

Wartime Mobilization to Counter Severe Global Climate Change¹

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Let us suppose that a widely-perceived increase in the frequency of extreme weather events leads to massive political support for an international effort to reduce greenhouse gas emissions. Let us suppose further that such an effort is implemented, and that, over a decade, significant reductions of greenhouse gases are achieved. This international effort might resemble to the Marshall Plan, or, as Prof. Pier Vellinga suggests, it might resemble mobilization of resources undertaken by the West to combat Communism during the Cold War (personal communication, 1993). Presumably, such an effort would include such widely-discussed measures as carbon taxes and emission trading schemes. But what if these measures are insufficient in light of a continued increase in the frequency of extreme weather events? Few, if any, environmentalists, scientists, or politicians have discussed the possibility that countering severe global climate change in such circumstances might require the sort of mobilization that occurred in the major Allied nations during World War II.

In light of this scenario, differences and similarities between mobilization during World War II and possible international mobilization to counter severe global climate change (GCC) will be explored.

Experiences in World Wars I and II showed that government control of the economy was more efficient than market mechanisms for establishing production priorities, deploying labour, allocating materials, and establishing prices for goods that had not been previously manufactured (Hancock and Gowing, 1949: p. 5; Plumptre, 1941). In World War II, ultimate control of all productive enterprises in Canada rested with the Department of Munitions and Supply headed by the millionaire businessman, C.D. Howe, and with "Controllers" of major branches of the economy: Steel, Metals, Timber, Oil, Machine Tools, Power, Construction, Chemicals, Aircraft, and Transport (Howe, 1942: 42-45). Each Controller had sweeping power: "For instance, the Machine Tool Controller [had] authority over "machinery of every kind" and could "enter on, take possession of and utilize any land, plant, factory or place used or capable of being used for making or storing machine tools" (Plumptre, 1941a: p. 31).

To provide skilled labour for war production, the government established training programmes for school-leavers and for women who had not previously

worked in industry. The incidence of strikes and lockouts decreased as labour and management subordinated their interests to the war effort. Employers were prohibited from hiring skilled workers already employed in vital industries (Stewart, 1941: p. 82). "Federal government order-in-council 7440 issued in December 1940, provided that the 1926-29 level of wages would be the norm for a fair and reasonable wage. When wages went below this level, they could be increased, but the increase was restricted to 5% and under for any one year. It also provided for payment of a cost-of-living bonus" (Lipton, 1966: p. 268). The rights of trade unions to organize and to engage in collective bargaining were guaranteed, but according to Tom Moore, President of the Trades and Labour Congress of Canada in 1941, the government did not enforce these guarantees. They were sometimes ignored by C.D. Howe's Ministry of Munitions and Supply (Moore, 1941: 172-73). Nevertheless, most major industries were unionized by the end of the war (Lipton, 1966: 266-67).

During World War II, shortages of food, housing, and various consumer goods occurred because military establishments had to be fed, clothed, housed, and otherwise supplied. It was a matter of political and moral necessity that private interests did not benefit from these shortages, and that privation was seen to be shared equally. Consequently, rent controls, rationing, subsidization of certain consumer goods, and price-ceilings were established. "The general rule was that there were to be no more price increases on consumer goods and no more rent increases on existing houses and apartments. Every housewife doing her shopping became an inspector with a duty to report any price increases... The Canadian record on control of wartime inflation was probably the best among the Allied nations. From the application of the price ceiling in October 1941 to the end of the war, the cost of living index rose only 4 per cent" (Sharp, 1994: 24-25).

In order to prevent flight of capital, particularly U.S. dollars, the Canadian government established exchange controls (Rasminsky, 1941). Progressive taxes were increased, and bonds were sold to finance the war (Gibson, 1941).

The government mounted large-scale publicity campaigns to 'sell' the foregoing emergency measures

to the Canadian public. These campaigns were successful from the outset in most of Canada. In Quebec, public support for the war effort increased after the Japanese attack on Pearl Harbor (personal communication from Mitchell Sharp, 1997).

Although they differed in detail, mobilization measures similar to those in Canada were undertaken in Britain and the U.S. (see Galbraith, 1952). Early in the war, the British and Canadian governments created institutions for joint economic planning. Later, these institutions were expanded to include the U.S.S.R. (see King, 1941; Warren, 1949).

There are interesting parallels between wartime mobilization in Western Allied nations and the sorts of measures that would be necessary to reduce greenhouse gas emissions on an emergency basis in the face of prolonged and severe global climate change. While it has been suggested that environmental scarcity will weaken states (Homer-Dixon, 1993: p. 43), there is also a widespread expectation in developed countries that states should mobilize resources to forestall damage caused by extreme weather events (e.g., by constructing flood control systems), or to aid victims of extreme weather events (e.g., by providing food clothing, shelter, and resources for reconstruction, to victims). In the case of prolonged, severe GCC, it seems likely that states would be expected to take emergency measures to forestall further GCC. Presumably, such measures would include drastic curbs on the activities of the petroleum industry and on fossil-fueled automotive industries. Similarly, the activities of the rice, beef, and dairy industries might have to be drastically curtailed since they are major producers of methane, one of the more potent greenhouse gases. In order to maintain energy supplies, food supplies, and transport networks, renewable energy technologies (RETs) would have to be developed, produced, and widely propagated. A major expansion of public transport, especially railroads, would have to be undertaken. As well, substitutes for beef and dairy products would have to be found and produced in large quantities. Many workers would have to be retrained and redeployed for these tasks. To be effective, these measures would have to be carried out by the major industrial nations in concert. RETs and non-methane foods would become the equivalent of vital wartime supplies.

As in World War II, business might be unable to provide sufficient capital for expanded development and production of RETs and non-methane foods, or unwilling to do so without expectation of 'reasonable' profits. Thus, governments might have to develop, produce, and distribute RETs and non-methane foods. Profit ceilings might have to be imposed on businesses involved in RET and non-methane food

production in order to prevent profiteering.

As in World War II, command-and-control measures might prove more efficient than market mechanisms for establishing production priorities, deploying labour, allocating materials, and establishing prices for goods that had not previously been produced, especially new types of RETs and foods. Governments might have to establish training programmes to provide skilled labour for RET and non-methane food production. Perhaps trade union rights would be maintained not only in theory but in practice.

In the course of mobilization against severe GCC, shortages of energy and food might occur because of interruption of supplies caused by the abrupt curbs on the activities of the fossil fuel and cattle industries. It would be politically and morally necessary that private interests not benefit from these shortages, and that privation be seen to be shared equally. Rent controls, rationing, subsidization of certain consumer goods, and price-ceilings might have to be introduced. Taxation of middle and upper income groups would have to be increased. As in World War II, exchange controls might be necessary if capital markets can survive in conditions of severe GCC. Jeremy Leggett quotes a 1996 Munich Re[insurance] report as follows: "The possible extent of losses caused by extreme natural catastrophes in one of the world's major metropolises or industrial centres would be so great as to cause the collapse of entire countries' economic systems and could even bring about the collapse of the world's financial markets" (1999: p. 261).

Publicity campaigns in support of international mobilization against GCC would have to be undertaken. These would emphasize the connection between greenhouse gas emissions and extreme weather events.

The international institutions for joint economic cooperation and planning necessary for mobilization against GCC would, presumably, be similar to those created by the Allies during World War II.

Robyn Eckersley writes, "Although some greens have defended state ownership of some capital assets and some degree of economic planning all greens reject a rigid and highly centralised command economy on the grounds that it provides little opportunity for participatory democracy and community initiative" (1993: p. 10). It seems unlikely, however, that Eckersley and other greens would wish to apply this characterization to the command economies of the Western Allies during World War II. Even if wartime mobilization did not involve much participatory democracy, it *did* have mass public support in Allied nations. Such support was not sur-

prising in light of the consequences of defeat. These were characterized in 1941 by Canada's Deputy Minister of labour, Bryce Stewart: "If we lose there will be no employers' organizations, no trade unions, and our standard of living will be that permitted to a conquered people forced to pay heavy tribute to a victorious dictator" (1941: p. 75).

Surrender by the Axis powers clearly signaled an Allied victory in World War II. But what would count as victory or defeat in the case of international wartime mobilization against severe GCC? Defeat might be defined as decimation or extinction of humanity, provided that one is not too strongly committed to certain varieties of Deep Ecology. Victory is more difficult to define, especially if it becomes necessary to maintain international mobilization against GCC on a semi-permanent basis. Wartime mobilization was traditionally part of certain cultures (e.g., the Sikhs); but whether it could become traditional in Western cultures that are oriented toward possessive individualism is open to question.

Important aspects of mobilization against severe GCC are perhaps exemplified by recent Cuban attempts to curtail consumption of fossil fuels. In 1989, Soviet exports of oil and petroleum products to Cuba largely ceased. Because of insufficient foreign currency for buying oil on international markets, and because of the U.S. embargo, Cuban consumption of fossil fuels was drastically reduced. Availability of petroleum-based energy sources for agriculture declined by more than 50%, and use of agricultural fertilizers declined by 80% (Rossett and Benjamin, 1994: 21-22). The Cuban state responded with emergency measures. Private autos were largely replaced with bicycles; oil-fired electricity generation was greatly reduced; households and productive enterprises reduced energy consumption; tractors were replaced by oxen; chemical fertilizers and pesticides were replaced by biological controls; urban workers were encouraged to relocate to rural cooperative farms (see Warwick, 1999). These measures were promoted by state-sponsored propaganda campaigns and involved a degree of mobilization comparable to that undertaken by the Allies during World War II.

Despite charges that the Cuban regime is undemocratic or 'totalitarian,' there is evidence that recent measures to curb fossil fuel consumption enjoy significant popular support (Hatchwell and Calder, 1995: p. 37). This may be due, in part, to the priority given by the Cuban state to the maintenance of health, education, and social programmes despite the U.S. blockade and despite the cessation of advantageous terms of the trade with the former Soviet bloc.

It should be mentioned that international mobilization is only one possibility in the event of severe GCC. The disruption of infrastructures, agriculture, and capital markets by extreme weather events could lead to Beirut-style warlordism, proliferation of religious fanaticism, or varieties of eco-fascism on a world scale. Thus, international wartime mobilization to counter GCC might be the best of several unattractive alternatives.

Spokespersons for fossil fuel and related industries, and their allies in various governments, have consistently argued that GCC is not a serious threat, or that rapid reduction of greenhouse gas emissions would be prohibitively costly in terms of jobs and profits. For example, the conservative U.S. journalist, Ronald Bailey, contrasted the international effort to phase out CFC production in order to reduce stratospheric ozone depletion with the calls of 'radical environmentalists' for international action to drastically and quickly curb greenhouse gas emissions in order to forestall further GCC (1993; 1995). According to Bailey, "On the evidence so far, despite the lurid crisis-mongering predictions of radical environmentalists, waiting for more information on CFCs and ozone did not cause any great harm to people or to earth's ecosystems, *nor will it*" [my emphasis] (1993: p. 140). Scientists have recently suggested, however, that GCC promotes stratospheric ozone layer depletion. Jim Anderson, one of the first researchers of the Antarctic ozone hole in the mid-1980s, suggests that global warming will boost the amount of water vapour in the Arctic stratosphere. In turn, the water vapour will hasten ozone-eating chemical reactions by lowering temperatures at an altitude of 20 kilometres sooner than would have occurred previously (Calamai, 1999). It is tragically ironic, in light of Anderson's hypothesis, that most industrialized nations refused, as Bailey and other conservatives recommended, to drastically curb greenhouse gas emissions; this may, however, have prolonged the problem of stratospheric ozone layer depletion which Bailey claimed was definitively solved!

Bailey, following the late Herman Kahn, suggests the 'radical environmentalists' often "frame policy debates in terms of total ecological annihilation versus some form of drastic and immediate action" (1995: p. 26). (In the early 1960s, Herman Kahn argued that peace activists posed a false choice of nuclear disarmament or nuclear annihilation. They failed to note, Khan claimed, that there were various degrees of nuclear conflict short of all-out war which needed to be brought out of the realm of "the unthinkable" (Kahn, 1962)). But Bailey and other champions of fossil-fuel and related industries have

failed to consider the possibility that conventional strategies might be insufficient to counter severe GCC and concomitant stratospheric ozone layer depletion. In light of this possibility, it might be time to bring the option of international wartime mobilization to counter severe GCC out of the realm of "the unthinkable."

KEY WORDS Global Climate Change. Wartime Mobilization.

ABSTRACT Parallels between mobilization of resources by the Western Allies during World War Two and measures which may be necessary to counter severe global climate change, are explored.

NOTES

1. Severe global climate change is distinguished here from worst-case global climate change. The latter includes runaway greenhouse warming or climate flips. These would likely involve decimation or extinction of humanity (see Leggett, 1992; also, see Beaulieu, 1997).

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