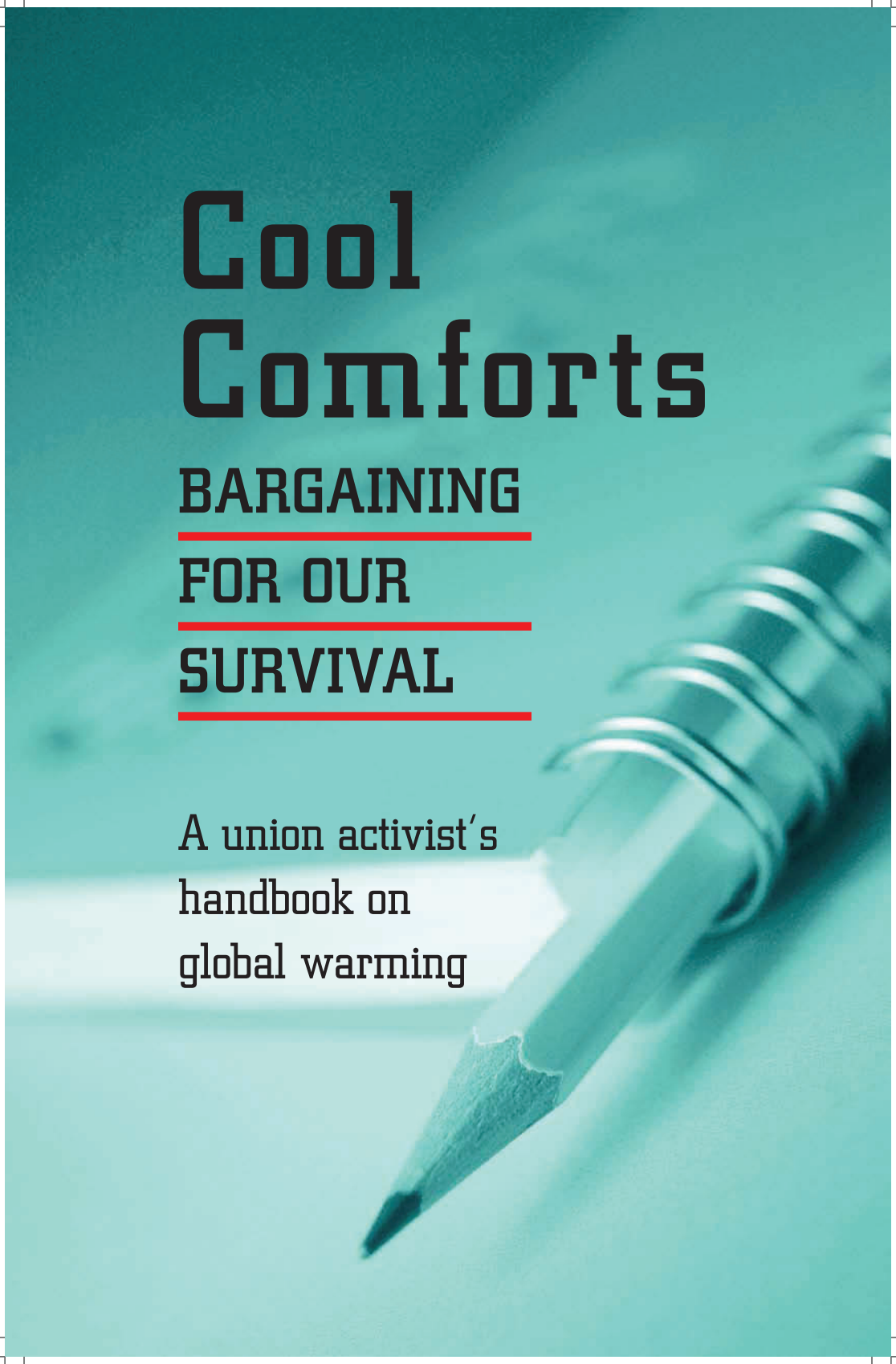


Cool Comforts

BARGAINING FOR OUR SURVIVAL

A union activist's handbook on global warming

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Peter Corbyn, P.Eng.
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The New Brunswick Union of Public & Private Employees (NBUPPE) is the exclusive bargaining agent for 21 distinct components/bargaining units of Provincial Government and Private Sector employees. ■ Taken together, we are the largest union within the civil service of New Brunswick. ■ In addition, we represent several distinct groups within the private sector including municipal workers, hotel workers and nursing home workers. ■ Our entire membership of approximately 8,000 work to deliver public services of every kind to the citizens of New Brunswick, as well as providing distinct services within the private sector.

NBUPPE is a component of the 370,000-member National Union of Public and General Employees, an affiliate of the 2.3 million-member Canadian Labour Congress

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Cool Comforts

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A union activist's handbook on global warming



I



Introduction



have challenged for justice since the first employer-employee relationship was established.

FOR centuries workers' struggles have been, and will continue to be, battled by brothers and sisters who seek basic dignities and rights.

There has never been a shortage of issues requiring attention and no shortage of power among workers.

Using the power of inclusion, the power of language, the power of shared interests, the power of coalitions, and the power of unions, workers have gained breakthrough achievements on much of what many in our communities take for granted as a part of everyday life.

The reality of global warming and its catastrophic consequences are today beyond debate. But the North American labour movement is caught in an internal stalemate among:

(1) Those at risk of job loss due to efforts to deal with global warming;



Like the 12-hour work day, the 6-day work week, a just wage and fair taxation, the reality of global warming is a union matter.

(2) Those who have not considered global warming an important union issue, and
(3) Those who see the climate crisis as a call for immediate action and an opportunity for sustainable economic development.

Just like the 12-hour work day, the 6-day work week, a just wage and fair taxation, the reality of global warming is a union matter.

Labour must confront the critical issues of minimizing the effects of global warming and we must respond at the bargaining table and in the public policy arena.

This handbook is aimed at union leaders and activists, who will be bargaining with employers and leading workplace campaigns. It is intended to help local unions address the challenging opportunities created by global warming issues in the workplace. It uses everyday lan-

guage to educate and mobilize union members, as well as arm campaign co-ordinators with practical strategies.

This handbook:

- lays out the ways and means to respond to the call for immediate action;
- identifies why unions must be at the forefront in the workplace and in the public policy arena;
- provides direction on how unions can assure a just transition for displaced workers to new green jobs.

Together, we can make a difference.



contents

GLOSSARY OF TERMS 14

SECTION 1

THE NEED TO ACT

THE PROBLEM

- A Short History 24
- Our Planet Is "Hot" 25
- Impacts On Our Planet 28

THE SOLUTION

- The Wedges 32
- Political Will 33
- Moral Leadership 35
- This Is Where We Come In 36

SECTION 2

TAKING ACTION IN THE WORKPLACE

- Getting The 'Green Idea' 44
- Step 1: Our Joint Energy Committee 47

ts

- Step 2: GHG Emissions Inventory 55
- Step 3: Educating The Employer 61
- Step 4: Identifying Opportunities 62
- Step 5: Assuring A Just Transition to New Green Jobs for Displaced Workers 72
- Step 6: Setting A Target 79
- Step 7: Engaging Co-workers and Sharing Your Success 82

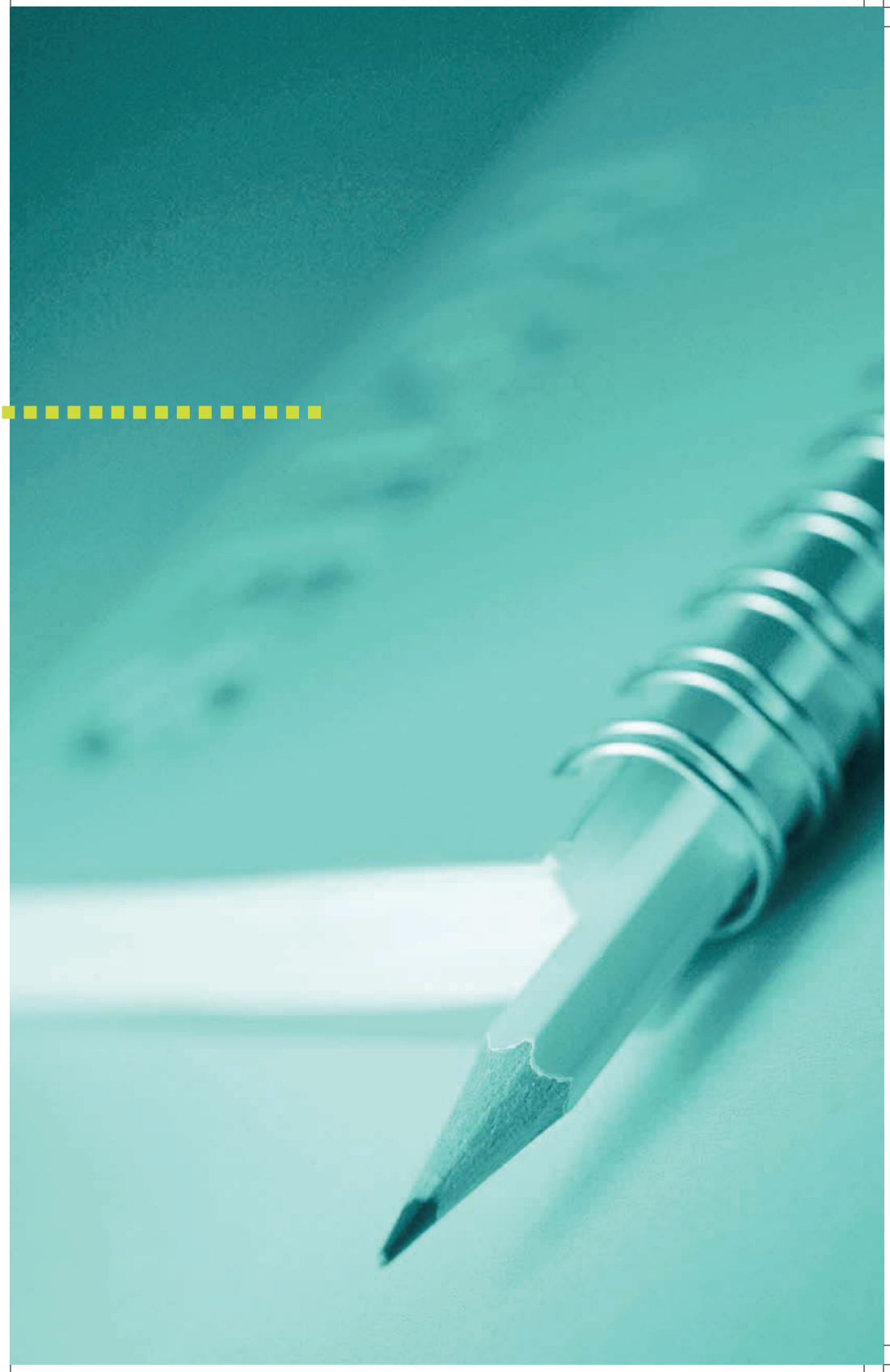
SECTION 3

TAKING POLITICAL ACTION

- Sound Public Policy 86
- Create National Energy Efficiency Standards 87
- Build a Green Power Grid 89

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Cap and Trade: The Cap and Trade system involves trading of emission allowances, or permits where the total allowance is strictly limited or 'capped'. A regulatory authority established the cap which is usually considerably lower than the historic level of emissions. (See also Emissions Trading)

Carbon Dioxide (CO_2): CO_2 is a colourless, odourless, non-poisonous gas that is a normal part of the ambient air. Of the six greenhouse gases normally targeted, CO_2 contributes the most to human-induced global warming. Human activities such as fossil fuel combustion and deforestation have increased atmospheric concentrations of CO_2 by approximately 30 percent since the industrial revolution. CO_2 is the standard used to determine the "global warming potentials" (GWPs) of other gases. CO_2 has been assigned a 100-year GWP of 1 (i.e., the warming effects over a 100-year time frame relative to other gases).

- **Carbon Sinks:** Processes that remove more carbon dioxide from the atmosphere than they release. Both the terrestrial biosphere and oceans can act as carbon sinks.

- **Carbon Taxes:** A surcharge on the carbon content of oil, coal, and gas that discourages the use of fossil fuels and aims to reduce carbon dioxide emissions.

- **Climate:** The long-term average weather of a region including typical weather patterns, the frequency and intensity of storms, cold spells, and heat waves. Climate is not the same as weather.

- **Climate Change:** Refers to changes in long-term trends in the average climate, such as changes in average temperatures. In IPCC usage, climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. In UNFCC usage, climate

change refers to a change in climate that is attributable directly or indirectly to human activity that alters atmospheric composition.

Emissions Trading: A market mechanism that allows emitters (countries, companies or facilities) to buy emissions from or sell emissions to other emitters. Emissions trading is expected to bring down the costs of meeting emission targets by allowing those who can achieve reductions less expensively to sell excess reductions (e.g. reductions in excess of those required under some regulation) to those for whom achieving reductions is more costly. (See also Cap and Trade)

Global Warming: The progressive gradual rise of the Earth's average surface temperature thought to be caused in part by increased concentrations of GHGs in the atmosphere.

Greenhouse Effect: The insulating effect of atmospheric greenhouse gases (e.g., water vapour, carbon dioxide, methane, etc.) that keeps the Earth's temperature about 60"F warmer than it would be otherwise.

Greenhouse Gas (GHG): Any gas that contributes to the "greenhouse effect."

Intergovernmental Panel on Climate Change (IPCC): The IPCC was established in 1988 by the World Meteorological Organization and the UN Environment Programme. The IPCC is responsible for providing the scientific and technical foundation for the United Nations Framework Convention on Climate Change (UNFCC), primarily through the publication of periodic assessment reports (see "Third Assessment Report" and "Fourth Assessment Report").

Kyoto Protocol: An international agreement adopted in December 1997 in Kyoto, Japan. The Protocol sets binding emission targets for developed countries that would reduce their emissions on average 5.2 percent below 1990 levels.

Renewable Energy: Energy obtained from sources such as geothermal, low impact hydro (dams), wind, photovoltaic, solar, and biomass.

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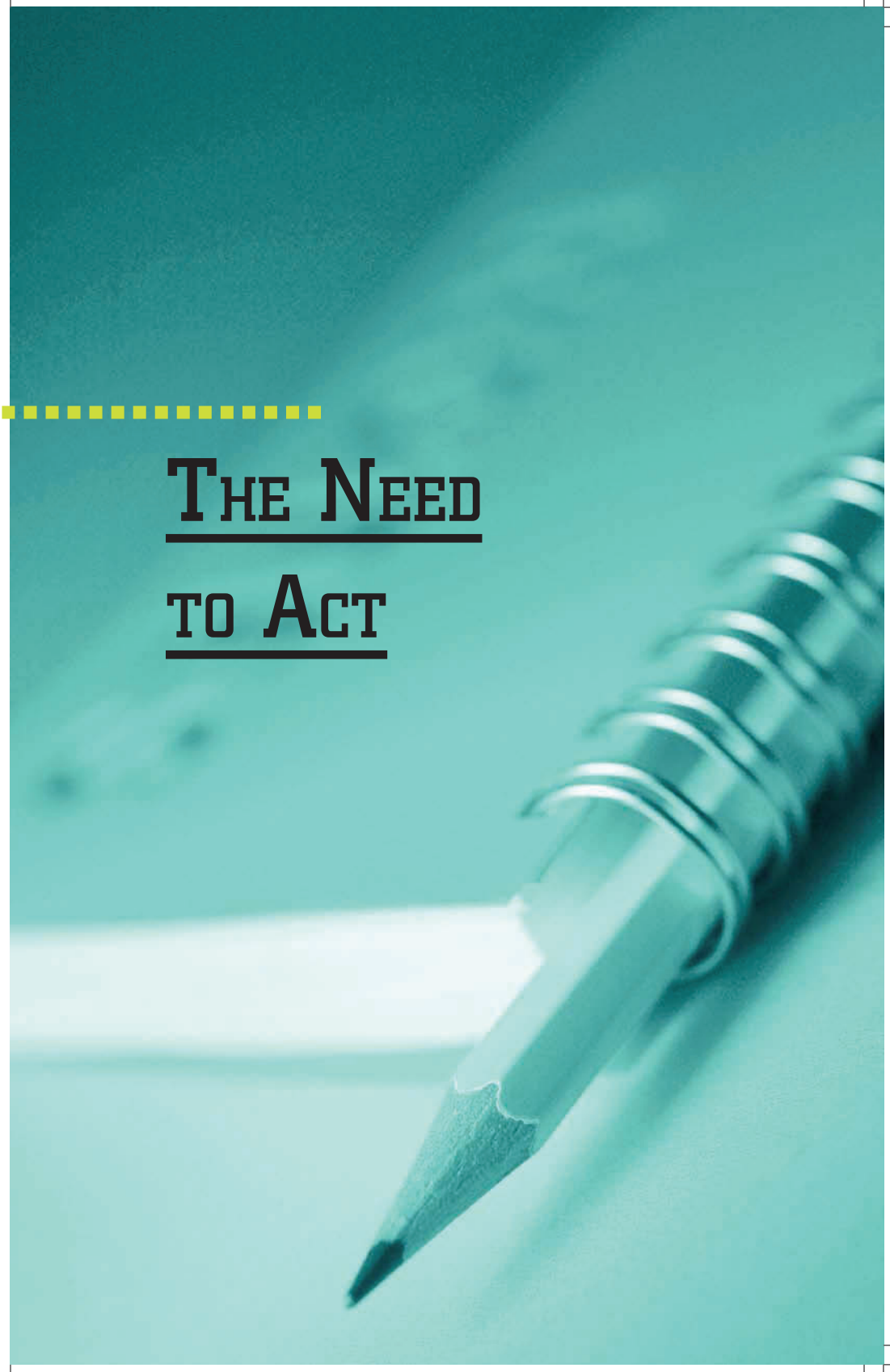
www.pewclimate.org/global-warming-basics/full_glossary/glossary.php

www.climatenetwork.org/climate-change-basics/climate-change-basics-glossary

section 1

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The Need to Act



THE PROBLEM

A SHORT HISTORY

OUR children will live on a very unhealthy planet if we do not take action. Quite simply, we have to reduce our global consumption of fossil fuels. Coal, gasoline and natural gas are examples of fossil fuels. They are called fossil fuels because they are actually the fossilized remains of dead plants and animals in the earth's crust from millions and millions of years ago.

Fossil fuels helped launch the Industrial Revolution in the late 18th century. Coal helped generate power in steam engines. For the first time in history, mankind was able to create energy beyond our own physical capability. Coal helped make steam which helped move larger objects, such as trains and ships.

THE PROBLEM

OUR PLANET IS "HOT"

The trouble with fossil fuels is that the more we burn, the hotter we are making the planet. Burning fossil fuels releases chemicals into the atmosphere, the most common being carbon dioxide, otherwise known as CO_2. Other gases that contribute to warming the planet include methane and nitrous oxides. Methane is pretty well the same chemical compound as natural gas, but its emissions are also growing due to increased farming practices around the world. Methane is essentially cow dung. Nitrous oxide emissions come primarily from industry and fertilizer.

As the amount of fossil fuels we burn increases, the build up of greenhouse gases (GHG) increases in the atmosphere. We are able to sustain life on earth because of the energy we get from the sun. Some of that heat stays on the

earth's surface, but some of the heat radiates back to space in the form of infrared waves. Greenhouse gases in the atmosphere trap some of the heat that radiates back into space. That trapped heats contributes towards warming our planet.

The temperature of the planet has gone up and down over its entire lifetime (billions of years). In fact, it has been warmer before and it has been colder before. However, those temperature fluctuations happened over hundreds of thousands of years, primarily due to naturally occurring phenomenon. Unfortunately, the planet is warming now at a rate hundreds of times faster than it ever has in the past.

Think of it this way – if the planet's temperature has changed in the past at the same speed as an adult walking, the relative rate of change due to global warming is now about 6 times faster than the

cruising speed of a Jumbo Jet[1]. Imagine trying to get out of the way of a person walking when they are a kilometre away – you have about 10 minutes to do it. Now imagine trying to get out of the way of a jet from 1 kilometre away – you would have about 3.5 seconds and about half a second if that jet (or something that moves very fast) was moving at 6,000 km/hr. In other words, if the climate was changing naturally we would have tens of thousands of years to adapt, but we only have a few years at best. Let's try not to get hit by the jet as it flies by us!

Earth is sometimes referred to as the Goldilocks planet because we have just the right amount of heat on the surface. We sometime complain about extreme cold in the winter or the extreme heat in the summer, but the reality is that the range from cold to hot is only about 100^{0}C (i.e. -50^{0}C to +50^{0}C, or -58^{0}F to +122^{0}F) on earth. Most species on earth, including humans, can live rela-

tively comfortably in this range. By contrast the atmosphere of Venus is very rich in carbon dioxide and has a small amount of nitrogen; its average temperature is 465^{0}C (870^{0}F).

THE PROBLEM

IMPACTS ON OUR PLANET

A fast warming earth affects various places of the world in different ways, many of which are well documented, all of which are well researched by thousands of scientists from around the world. The primary impacts on our planet include:

1. AND NOT A DROP TO DRINK

Decrease in size of glaciers around the world, resulting in reduced water sources for hundreds of millions of people. Water stress is happening now and is projected to get much worse in the next 20 years.

2. RISING TIDES

Ice at the north and south poles is melting faster than ever estimated, raising sea levels around the world. The IPCC estimates at least a 60 cm (2 feet) increase by 2100, the risk of that number gets higher as we burn more fossil fuels. A sea level rise of only 45 cm (18 inches) will result in about 10 million environmental refugees in Bangladesh alone. Places such as Florida, The Netherlands, New York City and Atlantic Canada are vulnerable.

3. KILLER HEAT

An increase in heat waves around the world. Over 35,000 people died due to the 2003 heat wave in Europe. The risk of more events like this in the future is ever increasing.

4. KILLER HURRICANES

The severity and impact of hurricanes will increase due to the warming of the

oceans. We will not necessarily experience more hurricanes, but the impact will increase for two reasons. First, we keep building more real estate in the path of storms, and secondly, the hurricanes will become stronger.

5. TOO MUCH BAD WEATHER

Hurricanes and other major events, such as drought (e.g. South East United States and Africa in 2007) and flooding (e.g. England, South East Asia, Newfoundland in 2007), are increasing the human cost and economic losses due to climate change.

If these changes happened over tens of thousands of years, we would probably not notice, nor would we likely care. But these changes are happening over the course of just a few years.

Our great-great-great-great-great-great-great grandparents inhabited the earth about the same time the United States

became a nation (7 'greats'). We would have to write 'great' over 400 times to reflect 10,000 years in the future. So, instead of worrying about something 10,000 years from now, we now have to worry about what our children and grandchildren will experience.







THE SOLUTION

THE 'WEDGES'

There is no magic bullet to solving climate change—we must act now. A number of strategies are required in order to make a real difference. In the carbon trade, they are known as the "wedges." These include:

1. ENERGY SMART HABITS

Improving energy efficiency, such as compact fluorescent light bulbs, LED light bulbs, programmable thermostats, etc.

2. ENERGY SMART BUILDINGS

Constructing more innovative and efficient buildings through such initiatives as R-2000 and LEED (Leadership in Energy and Environment Design. See www.cagbc.org/ for more information).

3. ENERGY SMART TRAVEL

Developing more efficient, less gasoline dependent vehicles such as hybrid's and

more efficient mass transit systems through improved planning and vehicle efficiency.

4. WIND, SUN, WAVES

Developing greater access to renewable energy, such as solar, wind, low impact hydro (dams), tidal, geothermal and biomass.

5. CAPTURE CARBON

Further developing carbon capture or carbon sequestration technology, which is essentially the process of burying CO_2 gas emissions from large scale generation and refinery operations underground.

THE SOLUTION

POLITICAL WILL

The most important ingredient, not mentioned in the list above, is political will, at all levels. Politicians must establish financial incentives and disincentives to

foster the growth of all of the above wedges through carbon taxes and cap and trade, the development of renewable energy projects and climate friendly research and development projects.



At the municipal level we need regulations and ordinances that discourage increasing greenhouse gas emissions, as part of an overall commitment to "green"

urban planning. Without such regulations in place, we are doomed to fail.

The more we are educated about climate change and the more we lean on our politicians, the more likely they are to listen. In the meantime, we should lead by example.

This may sound dramatic, but it is true, and sugar-coating reality will only keep us from picking up the pace of taking action—this is simply something we must do.

THE SOLUTION

MORAL LEADERSHIP

Now, into our third century, unions have played a major role in making life better for hundreds of millions of people. We have worked towards gender equality, freedom of speech, civil rights, better

health care and better pension plans. This is moral leadership. Our parents and grandparents did the moral thing, they did the right thing, and we benefit. It is now our turn to do the right thing for our children and their children.

THE SOLUTION

THIS IS WHERE "WE" COME IN

Unions can play a major role in reducing our impact on global warming. We can:

- 1. BUYING POWER

Influence the purchasing power of millions of people (i.e. only buy from socially and environmentally conscious companies);

- 2. KNOWLEDGE POWER

Help our members become more environmentally aware, helping them reduce their carbon footprint;

3. CONTRACT POWER

Negotiate win-win scenarios with the Employer to reduce the carbon footprint of our workplaces, and;

4. BALLOT POWER

Influence votes by learning more and demanding more of our politicians for sound public policy to do what is necessary to reduce greenhouse gases.

The climate crisis will affect different workplaces in different ways. People who work in schools, office buildings and the like will be able to affect the overall energy consumption of their workplaces, and, preferably, work to move those buildings towards renewable energy sources such as wind and solar power.

At first glance, reducing our impact on global warming will be challenging for energy-intensive industries and their employees. Steel workers, auto workers

and coal miners are at risk of losing thousands of jobs if leaders in those sectors do not take action to adapt to the changing markets, and thrive in the changing economy that is needed to secure our children's world[2].

Steel workers and construction trades can benefit by retrofitting old large buildings, such as government buildings, making them more energy-efficient, thus decreasing our dependence on foreign oil. The same trades can benefit from the development of new construction materials that make new buildings more energy efficient and with less environmental impact.

Domestic automotive manufacturers need to start seriously developing more fuel efficient vehicles by focusing on hybrid technologies, cleaner diesel engines, electric vehicles, biofuels, end-of-life design, driver education, and lighter materials (also benefiting steel work-

ers)[3]. Imagine a day when vehicles get 100 miles to the gallon – that day has to come. The question is which car companies will be left to manufacture and supply those vehicles.

Coal miners, and other mining sectors, will certainly be affected by decreasing demand. However, there has to be a substantial increase in renewable energy sectors, such as solar, tidal and wind (again, increasing the demand in domestically manufactured products as wind energy consumes a lot of steel). Training workers in traditional extraction industries towards employment in renewable energy sectors will be necessary, and should be strongly encouraged.

There will be human resource challenges as we move towards an economy less reliant on fossil fuels. As such, funds should be established to provide a just transition for those at risk of losing employment, training, and research and development.

Organized labour was built at the grassroots level, and it is grassroots power that is needed to address climate change. The more you know about the climate crisis the more active you will become: at home, at work and in your community. With knowledge and action by you and your brothers and sisters, political and business leaders will listen. They will not have a choice.

This handbook will help you bring change in your workplace. Positive change in one workplace can enact positive change in hundreds, if not thousands of workplaces, and that can make a difference.

This is how we as unions fought for gender equality, freedom of speech, civil rights, better health care and better pension plans. It is now the time to do the right thing for our children and the future of our earth.

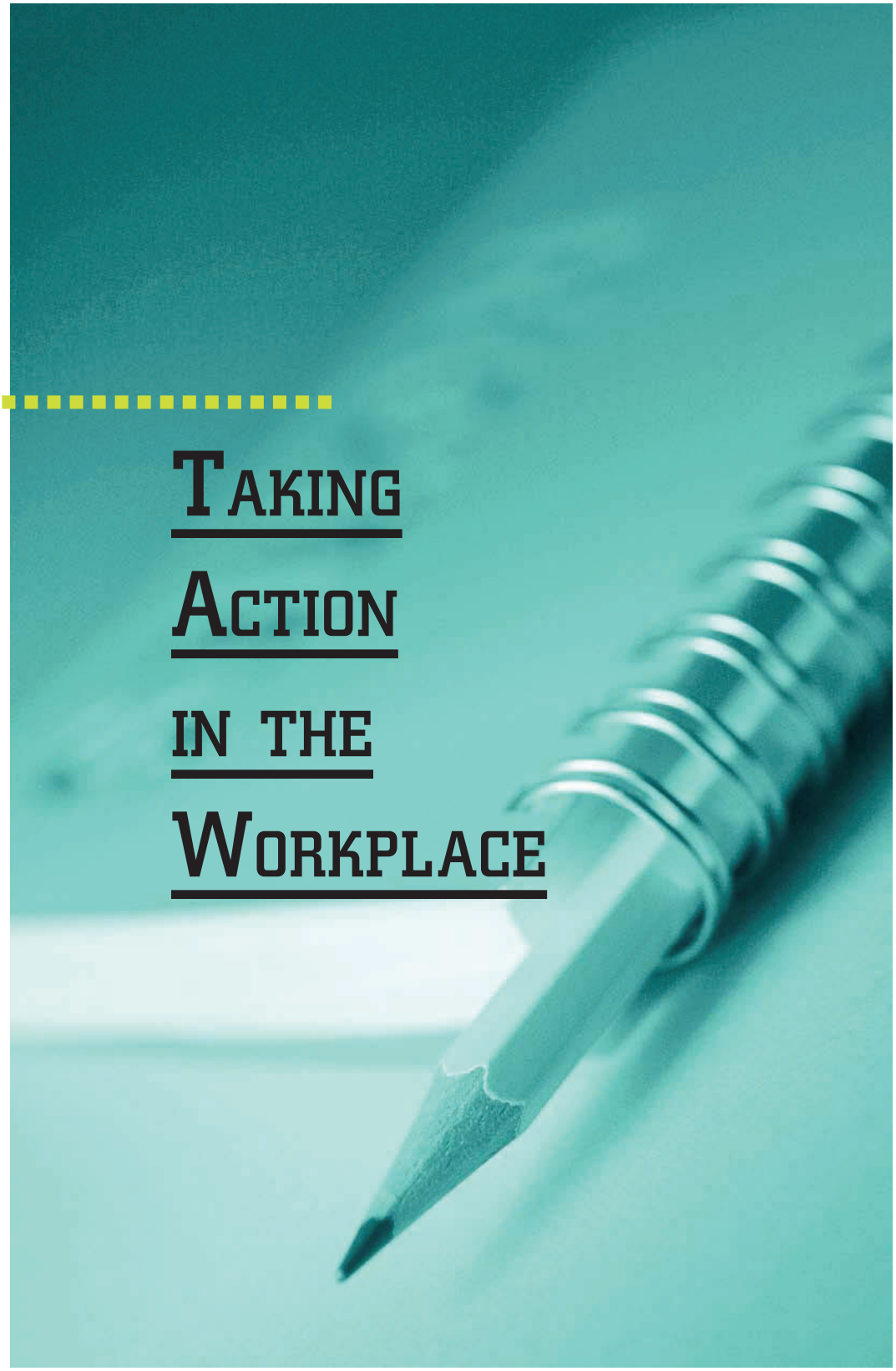


How could I look my grandchildren in the eye
and say I knew about this and I did nothing?

Sir David Attenborough

section 2

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Taking Action in the Workplace

GETTING THE 'GREEN IDEA'

Greening the workplace should benefit all stakeholders; the Union, the employer, and employees. Benefits of going green include:

- Contributing to reducing greenhouse gas emissions, helping make our planet a safer place for future generations;
- Young people entering the workplace are generally more environmentally aware than older generations – a greener union will be more attractive to new workers;
- Cost savings for the workplace, savings that should be reinvested at the local level.

Today collective agreements include hours of work, grievance procedures, job security, no discrimination, pensions, overtime, holidays and workplace democracy. Our ultimate goal at the bargaining table is to negotiate environmental performance

(think reduction of greenhouse gas emissions) and just transition for affected employees. Thus ensuring a performance improvement year over year—much like wages improving year over year; and job security for our members.

This process isn't as easy to manage or measure as wages or days off, but it is possible. This handbook is designed to make that process as simple as possible for your workplace, as well as addressing questions such as:

- How de we go green and maintain jobs?
- How do we measure greenhouse gas emissions?
- How do we get time off during regular work hours to do this work?
- How do reduce our greenhouse gas emissions?
- What can we do if we don't hit our targets?
- Who benefits and how from the financial and environmental savings?

Working towards a successful energy reduction plan should become an integral part of the collective bargaining process. This work should be added to the agenda of the Joint Labour Management during the administrative period of the collective agreement and prior to contract renewal negotiation. An Energy Committee can be established in your workplace immediately, using existing Occupational Health and Safety Committees and Joint Labour Management Committees as models.

This section sets out steps to take to reduce greenhouse gas emissions in the workplace. Naturally, each step will be slightly different in every workplace. But overall, the steps should work in any workplace. Note that the steps also include sample contract language.

STEP 1:

OUR JOINT ENERGY COMMITTEE

Every workplace has a group of experts in their field (i.e. maintenance, engineering and information technology), and a group of people who are committed to the environment (us). A successful Energy Committee in your workplace will consist of people from both groups. This work must be seen as win-win for both sides.

The team should include people with the following experience and strengths:

- Union representative(s) to keep the process moving.
- Someone who can get the word out through various means, such as newsletters, emails and organizing events.
- An Energy Committee Champion: someone who will lead the process, they are committed and able to get things done. Their will and ability to

influence is more important than technical skill.

- Maintenance / engineering / facilities department: someone who knows their way around the building.
- Information technology: you will need the cooperation from IT for helping get the word out, as well as turning computers off at night, if possible.
- A senior management representative.

List the people in your workplace that would be good Energy Committee members.

There is a very good chance that you will get to know people that work under the same roof as you that you have never been formally introduced to. Someone you casually said 'hi' to in the hallway, but never actually knew what they do. This can only be a good thing.

The first meeting will seem chaotic because you are not quite sure how to proceed. Don't worry about it; good things will come in time. The goal of the first meeting should be to simply identify who will bring what information to the next meeting and to identify who will take on what roles (big picture).

Within the first couple of weeks someone should distribute the utility bill data to all team members, in preparation for the second meeting. The spreadsheet should also include conversions to greenhouse gas emissions.

At the second meeting all team members should learn to understand the utility bills. Understand why some months look out of place (i.e. why January looks like July.) Recognize trends. Basic big picture stuff.

There will be a few, "Wow, I had no idea our energy costs that high!" comments around the table. That is a good thing. It is also important in this meeting to get an understanding of how money flows in the facility, despite the usual answer: "We have none."

Use this opportunity to identify where basic, low cost opportunities can be had: such as turning lights and computers off at night and closing big doors in the winter. Do not discount how much of a challenge these seemingly simple tasks can be to implement.

You should talk to the IT Manager: Do they do file backups or downloads or vi-

rus scans in the middle of the night? Can these activities by rescheduled somehow so the computers can be off 12 to 16 hours per day? Will the IT Manager be ok with cycling the computers on and off every day? Is there an automated way of putting the computers and monitors to sleep that the IT Manager approves. It's surprising how often something so simple can become complex. Something as simple as collectively turning lights on and off, for example.

First and foremost, the health and safety of the employees in the building cannot be compromised. For example, it is probably best not to turn off washroom lights from a switch outside. What if someone is still inside?

Can motion detectors work in some rooms? Who can install them? Do you have a budget for inexpensive motion detectors? What responsibilities can security accept for turning lights off on their

rounds? Is that in their contract? Are there old 'turn the lights off' stickers by switches in washrooms that are half worn from 15 years and no-one pays attention to? How can you successfully engage building occupants to turn lights off safely? You get the picture.

These are all factors to consider when implementing an energy conservation program, they are not insurmountable, just things that need to be considered when designing a successful program.

By now, roles and responsibilities are defined. Everyone knows who is doing what. The work has begun.

It would be wise to communicate with all of the other building occupants about what you are doing and why. Perhaps put a graph of progress in a public place and share some success stories.

Once you have some basic data and a higher comfort level with the numbers, i.e. budget, what can get done, what cannot get done, etc., it is time to set a target.

Sample Language

Article 1.0: Carbon Footprint

1.0 Both parties agree to reduce the carbon footprint of the workplace by 3% per year over the duration of this agreement. (Actual goals could vary based on specific circumstances.)

1.1 The savings shall be distributed on a 50%-50% basis between the employer and the Union for distribution on further greening processes.

1.2 If the workplace does not achieve annual emissions reductions of 3%, the employer will invest in jointly approved carbon offsets, preferably

locally, in order to meet the annual target of 3%.

Article 2.0: Energy Committee

2.1 An Energy Committee shall be established to develop and implement a working plan to reduce carbon emissions from the workplace.

2.2 The Employer shall provide sufficient time for employees to participate in the Energy Committee. Committee members shall be allowed up to 6 hours per month to participate on the Energy Committee. The Committee Champion will be allowed up to 10 hours per month.

2.3 All workplace employees receive no less than 2 hours of training per year regarding climate change and solutions.

STEP 2:
GHG EMISSIONS INVENTORY

Workplace action to combat global warming begins with a thorough inventory of energy consumption connected to your workplace. Once completed, this inventory allows for an accurate calculation of Greenhouse Gas (GHG) Emissions—the necessary first step toward setting targets for reduction or offsets.

Two Types of Greenhouse Gases

There are two types of GHG emissions for businesses, organizations, and even homes; direct and indirect. Both must be tallied to get an accurate and full calculation of GHG emissions.

- Indirect emissions belong to your electrical utility – they emit the gases, but you purchase the energy from your electricity supplier. Without you purchasing electricity from the grid those emissions would not happen.

- Direct emissions result from burning fuels on site, such as natural gas, propane, gasoline and diesel (assuming there are company vehicles involved). It is important to include indirect and direct emissions when calculating your greenhouse gas emissions inventory.

Electricity Generation

Utilities generate electricity from a number of sources, including fossil fuel based (such as coal and natural gas), hydro dams, nuclear energy and renewable energy sources, such as wind, solar and biomass (no GHG emissions). All of these electricity sources feed provincial, state or regional grids. Every state and province has a different mix of energy sources that feed their grids. The more fossil fuel based the grid, the higher the greenhouse gas emissions per unit generated. For example, Quebec and Manitoba (and Vermont and Washington) use a lot more hydro power than other provinces in Canada so their greenhouse gas emissions

per unit of energy is lower than provinces with a higher percentage of fossil fuel based electricity generating capacity, such as Alberta and Saskatchewan (and Indiana and Kentucky).

The basic unit of electricity generation and consumption is the kilowatt-hour or kWh. For example, a 100 watt light bulb left on for 10 hours equals 1,000 watt-hours or 1 kWh. A kWh costs about $0.09 on average in Canada. In other words, leaving a 100 watt light bulb on for 10 hours costs about ten cents (including taxes and other charges). That doesn't seem like much does it? But when you add up all of the energy consumed in your workplace for light, heat, hot water, computers and other stuff, it adds up!

Fuel Sources for Electricity

Because each province / state uses a different mix of fuel sources for electricity generation, the conversion from greenhouse gas emissions to kWh varies. So,

naturally, as the contribution of renewable energy sources increases, such as wind and solar, the overall grid emissions will decrease. The process of making substantial changes from fossil fuels to renewable is very slow (years), so, in the meantime, workplaces should move ahead to improve energy efficiency and reduce dependence on the grid, perhaps even incorporating some renewable energy sources right on site.

The following table provides the ratio of kilograms of CO_2 emissions per kWh generated by province[4]. There are six greenhouse gases, including methane and nitrous oxide, but the primary gas is carbon dioxide, or CO_2.

CO_2eq simply takes all other greenhouse gases into account, instead of using 6 different gases.

Province / USA	CO_2eq (kg/kwh)
Alberta	0.985
British Columbia	0.020
Manitoba	0.018
New Brunswick	0.571
Newfoundland and Labrador	0.286
Nova Scotia	0.895
Northwest Territories / Nunavut	0.225
Ontario	0.297
Prince Edward Island	0.700
Quebec	0.022
Saskatchewan	0.888
Yukon Territory	0.031

US data is available at www.earthinstitute.ca/survival.

Electricity and gas bills are necessary for estimating the workplace greenhouse gas emissions. It is important to gather utility data from at least the last two years in order to establish a baseline year and one more year. For example, if it is mid-2008, you should obtain monthly bills from all of 2006 and 2007. This informa-

tion should be available from your accounting department.

Also, all other energy consumption at the workplace should be tallied. For example, fuel costs for fleet vehicles. The bills for the energy consumption for these secondary operations will provide you with the necessary information to calculate emissions, once provided with the appropriate conversion factors. The conversions presented here are courtesy of Natural Resources Canada.

Energy Source	CO_2 Emissions
Natural Gas	49.65 kg/GJ
Natural Gas	1.89 kg/m^3
Biodiesel	0 kg/litre
Diesel	2.73 kg/litre
Gasoline	2.36 kg/litre
Heavy Oil	3.09 kg/litre
Kerosene	2.55 kg/litre
Light Oil	2.83 kg/litre
Propane	1.5 kg/litre

A Microsoft Excel spreadsheet is available at www.earthinstitute.ca/survival to help you start calculating workplace GHG emissions.

STEP 3:
EDUCATING THE EMPLOYER

Win-win scenarios in the labour management relationship have not been what Unions have gained bragging rights over. In significant joint ventures to save the company, the union has always been called in at the last minute to save the company and the jobs of their members from the brink. For example, situations where the use of capital equity from employees' pension plans exist on both sides of the 49th parallel.

The challenging opportunity facing both sides of the labour management equation as confronted by global warming issues

may be as dire as saving the company and our jobs from the brink.

Corporations, employers and management teams are beginning to appreciate the value of improving their corporate citizenship image. Either government legislation (more on this later) or competition is driving this attention. We need to lead this parade for our employers.

STEP 4:
IDENTIFING OPPORTUNITIES

The following is a checklist of opportunities that will vary from building to building. Check which ones you think can be addressed at your work, with the employers' recognition.

There are five types of opportunities:

1. No Cost

- can be done virtually free.
- we will show them.
- starting small to build employer confidence is the initiative.

2. Minimal Cost

- should not have to dip into the capital budget.
- once the employer is on board.

3. Investment

- will likely require capital investment.
- now "they" get it.

4. Employee Benefits

- minimal cost but effective.
- we are rolling.

5. Process Improvements

- the first three kinds of opportunities cover almost all workplaces.
- process improvements (such as manufacturing facilities) require specific solutions because virtually every production line is different.

NO COST CHECKLIST

Lighting

1. Walk around and keep note of lights that are left on when not in use, such as washrooms and outside lights left on during the day. ☐

2. Look for light bulbs that can be removed. Are there bulbs lighting an old unused area or over lighting a particular area? ☐

Water

3. Set the hot water temperature to 49^0 Celsius. ☐

4. Fix leaky faucets. Each leaky faucet can cost up to $30 or $40 per year depending on how long it leaks, and how much of the leak is hot water. ☐

Heating and Cooling

5. Turn off heat in unused rooms. Are there areas in the building that do not need to be heated at room temperature all of the time? ☐

6. Set A/C to 24^0 Celsius in summer. There is no need to freeze in the office in the summer. ☐

7. Set the heat to 18^0 Celsius in the winter. The warmer you set the temperature, the more you are spending. ☐

8. Remove window air conditioners in the winter, they let a lot of hot air out in the winter. ☐

Computers

9. Turning computers off at night can save between $25 and $75 per year per computer. You can download free software to turn your computers off at: www.energystar.gov/index.cfm?c=power_mgt.pr_power_management ☐

Transportation

10. Check the tire inflation every month. This can improve your fuel efficiency by up to 4%. ☐

11. Encourage employees to walk, ride or commute to work. You will have to estimate this saving. ☐

12. Encourage employees to drive the speed limit. Most people like to drive 120 km on the highway, but it can cost up to 10% in fuel efficiency. ☐

Keep in mind, these actions are easier said than done. First and foremost, health and safety should not be compromised in any way. You should also communicate with co-workers and encourage buy-in. If you plan to turn the temperature down a couple of degrees, let co-workers know first, but more importantly, tell them why.

MINIMAL COST CHECKLIST

Lighting

1. Count the number of 40 watt fluorescent tubes in your workplace. Replace the 40 watt tubes with 32 watt tubes or other more efficient lighting. The cost of doing this is no more than the cost of replacing fluorescent tubes anyway. ☐

2. Replace 100 watt incandescent light bulbs with 32 watt CFLs. CFLs cost more but last about 10 times longer. ☐

3. Replace 60 watt incandescent light bulbs with 20 watt CFLs. CFLs do cost more but also last about 10 times longer. ☐

4. Do you leave outdoor lights on all night for security reasons, could they be controlled by a motion detector instead? Do you leave a light on a stock room or bathroom that could be controlled by a motion detector instead? ☐

Water

5. Install low flow shower heads and faucet aerators. Low flow shower heads and aerators (if applicable) both reduce your water consumption and cost of heating water. They are very inexpensive (less than $10 each). ☐

6. Install hot water pipe insulation. Do you have a lot of exposed hot water pipe that is not insulated? If so, you are wasting money. Pipe insulation is very inexpensive and quickly pays for itself. ☐

Heating and Cooling

7. Caulk and weather strip windows, doors and drafty areas. Walk around the workplace and look for drafty areas to seal. ☐

8. Install switch plate gaskets. ☐

9. Install programmable thermostats. Set the temperature for a 7-day cycle and leave it. There will be no need to come to work in the cold any more, set the temperature down in the evenings and turn it up just before you get to work. ☐

Many of these actions may be implemented with no or minimal capital requests.

The following action items will require capital investment, and may well require an energy audit prior to approval in order to estimate the financial benefit of each action.

INVESTMENT CHECKLIST

Lighting

1.Upgrade to more efficient lighting. ☐

Water

2. Install a solar heating system. Solar heating systems are not as expensive as you think. ☐

Heating and Cooling

3. Insulate the basement and attic. ☐

4. Upgrade the furnace. An old, inefficient furnace can add up to 25% on your heating bill. Consult an expert before replacing the furnace. ☐

Transportation

5. Purchase more efficient vehicles. ☐

EMPLOYEE BENEFITS CHECKLIST

1. Annual employee training regarding climate change, energy efficiency and solutions. ☐

2. Financing options for helping make employee's homes more efficient (if not already offered by the government in your particular jurisdiction – or perhaps an add-on to government programs). ☐

3. Discounts on 'green' products and services. ☐

4. Offer transit passes, group transportation or bicycles for employees. ☐

More ideas

There may be many other areas of potential savings in your workplace. Perhaps the heating system is inefficient, or the building needs new windows? Make a note of your ideas here.

NOTES

STEP 5

ASSURING A JUST TRANSITION TO NEW GREEN JOBS FOR DISPLACED WORKERS

As the pressures on employers to transfer their energy sources (i.e., we are successful with our efforts to answer the immediate call on pushing our employers and our governments to act more environmentally correct) will result in economic shifts in our communities. This "economic

conversion" requires planning and preparation from within our communities and support from governments responsible for the environmental regulations.

Some sectors will feel the impacts more severely than others. Some sectors will grow and flourish while others may face severe limitations. Various studies calculate job losses and gains but there seems to be agreement that relatively large net gains in jobs are to be expected over the first decade of regulation and economic conversion.

Workers who will be primarily impacted are those in industries that are direct object of environmental regulation or change. Secondarily impacted will be workers who are employed by suppliers to affected or regulated industries. Potentially a whole range of public sector workers such as those in health care and education will be impacted along with the service sector.

The largest greenhouse gas emitters are the oil and gas, electricity, mining and manufacturing sectors. Mining and manufacturing sectors include: chemicals; fertilizers, pulp and paper; mining, smelting and refining; steel, cement; lime; and glass.

The several hundred thousand workers in these sectors will see changes and some could see layoffs. Safeguards need to be in place to protect workers in these vulnerable sectors so, as their jobs are displaced, they are not forgotten.

A Just Transition Strategy

The Canadian Labour Congress (CLC) is the main labour central in Canada. It's report entitled Just Transition for Workers During Environmental Change from 2000 shows that federal unemployment insurance is a good foundation for a just transition strategy, but the current Employment Insurance (EI) program requires significant strengthening.

The same report states "the number of unemployed workers eligible for EI is down to 40% while unemployment is at 11%". Clearly, this system was not designed to handle economic conversion, where retraining, relocation and extended financial support may be required.

A just transition strategy implies a plan that takes a variety of factors into consideration.

In all cases, industry should be compelled to implement long-term planning to modernize or retrofit production to be sustainable by ensuring energy efficiency, pollution reduction and employment security. Where it is not possible to achieve sustainability, transferring workers to another unionized plant should be a viable option. If needed, retraining and relocation funds must be available. Shut down of an industry or plant would be a last resort.

Different types of transition programs will be required for different industries and different communities. Plans should be created according to circumstances. Workers and communities should be part of the development of a transition strategy as these participants would be the best at defining problems and finding solutions.

A just transition strategy should include:

- Income maintenance when moving from a higher paying position in a plant that has been shut down, to a lower paying position elsewhere.
- Creation of sustainable / green jobs.
- Income support while new jobs are being implemented or retraining is occurring.
- Training to suit new jobs.
- Career planning advice.
- Preferential hiring into new jobs.
- Maintenance of classification so as to keep seniority and earning potential.
- Maintenance of benefits and pensions.

- A wide range of choices.
- Financial bridge to older workers who choose to retire so that they receive full pension credits.

Sample Contract Language

Article 35: Just Transition

35.01 Just Transition means the response to the impact on workers caused by the Employer's compliance with greening the workplace where long term planning to reorganize or retrofit production to be sustainable by ensuring energy efficiency.

35.02 When the Employer is considering the introduction of change which substantially changes the duties performed by employees in the Bargaining Unit the Employer agrees to notify the employees and the Union at least four (4) months in advance of such intention.

35.03 If, as a result of a change in energy use, the Employer requires an employee to undertake additional training, the training will be provided to the employee. Such training shall be giving during the hours of work whenever possible. Any training due to energy use change shall be at the Employer's expense without loss of pay to the employee.

35.04 If, after a reasonable period of training, the employee is unable or unwilling to acquire sufficient competence, the Employer shall make every effort to give preference to this affected employee for a position in that institution for which he/she has the necessary competence and qualifications. Should the energy use change result in lay off of an employee, the affected employee shall be laidoff in accordance with the lay off provisions of this Agreement.

STEP 6
SETTING A TARGET

Negotiating wages in a collective agreement can be a painful experience, yet easy to understand and abide by when implemented. The road to reducing greenhouse gas emissions is a little trickier. There are a number of complexities to consider when including energy reductions in the workplace.

Energy use in a large facility will never be the same month to month or year to year. Computers come and go, equipment comes and goes, buildings expand or contract over time, and one winter may be colder or warmer than the next, and so on. Management and labour should agree on some basic terms before proceeding.

Most importantly, both parties should agree to absolute reductions vs. intensity

based reductions. In other words, even if the facility grows the overall emissions should still drop, or at least be offset. The overall drop year over year should have a target, such as 2% or 3% per year over the term of the agreement. The coefficient of kilograms per kWh of electricity produced should be well sourced.

In fact, if your electrical utility goes greener over time, i.e. replaces coal with renewable or nuclear energy, the job of reducing indirect emissions from the building just became easier. For example, let's say the coefficient in 2009 for the jurisdiction is 0.56 kg/kWh and a coal fired- plant goes off line in 2010 and is replaced by nuclear, the grid coefficient may go down to 0.47 kg/kWh. This just helped your cause, that is a good thing. However, that said, you should always target to reduce energy consumption at the workplace anyway, you just happened to get a kick start from the utility.

Success means reducing the direct and indirect emissions of the facility by the target amount each year. If the target is met or exceeded, all is good.

In fact, if financial savings are experienced, that money should be reinvested in the local workplace to further improve energy efficiency. Options should be defined in advance in the event of not meeting the target. For example, the energy committee should investigate purchasing legitimate carbon offsets in order to meet the year over year target. www.earthinstitute.ca/survival provides a list of reputable offset providers and a further description of carbon offsets.

A number of potential financial models can be considered when developing a greenhouse gas reduction initiative:

- A joint contribution to a just transition fund for sectors that may be greatly affected by addressing global warming

should be established by the federal government.

• A joint contribution to a 'green fund' for the workplace. Imagine a $0.10 per hour contribution from both the Employer ($200 per year) and the Employee ($200 per year). That could amount to thousands of dollars per year towards renewable energy in your workplace!

• Imagine the federal or provincial/state government allowing a transfer from payroll tax to a green tax; in other words – your net pay stays the same, but some of the income tax you pay is now invested in greening the local workplace. There is something worth lobbying for.

STEP 7

ENGAGING CO-WORKERS AND SHARING YOUR SUCCESS

The more other people know about your success, and in particular, how you got there, the more likely others will follow.

Good For Us All!



Be sure to share your progress and success with fellow workers, the union, management, customers, suppliers and the general public. Some avenues for communicating your activities and success can include:

- Internal bulletin boards, literature and workshops.
- The organization's website.
- Your local website.
- Your national or state/provincial website.
- Email updates to all fellow workers.
- Advertisements in local newspapers.
- Local and national union meetings.

Section 3

n 3

Taking Political Action



SOUND PUBLIC POLICY

The federal government should take an active role in strengthening our ability to move swiftly to a low carbon economy. They have the ability to implement measures to protect communities and ease the burden on families. With the federal government prioritizing sustainability and environmental protection, the provinces / states and municipalities will be better able to act in the public interest.

Using policy and regulations, all governments must play a part in moving North America through revolutionary economic conversion. Industries that have profited from environmental degradation must not be allowed to walk away and leave communities and workers to pick up the pieces.

The Kyoto compliance period is 2008-2012. We have time to create a national program that tackles climate change aggressively

and justly. Labour, environmental advocates, business groups and community associations are ready to meet the challenge. Federal leadership is badly needed in this 11th hour.

Labour has a vital role to play in pressuring governments to create a just transition strategy. It is the workers who risk losing their livelihoods, their pensions and opportunities. Each climate change debate must include a plan for protecting workers and communities

CREATE NATIONAL ENERGY EFFICIENCY STANDARDS

Dramatic reduction in our energy needs and greenhouse gas emissions could be attained through a planned escalation of energy efficiency standards.

The Pembina Institute identifies six steps to energy efficiency:

1. Long-term goals for each sector providing a vision of what an efficient Canada will look like.

2. Short-term targets and milestones against which we can measure progress.

3. Federal and provincial efficiency legislation for appliances, lighting, vehicles, and building codes.

4. Continuous improvements that keep Canada the most efficient jurisdiction in North America, including investment in research and certification initiatives.

5. Federal leadership in the retrofitting of all Canadian homes, industrial buildings and institutions.

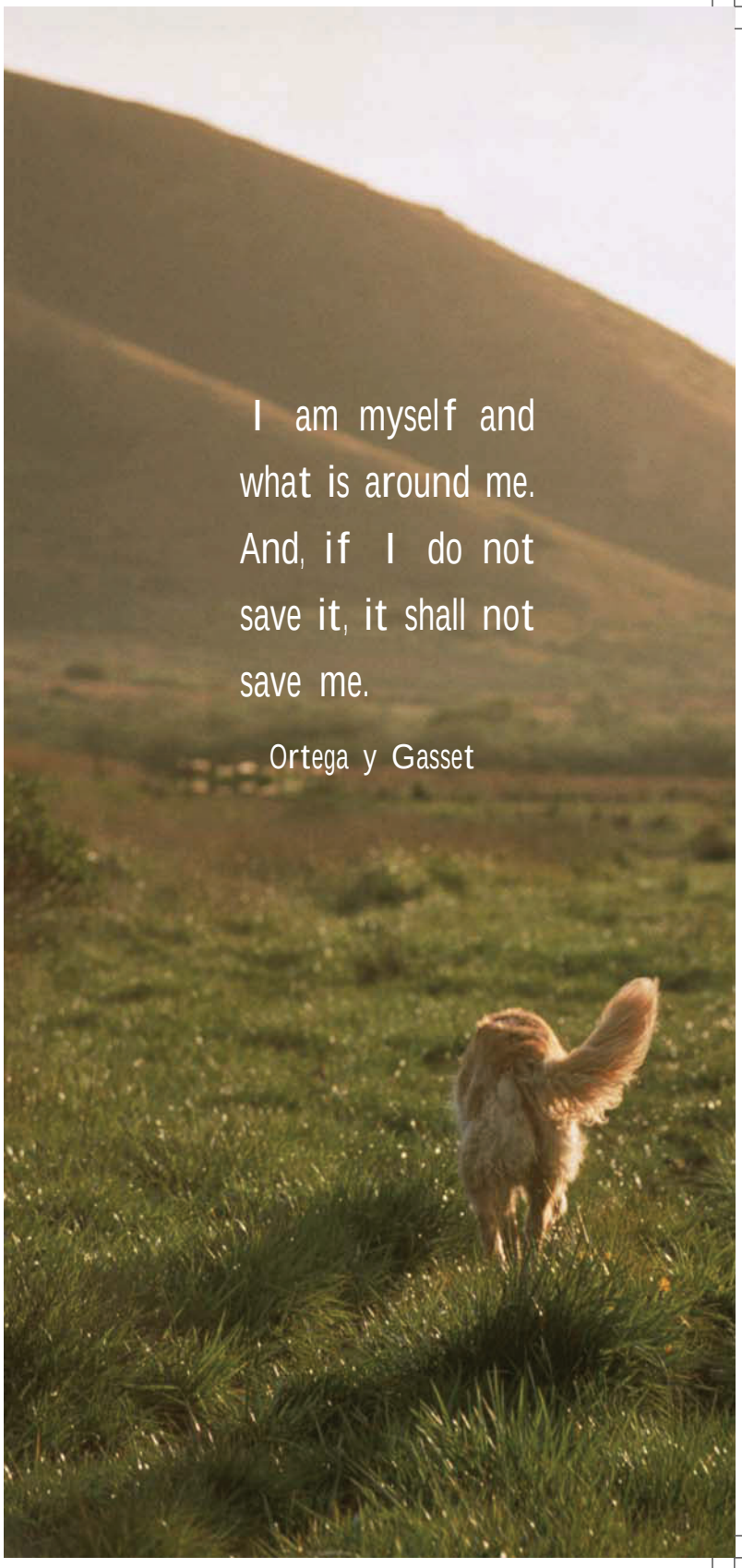
6. Federal and provincial policies that fully value energy efficiency in Canadian Markets.

BUILD GREEN POWER GRID

Canada's energy needs can be met with a combination of the efficiency measures described above and renewal power sources without the need for coal or new and refurbished nuclear power.

A combination of wind, solar, geothermal, hydro-electric power and both large and small scale co-generation schemes can meet our power needs.

A detailed plan, including timelines and funding, will accelerate the development of these projects and the step by step integration of each source into the bigger picture. Our federal government needs to dramatically increase spending on projects and research and development to completely shift to renewable power.


I am myself and
what is around me.
And, if I do not
save it, it shall not
save me.
Ortega y Gasset



ACKNOWLEDGEMENTS

Labour Confronts Global Warming
Jeremy Brecher, Tim Costello, Brendon Smith, April 2007

National Union of Public and General Employees
Climate Change – National Union Research, www.nupge.ca

Canadian Labour Congress

Additional information and links to related websites is available at www.earthinstitute.ca/survival.

PETER CORBYN is a member of the New Brunswick Union. He trained with Al Gore and is now sponsored by the New Brunswick Union to move us all to directly confront our climate crisis.

One of Peter's projects is "Green for Good"—a full scale effort to make environmental awareness as commonplace and natural an activity

for all of us as brushing our teeth, going grocery shopping or driving the kids to school. You can tap into the full range of green things Peter has to offer on his website: www.earthinstitute.ca.

THOMAS MANN is the Executive Director of the New Brunswick Union. He has been a negotiator in public and private work settings since 1982.

His efforts pushed the first pay equity agreement in New Brunswick. Tom can be reached at tom@nbu.ca.

THE NEW BRUNSWICK UNION of Public and Private Employees is a component of the 340,000 member National Union of Public and General Employees, an affiliate of the 2.3 million member Canadian Labour Congress.

NBUPPE is a sustaining supporter of Green for Good.

NOTES

1 100 years (2000 to 2100) relative to 100,000 years is a factor of 1,000. The average adult can walk about 6 km/hr, the cruising speed of a Boeing 747 is about 1,000 km/hr.

2 "Securing our Children's World: Our Union and the Environment" is an updated report developed by the USW's International Executive Board Environmental Task Force which was presented to the IEB on February 28, 2006 in Pittsburgh, PA. Source: http://www.usw.org/usw/program/content/3037.php.

3 CAW

4 Source: Natural Resources Canada

Cool Comforts:
Bargaining for Our Survival
To request a presentation or workshop
please email survival@earthinstitute.ca

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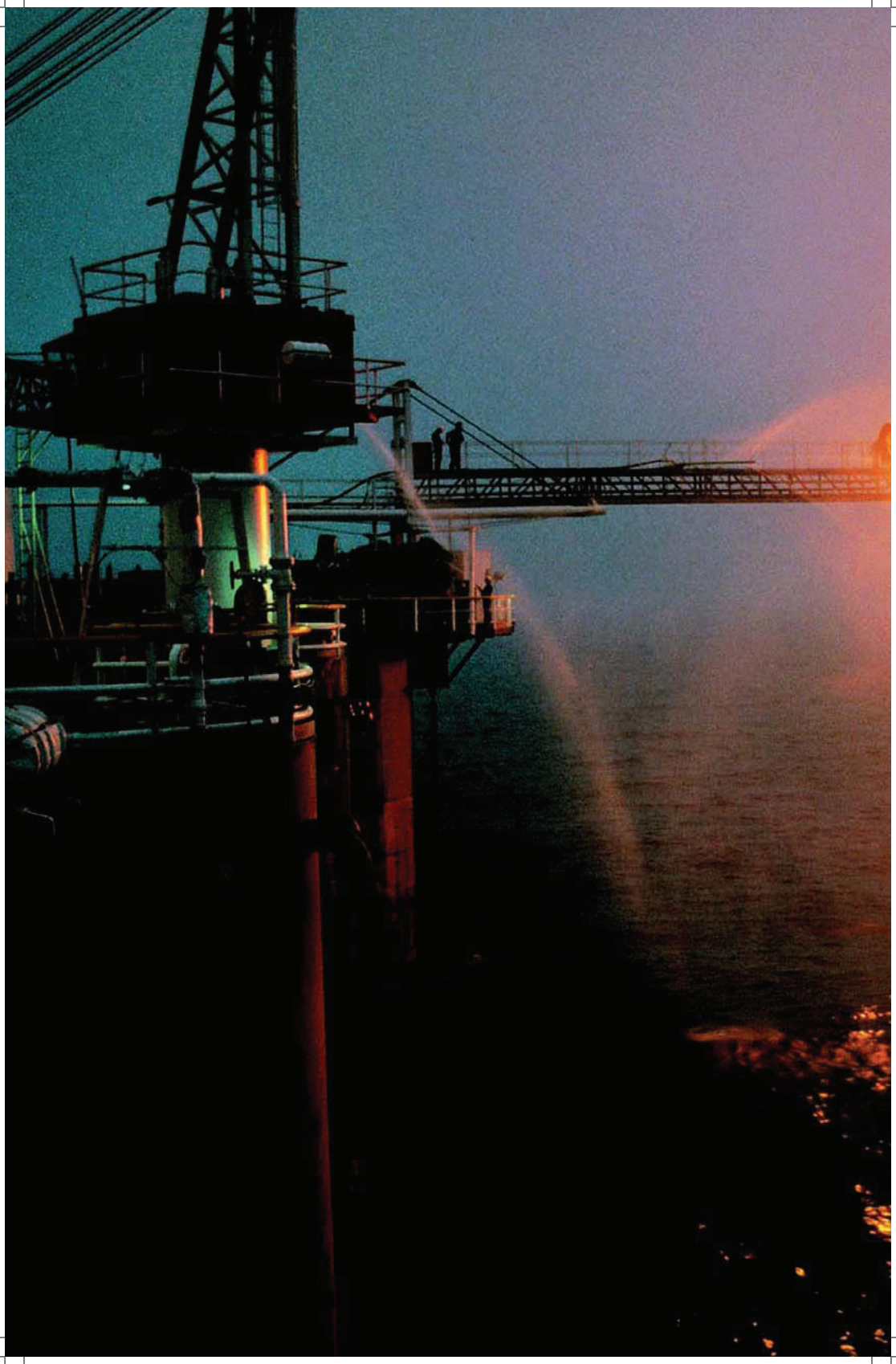
New Brunswick Union of
Public & Private Employe**es**
nbu.ca

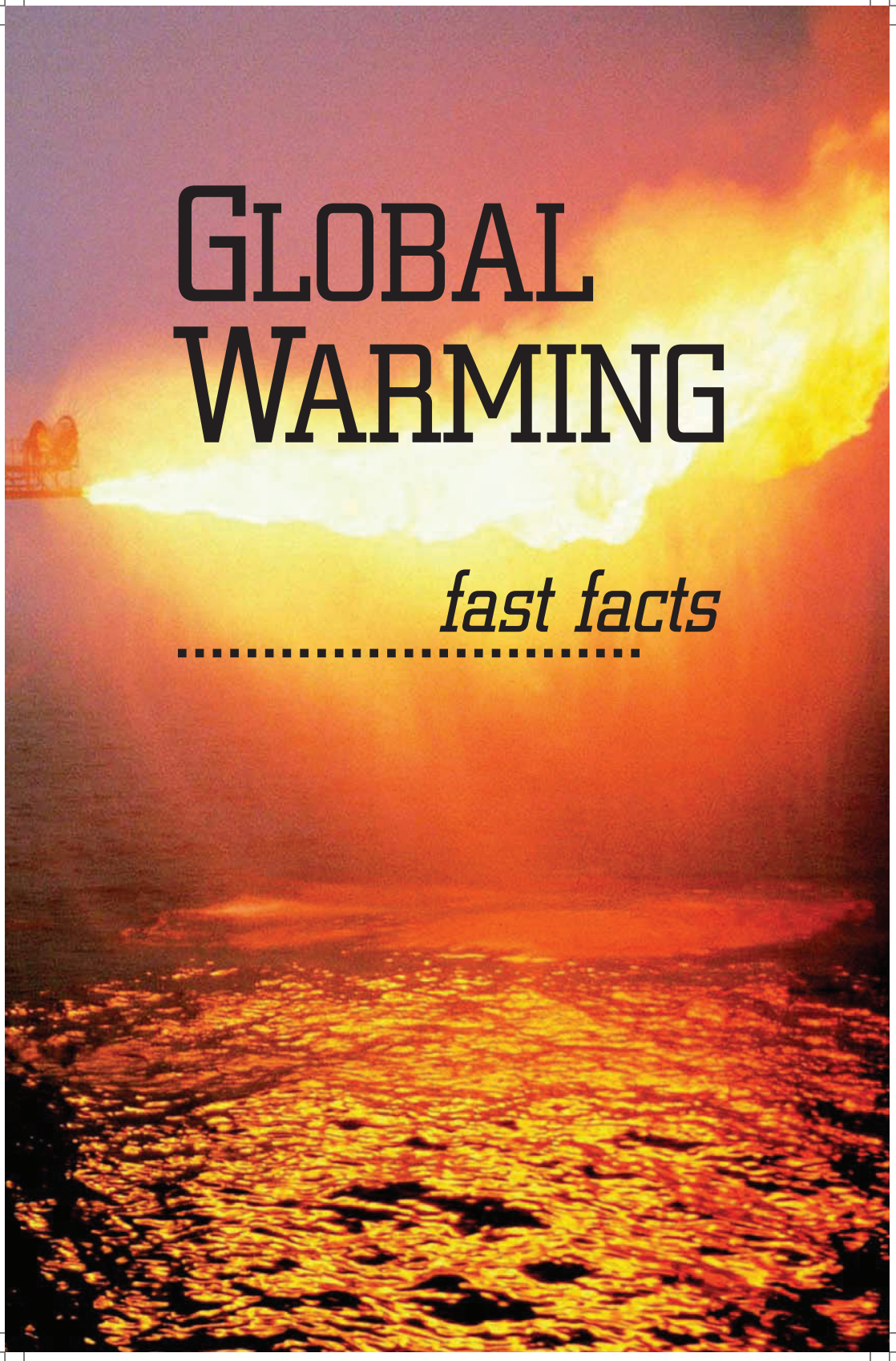
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earthinstitute.ca

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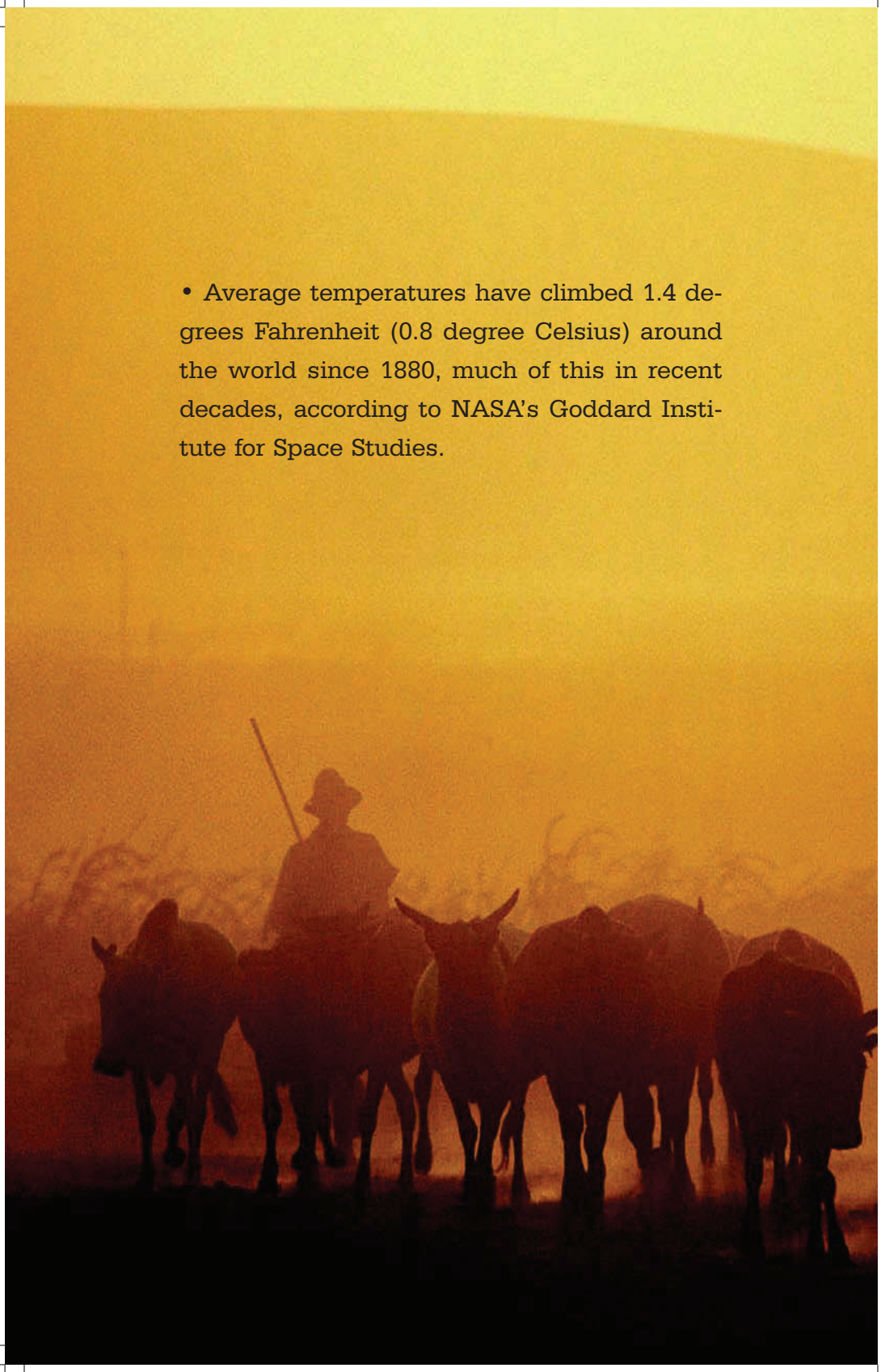
The Climate Project
climateprojectcanada.org

David Suzuki
DavidSuzuki.org




GLOBAL
WARMING
fast facts

• Average temperatures have climbed 1.4 degrees Fahrenheit (0.8 degree Celsius) around the world since 1880, much of this in recent decades, according to NASA's Goddard Institute for Space Studies.



• The rate of warming is increasing. The 20th century's last two decades were the hottest in 400 years and possibly the warmest for several millennia, according to a number of climate studies. And the United Nations' Intergovernmental Panel on Climate Change (IPCC) reports that 11 of the past 12 years are among the dozen warmest since 1850.

• The Arctic is feeling the effects the most. Average temperatures in Alaska, western Canada, and eastern Russia have risen at twice the global average, according to the multinational Arctic Climate Impact Assessment report compiled between 2000 and 2004.

• Arctic ice is rapidly disappearing, and the region may have its first completely ice-free summer by 2040 or earlier. Polar bears and indigenous cultures are already suffering from the sea-ice loss.

• Glaciers and mountain snows are rapidly melting—for example, Montana's Glacier National Park now has only 27 glaciers, ver-



sus 150 in 1910. In the Northern Hemisphere, thaws also come a week earlier in spring and freezes begin a week later.

• Coral reefs, which are highly sensitive to small changes in water temperature, suffered the worst bleaching—or die-off in response to stress—ever recorded in 1998, with some areas seeing bleach rates of 70 percent. Experts expect these sorts of events to increase in frequency and intensity in the next 50 years as sea temperatures rise.

• An upsurge in the amount of extreme weather events, such as wildfires, heat waves, and strong tropical storms, is also attributed in part to climate change by some experts.

SOURCE
news.nationalgeographic.com/news/2004/12/1206_041206_global_warming.html

TEN THINGS YOU CAN DO TO HELP STOP GLOBAL WARMING

1 Change a light

Replacing one regular light bulb with a compact fluorescent light bulb will save 70 kilograms of carbon dioxide a year.

2 Drive less

Walk, bike, carpool or take mass transit more often. You'll save one kilogram of carbon dioxide for every two kilometres you don't drive!

3 Recycle more

You can save 1,000 kilograms of carbon dioxide per year by recycling just half of your household waste.

4 Check your tires

Keeping your tires inflated properly can improve gas mileage by more than 3%.Every gallon of gasoline saved keeps 10 kilograms of carbon dioxide out of the atmosphere!

5 Use less hot water

It takes a lot of energy to heat water. Use less hot water by installing a low flow showerhead (200 kilograms of CO2 saved per

year) and washing your clothes in cold or warm water (250 kilograms saved per year).

6 **Avoid products with a lot of packaging**

You can save 500 kilograms of carbon dioxide if you cut down your garbage by 10%.

7 **Adjust your thermostat**

Moving your thermostat just 2 degrees in winter and up 2 degrees in summer you could save about 1,000 kilograms of carbon dioxide a year with this simple adjustment.

8 **Plant a tree**

A single tree will absorb one tonne of carbon dioxide over its lifetime.

9 **Turn off electronic devices**

Simply turning off your television, DVD player, stereo, and computer when you're not using them will save you thousands of pounds of carbon dioxide a year.

10 *Spread the word!*

Recommended Reading

Anyone who says unions are all talk and no action hasn't seen this timely and immensely useful handbook. Once again unions lead the way to the kind of actions necessary to improve the way we want to live and can live.

James Clamcyh, Nationa President
National Union of Public and General Employees

Good things come in small packages. This little handbook is the perfect proof of that. There are no wasted words or jungles of jargon, just good solid direction on how to do something immediate and practical at work to confront climate change. No union activist, no environmental activist, should be without it.

Elaine Bernard, Ph.D., Executive Director,
Labor and Worklife Program,
Harvard Trade Union Program,
Harvard Law School

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