setting of the proper framework conditions for network building and participatory activity as well as active participation in networks. Government can also be instrumental in creating a dominant demand when innovations have reached an adequate stage of maturity and are ready for diffusion into the market.¹⁷ A number of tools are still at the disposal of government and other social actors. These tools include a credible threat of regulation to get the laggard industries in line; taxes and subsidies phased in over time; as well as public procurement, certification and labeling, which were the most prominent in the TCO Development case. In the TCO Development case, the unions actively negotiated procurement policies by convincing the Swedish Agency for Administrative Development to tie state procurement policies in the 1980s to the demand levels of TCO.

State intervention is vitally important but it must be coordinated in such a way that encourages the mobilization of progressive movements whose social and environmental demands are allowed to dialogue and experiment with progressive entrepreneurs in proto-markets. Government policy that facilitates the creation of advanced social demands and seeks to complement social movement's market interventions makes for a more innovative and progressive industrial policy. Industrial policy has seldom considered the importance of earlier stages of development and how the social and environmental character of innovation is shaped at this stage.¹⁸ To ensure a 're-embedding' of innovation towards social and environmental goals, the mobilization of labour union and environmental interests should be particularly relevant.

The state is also essential for creating the proper framework conditions and quelling some of the contradictions that confront green-labour alliances. The radical innovations that can be unleashed through actors' advanced social demands have potential to spur sweeping industrial restructurings. This is in fact a major goal for strong forms of ecological modernization and for the users that demand improved, or perhaps completely different, products. Yet, the solidarity of the labour movement is threatened if innovations for a better workplace environment and outer environment also make workers in other industries pay the costs of industrial restructuring through increased unemployment and

¹⁷ It is important to consider the often times very long gestation periods for innovations (see Hollander 1995). Innovations that face the brunt of the market too soon often times end in failure. Sufficient experimentation and development in proto-markets is essential.

¹⁸ The LIP is a case in point. The technological development criterion that was placed on the government evaluation of project proposals, only concerned itself with the final stages of innovation and not the bridge building activities that were important in local communities. A counter-example is Ontario, Canada's 'green industry strategy' which concentrated on building networks and trust between business, government and social actors to build the foundation for innovative activity (Bienefeld 2004).

insecurity. As mentioned above through David Harvey's insights, this contradiction has potential to destroy the identity of the democratic left itself. Yet, confronting the contradiction provides renewed impetus for the most traditional goal of the democratic left: the welfare state.

Labour movements in some countries have made their acceptance of ecological industrial restructuring depend on the prior introduction of "just transitions" policies (see Burrows 2001; Marshall 2002). The just transitions policy is essentially a call for an active labour market policy, implemented arguably most successfully in the days of the Swedish Model through the Labour Market Board.¹⁹ Provision of comprehensive income support, education and training, consulting as well as active job search is essential to help workers move from "grey" to "green" production. The labour movement has seemed to have thus far argued that the just transitions is the mark of a compassionate society and the price that must be paid for labour peace. A more thorough green-labour strategy in the new economy should consider the opportunity for unions to play an active role in systems of innovation as a user group with advanced social and environmental demands. This added consideration makes a just transition, the welfare state, and active labour market policy, mechanisms to ensure that workers become enthusiastic about sustainable innovation. Sustainable innovations that become widespread can result in more secure jobs and reward workers as citizens concerned about their global environment.

A 'Green' Industrial Policy Offensive

If the democratic left meets the challenges presented by the discourse of ecological modernization and the emerging new social movements in a creative way, its class-based politic can aim to meet traditional priorities while simultaneously speaking to new goals related to environmentalism.²⁰

The formation of, and advocacy for, advanced social and environmental demands has the potential to further mobilization around workplace democracy issues and highlight the difficulties of excessive divisions of labour. The education and training as well as participatory processes that are necessary for the articulation of user demands encourages workers to consider themselves as integral to the entire production process. The possibility to produce things differently in the workplace and to consider the multiple social, environmental, and economic linkages in production processes between other workers and communities is considered. In addition, the ability for unions to influence employers' purchasing decisions is important for the implementation of procurement policies that create demand in the market. The danger however, is that fixing the technical problems (most often related to health and safety) will alleviate those creative tensions that spur the type of mobilization and network building activities desired. A continual questioning and re-questioning of the different social and environmental

¹⁹ During the golden days of the Swedish model the success of the Labour Market Board, or AMS (*Arbetsmarknadsstyrelsen*), was its ability to quickly support workers who were willing to transfer from low-wage to high-wage employment through retraining and active job search.

²⁰ While this paper has concentrated on environmental questions, we wish to acknowledge that 'new social movements' are involved in a variety of related struggles (gender roles, poverty, homelessness, health, racism, homophobia).

aspects of production is necessary to encourage workplace democracy and responsible production.

Finally, we wish to emphasize the international, and networked, formation of a green-labour movement. The internationally networked strategy shown in the TCO example was essential for a union federation in a small northern country to affect a global market. The strong international diffusion of the 'screen checker' was also important as well as the release of the TCO '92 label at an international IT conference.

The current type of globalization is, however detrimental to a movement based on advanced social demands. The financially liberalized "new economy" has many traits that hold back progressive innovations by constraining government actions and empowering short-term capital. The internationalization of capital also places severe constraints on industrial policy. While tools such as regulation, taxes, and subsidies are still available to a certain extent, they are increasingly constrained by exchange rate concerns. Short-term capital also acts as a constraint on systems of innovation. Since innovations often have extremely long gestation periods in proto-market, the proper nurturing of advanced social demands is made difficult when capital has an excessively short-term outlook. This short-term outlook often requires innovations to be put to market when they are not yet fully matured, creating a backlash by producers who assume that the changes suggested will never work. In addition, democratization of the workforce is made more difficult from the continued threat of a capital strike from employers determined to maintain Taylorist forms of work organization.

In order to create favorable conditions for strategies of the types discussed we will therefore have to take into account action on multiple geographic scales. Helleiner (1995), for instance, identifies counter-movements to financial deregulation at the global, regional, national, and local levels. At the national level a certain re-embedding through welfare state policies occurred during the democratic left's post-war heyday. Since most democratic victories have historically been won at the national level, we should not deny its strategic importance. In the long term, however, further democratization that transcends beyond the nation-state is a prerequisite for the success of a green-labour counter-movement strategy. At the local scale (within communities and workplaces) the activities of the new social movement's seek to create radical networks, providing the seedbed for innovative policy. At the regional scale we see the resistance to neo-liberal integration processes forging new alliances across borders.²¹ In addition, contestation of the power of capital at the global level is essential to empower democratic development within political communities. We see campaigns such as the *Attac* movement's calls for an international 'Tobin Tax' on financial transactions as a hopeful first step in reclaiming increased democratic control over capital flows and we emphasize the need for international campaigns to be connected to local, national, and regional struggles.²²

²¹ See Hollander 2005 for a discussion on the 'Double No' (France and Netherlands) to the European constitution as being voiced from important parts of the left-green movement.

²² Also see Harvey (2000) for a discussion of the risks associated with strategies that are too focused on a certain spatio-temporal scale.

Conclusion

The struggles in the new economy present great challenges. The IT revolution has empowered the environmental movement, which seeks to operate simultaneously on multiple geographic levels. The new economy's emphasis on competition through innovation is wrought with contradictions, opening up important points of leverage for a progressive counter-movement. To grasp the opportunities that are present, social movements will have to form new networks and consider more radical futures. In this article, we have explored the possibility of a labour and environmental alliance in the new economy through the example of TCO development.

What then, might it mean to have a sustainable job? First, we believe there would be an acceptance that technological innovation can contribute to a better workplace environment and improved workplace democracy. This possibility is highlighted in the TCO and UsersAward cases, where workers consistently demand better information technology tools.²³

Second, we believe jobs should contribute to multiple democratic aspirations, and this includes a world that is socially and environmentally just. A job should not contribute to ecological destruction or exploitation of others; instead the work process should actively encourage individuals to consider how to transform consumption and production to further social and ecological goals. The members of TCO, worked with a Swedish environmental NGO, to take a step in this direction.

Third, we do not believe that a sustainable job has to always be the same job. With the proper labour-market policies the labour movement can challenge the division of labour over many scales and lead an offensive strategy to restructure work towards safer and more ecologically beneficial forms of production. Indeed, we believe, this world is moving closer to Marx's vision of a society where

Nobody has one exclusive sphere of activity but each can become accomplished in any branch he wishes, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner.
(Marx & Engels 1845: 32)

Achieving this vision for sustainable jobs will require the rebuilding of welfare states and challenging the liberalization of capital. These steps are to be taken to further catalyze innovation and to re-embed the innovation process in social and environmental rationalities. A highly networked, green-labour movement operating on multiple scales would create an important progressive counter-movement to the present type of globalization that operates to the detriment of workers and the environment.

²³ See note above on the UsersAward program.

References

- Albo, Gregory. 1994. Competitive Austerity and the Impasse of Capitalist Employment Policy. In *Socialist Register 1994: Between Globalism and Nationalism*, edited by R. Miliband and L. Panitch. London: Merlin Press.
- . 1997. A World Market of Opportunities? Capitalist Obstacles and Left Economic Policy. In *Socialist Register 1997: Ruthless Criticism of All that Exists*, edited by L. Panitch. London: Merlin Press.
- Berkow, Charles 2006. Interview conducted with Ernst Hollander. Stockholm, August 2nd.
- Bienefeld, Manfred. 2004. Promoting Green Industry in Ontario: Lessons from an Innovative Policy Initiative. Paper read at International Association of Management and Technology Conference on Bridging the Gap: Sustainable Environment, May 31 - June 1, at Sebançi University - Istanbul, Turkey.
- Boivie, Per Erik. 2004a. Interview conducted with Brendan Haley. Stockholm, October 12th.
- . 2004. User-driven certification of computer displays - from visions and innovation to global standard. Paper read at Increase User Influence in Standardisation!, February 2-3, at Nordic Sea Hotel, Stockholm.
- Burrows, Mae. 2001. Just Transitions. *Alternatives* 27 (1):29-32.
- Castells, Manuel. 2000. *The Rise of the Network Society* 2nd ed. Oxford: Blackwell Publishers.
- Castells, Manuel. 2004. *The Power of Identity* 2nd ed. Oxford: Blackwell Publishers.
- Christoff, P. 1996. Ecological Modernization, Ecological Modernities. *Environmental Politics* 5(3).
- Climate Action Network Canada. 2005. Declaration on Climate Justice and the Montreal Climate Change Summit. Accessed August 31, 2006.
<http://www.climateactionnetwork.ca/e/issues/climate-action-now.html>
- Dryzek, John S. 1997. *The Politics of the Earth: Environmental Discourses*. New York: Oxford University Press.
- Eckerberg, Katarina, Susan Baker, Agneta Marell, Katrin Dahlgren, Adrian Morley, and Niklas Wahlström. 2005. *Understanding LIP in Context: Central Government, Business and Comparative Perspectives*. Swedish Environmental Protection Agency (Naturvårdsverket), Stockholm.
- Eriksson, Olof. 2004. Interview conducted with Brendan Haley. Stockholm, November 15th.
- Flannery, Tim. 2005. *The Weathermakers: How Man is Changing the Climate and What it Means for Life on Earth*. Melbourne: Test Publishing Company.
- Gindin, Sam, and D. Robertson. 1992. Alternatives to Competitiveness. In *Getting on Track: Social Democratic Strategies for Ontario*, edited by D. Drache. Montreal: McGill-Queen's University Press.
- Gore, Al. 2006. *An Inconvenient Truth*. New York: Rodale Books.
- Government of Sweden. 1999. *Sustainable Sweden - A Progress Report on Measures Promoting Ecologically Sustainable Development (Government Communication 1999/2000:13)*. Government of Sweden, Stockholm.

- Hajer, Maarten. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford: Clarendon Press.
- Haley, Brendan. 2005. Social Democracy and Ecological Modernization: Swedish Lessons for a Green Industrial Policy. MES Major Paper, Faculty of Environmental Studies, York University, Toronto.
- Harvey, David. 1996. *Justice, Nature and the Geography of Difference*. Malden: Blackwell.
- . 2000. *Spaces of Hope*. Berkeley: University of California Press.
- Hedborg, A. & Meidner R. 1984. *Folkhemsmodellen* Rabén & Sjögren.
- Helleiner, Eric 1995. Great Transformations: A Polanyian Perspective on the Contemporary Global Financial Order *Studies in Political Economy* 48: 149-164.
- Hildebrandt, E. & Lorentzen B. 2001. *Towards a sustainable worklife. Building Social Capacity - European Approaches* Berlin.
- Hollander, E. 1995. The enigmatic time pattern of Environmental Innovation (in Swedish). Stockholm: Department of Industrial Economics and Management, Royal Institute of Technology.
- . 1998. TCO 92/95. In *SPHERE+ Report*. Stockholm.
- . 2003. The noble art of demand shaping - how the tenacity of sustainable innovation can be explained by it being radical in a new sense. University of Gävle, Sweden.
- . 2005. "Dubbelnej! Och sen då?"! *Ordfront magasin*, August 24th <http://www.ordfront.se/Ordfrontmagasin/Artiklar/Efternejenspirarhoppet.aspx>.
- Huber, Joseph. 2000. Towards Industrial Ecology: Sustainable Development as a Concept of Ecological Modernization. *Journal of Environmental Policy and Planning* 2:269-285.
- Jamison, Andrew, and Erik Baark. 1999. National shades of green: comparing the Swedish and Danish styles in ecological modernisation. *Environmental Values* 8: 199-218.
- Jamison, Andrew, Ron Eyerman, Jacqueline Cramer, and Jeppe Laessoe. 1990. *The Making of the New Environmental Consciousness: A comparative Study of the Environmental Movements in Sweden, Denmark and the Netherlands*: Edinburgh University Press.
- Jessop, Bob. 1994. Post-Fordism and the State. In *Postfordism: A Reader*, edited by A. Amin. Cambridge: Blackwell.
- . 1995. The regulation approach, governance and post-Fordism: alternative perspectives on economic and political change? *Economy and Society* 24 (3):307-333.
- Klevenås, Lena. 1999. Sweden. In *The Planetary Interest: A New Concept for the Global Age*, edited by K. Graham: Rutgers University Press.
- Lundgren, Hans (1998) Mannen bakom TCO-maerkningen gaar sina egna vaegar (The man behind TCO's enviro-label goes his own way). *Arbetsmiljoe* 7(8): 22-25
- Lundqvist, Lennart J. 2000. capacity-building or social construction? Explaining Sweden's shift towards ecological modernization. *Geoforum* 31 (1):21-32.
- . 2001. Implementation from above? The Ecology of Sweden's New Environmental Governance. *Governance* 14:319-37.

- . 2004a. *Sweden and ecological governance: straddling the fence*. Manchester: Manchester University Press.
- . 2004b. "Greening the People's Home": The Formative Power of Sustainable Development Discourse in Swedish Housing. *Urban Studies* 41 (7):1283-1301.
- Magnusson, Warren and Rob Walker 1988. De-centering the State. *Studies in Political Economy* 26: 37-71.
- Marshall, Dale. 2002. *Making Kyoto Work: A Transition Strategy for Canadian Energy Workers*. Canadian Centre for Policy Alternatives.
- Martin, Andrew. 1984. Trade Unions in Sweden: Strategic Responses to Change and Crisis. In *Unions and economic crisis: Britain, West Germany, and Sweden*, edited by P. A. Gourevitch. London: Allen and Unwin.
- Marx, Karl & Friedrich Engels. 1945. *The German Ideology*.
- Micheletti, M. 1991. Swedish corporatism at a crossroads: the impact of new politics and new social movements. *West European Politics* 14 (3).
- Milner H, and Wadensjö E. 2001. Gösta Rehn, the Swedish Model and Labour Market Policies: International and National Perspectives: Ashgate.
- Mol, Arthur. 1995. *The Refinement of Production: Ecological Modernization and the Chemical Industry*. Utrecht: Van Arkel.
- Mol, Arthur, and Gert Spaargaren. 2000. Ecological Modernisation Theory in Debate: A Review. *Environmental Politics* 9 (1):17-49.
- Murphy, Joseph, and Andrew Gouldson. 1997. Ecological modernisation: restructuring industrial economies. In *Greening the Millennium? The new politics of environment*, edited by M. Jacobs. Oxford: Blackwell.
- Nordstroem, Gunni and Carl von Schéele 1989. *Sjuk av bildskärm*, Tiden.
- Polanyi, Karl. 1944. *The Great Transformation: the political and economic origins of our time*: Beacon Press.
- Rosenau, James N. 2003. Governance in a New Global Order in *Governing Globalization: Power, Authority and Global Governance*, edited by D. Held and A. McGrew. Cambridge: Blackwell.
- Schumpeter, Joseph. 1942. *Capitalism, Socialism and Democracy*. Harper & Row.
- SNF 1998. Laa inte EU avvaepna miljoemaerkningen (Stop the EU from disarming eco-labelling). *Sveriges Natur* 3: 12-13.
- Stewart, Keith. 1998. Greening Social Democracy? Ecological Modernization and the Ontario NDP. Doctorate Thesis, Political Science, York University, Toronto.
- TCO 1987 'TCO urges the Government: We demand governmental initiatives on the VDU issues Now!' *Press Release #46*, December 4th.
- TCO Development Unit 1998. *TCO '99 in progress* (brochure) Stockholm.