



GREEN ENERGY AND CLIMATE CHANGE WORKING GROUP MINUTES

Friday, April 14, 2023

2:30 p.m.

Tay Valley Municipal Office – 217 Harper Road, Perth, Ontario
Council Chambers

ATTENDANCE:

Members Present:

Councillor, Angela Pierman
Bob Argue
Jennifer Dickson
Douglas Barr
David Poch
Peter Nelson

Members Absent:

Councillor, Greg Hallam
Gilbert Rossignol

Staff Present:

Noelle Reeve, Planner
Allison Playfair, Building & Planning Administrative
Assistant, Recording Secretary

1. CALL TO ORDER

The meeting was called to order at 2:30 p.m.
A quorum was present.

2. AMENDMENTS/APPROVAL OF AGENDA

- i) Addition Under New/Other Business: Invitation to Sundance Artisan Festival.

The agenda was approved as amended.

3. DISCLOSURE OF PECUNIARY INTEREST AND/OR CONFLICT OF INTEREST AND GENERAL NATURE THEREOF

None at this time.

4. APPROVAL OF MINUTES

i) Minutes – March 17th, 2023.

The minutes of the Green Energy and Climate Change Working Group Meeting held on March 17th, 2023, were approved as presented.

5. DELEGATIONS & PRESENTATIONS

None.

6. BUSINESS

i) Climate Action Plan Update.

- Waste Composition Study Results

B. Argue provided an analysis of the data that was included in the Waste Composition Study – *attached page 9*. Overall, the Township is doing well compared to other municipalities but there is room for improvement. The first chart shows how well the recyclable materials Tay Valley currently accepts are recycled. Almost all paper, glass and metal are recycled. Plastics is the least recycled category followed by paper packaging. In other words, these latter two categories wind up in the garbage stream rather than the recycling stream the most.

The last two columns of this chart show new potential for recycling (by diverting the recyclables Tay Valley currently accepts out of the garbage) and by including additional recyclables (e.g., milk cartons).

The Planner was not sure of how the new Circular Economy regime will affect the Township's recycling program. The Planner will ask the Public Works Manager.

The second chart shows that Tay Valley has comparable proportions of recyclables to other municipalities with the exception of large urban centres that compost a significant portion of their waste. This chart also shows that Tay Valley has a lower proportion of non-acceptable waste than other municipalities (again with the exception of large urban areas).

Unfortunately, because the Waste Composition Study was undertaken for free by the province, the consultants did not break out what the non-acceptable garbage consisted of but B. Argue can make some educated

inferences based on his decades of work in this sector (where unacceptable waste can be broken down into over 40 categories) and he can discuss with the Public Works Manager.

The third chart shows again that Tay Valley is doing well at recycling compared to other municipalities, with the exception of composting organic material. It is important to get the organic material out of the waste site because as vegetables, grass, etc, decompose they emit methane which is a climate change accelerator.

A discussion was held and it was agreed that encouraging more backyard composting, awareness of the Re-Use Centre, and trying to increase the types of material able to be recycled would be the Working Group's recommended priorities for the Township to pursue.

The Planner will discuss with the Public Works Manager about the Blue Box Transition and if the Township can do additional recycling or composting at the waste site.

The Working Group suggested that the Township could send out information on how to make your own composting bin as the Township is not sure when more composting bins will be available to sell. This could be a good news release for Earth Day.

The Planner informed the Working Group that the Township has a Waste Management Master Plan that was received by Council in the fall before the new Council was elected. The Public Works Manager intends to focus on its implementation later this Spring.

- **Building Conditions Assessment Report**

The Planner asked if the Working Group members had a chance to review the Building Conditions Assessment Report and could suggest any items that would be beneficial for improving the Township's energy efficiency and green house gas reduction. She noted that these items would go to the Treasurer to potentially be included in the budget for next year and to help provide the Public Works Manager with a heads up for tenders of future projects.

B. Argue prepared a list but the Working Group did not receive the email in time for the meeting. The list will be circulated as part of the next agenda.

B. Argue also pointed out that it is important to take a whole lifecycle view of an asset. For example, the thermology rating in the Building Conditions Report only indicates if there is a cold spot in a wall. It does not indicate if the wall should have more insulation applied to the outside of it to reduce heating costs for the building.

It was discussed that it should not be up to the Working Group to identify what needs to be considered in a tender. There needs to be an ongoing education process for the use of lifecycle costing and the climate lens before tenders are drafted.

For example, the flat roof replacement tender for the Municipal Office building resulted in a roof with less insulation than would be required if it was being built new today. With the roof removed, now would be the time to upgrade the insulation from R-12 to R-25 but that is not going to happen because the request was not made in the bid document.

The Planner mentioned that the Public Works Manager had asked a company to write the specs on the replacement roof because he did not know what the Township should be asking for in a roof tender but the company did not include any climate action improvements.

The Working Group recognized the Public Works Manager will not be an expert in all aspects of facilities as his training is more oriented toward roads. Therefore, the Working Group suggested adding money to the Township budget to allow the Public Works Manager to send out Requests for Proposals to green energy experts like the Green Building Alliance, etc. to get feedback on upcoming RFPs for assets.

The Planner also mentioned that once the Asset Management Plan is completed and presented to Council this Spring, it will describe what equipment, facilities, roads, etc. need to be replaced and the year of repair or replacement which would provide enough notice for staff to complete the writing of RFPs viewed through the climate lens in advance.

The Working Group recommended that Township Request for Proposals (RFPs) should ask companies that are submitting bids to include life cycle costing, energy efficiency and GHG reduction options in all work to repair or replace assets, that the Treasurer's analysis should indicate the true operating costs of the alternatives, not just the capital costs and that utilizing a social discount rate to recognize the benefit of Greenhouse Gas reduction and energy efficiency be discussed by Council. The social discount subsidy should come from a reserve and the savings over the lifetime of the asset should be returned to that reserve.

ii) **Communications**

- Lanark County Climate Change Committee Update.

The Planner updated the Working Group that the Lanark County Climate Change Working Group agreed to change the GHG emission target for 2030 from a 20% reduction to a recommended 45% reduction. It was noted that this increase would be in line with the Federation of Canadian Municipalities (FCM's) new targets and the Intergovernmental Panel on Climate Change's

(IPCC's) target to keep global warming to 1.5C. This recommendation will be discussed by County Council on Wednesday April 26.

The County Environment and Climate Change staff have recommended that \$10,000.00 be given to each municipality to use towards Climate Action for: purchasing an electric vehicle; purchasing public charging stations; or purchasing composting equipment. The Township could use this subsidy for the Ford Lightning electric pick up truck.

The Working Group discussed the use of the County money to purchase the Ford Lightning pick up truck rather than a Food Cycler.

B. Argue did not support Food Cycler because it does not produce compost. It dehydrates organic material to a concentrated powder that must be placed in a deep trench and left for a year before planting seeds or plants in it. Otherwise, it will kill seeds or plants because it is too highly concentrated. In addition, it is expensive to purchase and to operate (\$100 filters need to be changed twice a year) and it costs \$500 (\$300 if subsidized) so who gets them? Finally, it is energy intensive to use.

The Working Group recommended supporting the use of the County money to purchase the Ford Lightning pick up truck.

Whereas the International Panel of Climate Change has called for global warming to be held at 1.5C to avoid worsening the impacts on people and the environment from climate disruption (see Risks from Rising Temperatures – *attached page 10*); and whereas Canada will experience more rapid warming due to our northern location; and whereas Tay Valley Township has experienced damage from more frequent and severe weather events including flooding, the derecho, an ice storm and drought in the past five years, which were the hottest ever in recorded world temperatures; and whereas Tay Valley Township has committed to reducing its contribution to global warming to no more than 1.5C by reducing its Greenhouse Gas emissions through its Climate Action Plan, accepted by the Federation of Canadian Municipalities Partners for Climate Protection program; and whereas the Township is required to replace a light pick up truck as part of its fleet management; therefore, the Green Energy and Climate Change Working Group urges that all of the \$10,000 provided by the County of Lanark for municipal climate action projects (for either public charging stations, fleet EV purchases, or public composters) be allocated to the purchase of the Ford 150 – Lightning.

- Should Tay Valley Declare a Climate Emergency?

P. Neilson emphasized the urgency of taking steps to reduce climate disruption, provided information and reasons why the Township should declare a climate emergency – *attached page 11*

He noted that the County of Lanark should also be urged to declare a climate emergency because their recent decision to not use air source heat pumps was bad economics and locked in fossil fuel use when one of their principles for Climate Action was to eliminate fossil fuel use.

The Working Group decided it will gather more information that would be beneficial to help educate Council about what it means for the Township to declare a climate emergency.

The Planner clarified that raising awareness of a climate emergency does not require the Community Emergency Management Coordinator to call the Emergency Response team together.

- National Building Code Update Energy Efficiency - Doug Barr

D. Barr explained that he believes that Tay Valley should find a way to require all new builds to have mandatory solar panels on roof tops and Electric Vehicle charging stations roughed in.

The Working Group discussed different ideas that could help homeowners move toward more energy efficient new builds in Tay Valley. Two suggestions were: a tax reduction incentive if possible (similar to the tax reduction provided to landowners who manage forests) or a by-law for green building standards. The Planner and Working Group members will bring examples of Townships that have adopted Green Building Standards to the next meeting.

- Suggestions for Education Residents and Council

The Planner will explore if FCM does in person presentations that could be useful to Council on the urgency of tackling climate disruption.

7. NEW AND OTHER BUSINESS

i) Invitation to Sundance Artisan Festival.

The Planner advised the Working Group that the Chief Administrative Officer received an invitation for the Working Group to have a booth to provide information to the community at the Sundance Artisan Festival on Labour Day Weekend (located behind the Fall River Cafe in Maberly and along the Fall River). A discussion was held with different ideas that could be put on display and it was felt that one day would be possible but not all three days. The Working Group will discuss further at the next meeting.

8. NEXT MEETING DATE AND PROPOSED AGENDA ITEMS

Next Meeting: May 12, 2023

The Working Group suggested that they meet monthly for the next 6 months to help the new Council to be informed.

9. DEFERRED ITEMS

**The following items will be discussed at the next and/or future meeting:*

- **Climate Action Plan Update**
 - *Waste Management Master Plan Update*
 - *Electric Truck Purchase Update*
 - *Should Tay Valley Declare a Climate Emergency?*
 - *National Building Code Update Energy Efficiency*
 - *Invitation to Sundance Artisan Festival*

10. ADJOURNMENT

The Working Group adjourned at 4:18 p.m.


Chair

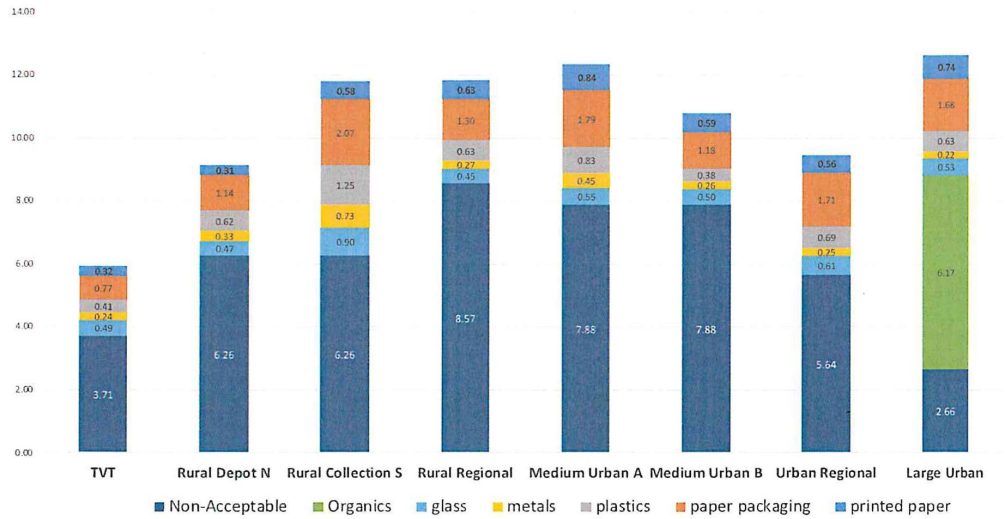

Secretary

BUSINESS

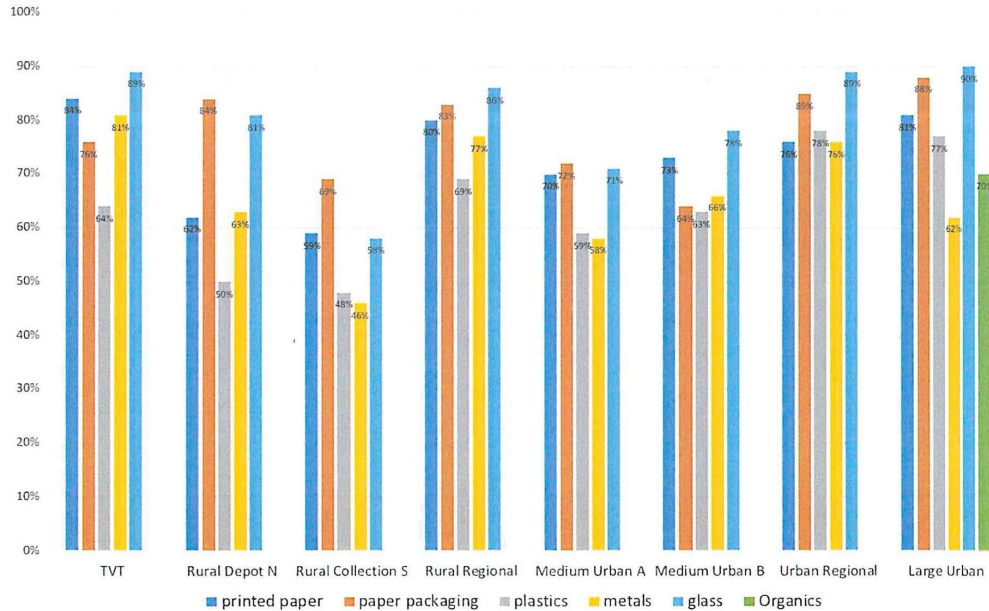
TVT	4-Season Capture Rate	Available Total Stream	Recyclable Captured	Recyclable in Garbage	New Potential	New Total Potential
Recycling	%	kg/hhld/yr	kg/hhld/yr	kg/hhld/yr	kg/hhld/yr	kg/hhld/yr
printed paper	84%	17	14	2.7	0.0	2.7
paper packaging	76%	40	30	9.6	5.9	15.6
plastics	64%	21	14	7.6	11.9	19.5
metals	81%	13	10	2.3	7.2	9.5
glass	89%	25	23	2.9	2.4	5.2
Total	78%	116	91	25	27	53

HHW		1.0	New Potential are recyclable materials not currently accepted in TVT. Non-Acceptable waste is everything else in the Garbage stream not recyclable in TVT.
Non-Acceptable		193	
Total Stream		309	

Total Waste Stream kg/hhld/wk



Capture Rates %



COMPARING RISKS FROM RISING TEMPERATURES: EXPLAINING THE IPCC'S WORKING GROUP II REPORT (AR6)

	1.5°C	2°C	3°C	1.5°C vs 2°C	1.5°C vs 3°C
BIODIVERSITY LOSS Maximum percentage of species at high risk of extinction across forests and land	14%	18%	29%	1.3x WORSE	2.1x WORSE
DROUGHT Dryland population exposed to water stress, heat stress and desertification	0.95B PEOPLE	1.15B PEOPLE	1.29B PEOPLE	200M MORE PEOPLE	340M MORE PEOPLE
FOOD SECURITY Costs for adaptation and residual damage to major crops	\$63 BILLION US	\$80 BILLION US	\$128 BILLION US	\$17B MORE	\$65B MORE
FIRES Increases in burnt area across Mediterranean Europe	40-54%	62-87%	96-187%	1.6x WORSE	3x WORSE
EXTREME HEAT Increase in number of days per year with a maximum temperature above 35°C (95°F)	45-58	52-68	66-87	1.2x WORSE	1.5x WORSE
EXTREME HEAT Increase in annual number of heatwaves in Southern Africa	2-4 TIMES	4-8 TIMES	8-12 TIMES	2x WORSE	3.3x WORSE
SEA LEVEL RISE Global mean sea level rise by 2100	0.28-0.55m	0.33-0.61m	0.44-0.76m	1.1x WORSE	1.4x WORSE
FLOODS Increase in global population exposed to flooding	24%	30%	NO DATA AVAILABLE	1.3x WORSE	NO DATA AVAILABLE
CORAL REEFS Further decline in coral reefs	70-90%	99%	NO DATA AVAILABLE	1.2x WORSE	NO DATA AVAILABLE

Note: For climate risks with projected ranges, we used the midpoint of the ranges to compare risks at different temperature thresholds. Sea level rise projections correspond to SSP1-1.9, SSP1-2.6, SSP2-4.5, which are roughly approximate to global warming of 1.5°C, 2°C, and 3°C, respectively. *Source:* IPCC AR6.

“The Climate Time Bomb Is Ticking”

-- UN secretary general António Guterres

It's Time for Tay Valley Township to Declare a Climate Emergency And Begin to Play Its Part In 'Defusing' this Bomb

The Problem (The Climate 'Time Bomb'):

Just last month (March 20, 2023) the UN's IPCC released the final installment of its Sixth Assessment Report (AR6). This 8,000-page report was quickly followed up with many reviews, over-views, and shortened-up summaries by respected journalists and non-governmental organizations around the world. One of the best summaries is by the **World Resources Institute (WRI)**.

But first, some journalistic perspective by *The Irish Times* in Dublin (March 20, 2023):

“[The problem] rests on over a century of **unsustainable exploitation** of fossil fuels, land use change and other activities that have led not only to global warming of 1.1 degrees above pre-industrial levels; but also over-exploitation of natural resources and the depletion and degradation of nature.” The climate scientists confirm that, “This has resulted in more frequent and more intense extreme weather events that have caused **increasingly dangerous impacts on nature and people in every region of the world.**”

“[The report] focused on the need for governments, industry, communities and individuals to **grapple** with climate actions **immediately**. It is not somebody else who is principally **responsible** for this, **it is us: you, me and everyone** in our society and societies across the global north.”

“Leaders of all nations must **rapidly phase out** fossil fuels and transition to clean, renewable energy. **Failure to address climate issues** will make most of the UN Sustainable Development Goals much harder to achieve.”

“The choices and actions implemented [or not] in this decade will have impacts now and for thousands of years.”

-- Irish climate scientist Prof. Peter Thorne, a core author of the IPCC report, quoted in *The Irish Times*, (March 20, 2023).

[The Republic of Ireland declared a climate emergency on May 9, 2019.]

World Resources Institute (WRI):

WRI has prepared “10 Key Findings” from the IPCC Synthesis Report. First, the planet has already warmed by 1.1 degrees C, and this much warming has already brought **changes that are unprecedented in recent human history**. These changes are now occurring in every region of the world, from rising sea levels, to more extreme weather events, to rapidly disappearing sea ice. The point to be made is that climate change is already upon us -- and it is already causing **serious harm to biological and human ecosystems**.

To quote WRI: “This report provides the world with the most comprehensive, most up-to-date, and best available scientific assessment of climate change. It also makes for grim reading. Across nearly 8,000 pages, the AR6 details the devastating consequences of rising greenhouse gas (GHG) emissions around the world — the destruction of homes, the loss of livelihoods and the fragmentation of communities, for example — as well as the **increasingly dangerous and irreversible risks should we fail to change course.**”



WRI has prepared a detailed chart (left) which highlights nine categories of risks/impacts we can expect as the planet warms to 1.5 C., 2.0 C. and possibly 3.0 degrees C. As the chart illustrates,

*“Climate impacts from 1.1 degrees C of global warming are becoming so frequent and severe that **no existing adaptation strategies can fully avoid losses and damages**. Coastal communities in the tropics, for example, have seen entire coral reef systems experience widespread mortality.”*

*“Every fraction of a degree of warming will intensify these threats, and **even limiting global temperature rise to 1.5 degree C is not safe for all**. At this level of warming, for example, 950 million people across the world’s drylands will experience water stress, heat stress and desertification, while the share of the global population exposed to flooding will rise by 24%.”*

[For greater resolution, see separate file: “WRI_Risks fm. Rising Temperatures_AR6-SR-2023.pdf”]

This chart makes clear that **risks of inaction on climate are immense** and the way ahead requires change at a scale not seen before. Limiting global temperature rise to 1.5 degrees C is still possible, but **only if we act immediately**. Governments, the private sector, civil society and individuals must all step up to keep the future we desire in sight. A narrow window of opportunity is still open, but **there's not one second to waste**.

**651 municipalities in Canada have already declared a Climate Emergency --
Why hasn't TVT?**

Definitions from Wikipedia:

A climate emergency declaration is an action taken by governments, scientists, and/or community groups to acknowledge that humanity is in a climate **emergency**. The term 'emergency' is used to generate a **mindset of urgency** around the issue of global warming and thus to assign a **high priority to climate action**.

The term 'climate emergency' has been promoted by climate activists and pro-climate-action politicians to add a **sense of urgency** for responding to a long-term problem. The term not only describes formal decisions; it also includes a focus and justification for the governing body's planning for **immediate actions** to avert climate breakdown.

In declaring a climate emergency, a government admits that climate change/global warming is a **real and serious problem**. The declaration also is an **admission** that the measures taken up to this point are **not enough** to limit the predicted changes brought by planetary heating. The decision stresses the need for the government and administration to devise **stronger measures** to stop human actions that are contributing to global warming.

In January 2021, a United Nations Development Programme survey of public opinion in 50 countries found that sixty-four percent (**64%**) of 1.2 million respondents believe **climate change is a global emergency**. This was the largest survey of public opinion on climate change ever conducted.

Brief history of climate emergency declarations:

The first declaration of a climate emergency was made in Australia in December 2016. The municipality was Darebin (pop. 160K), a suburb of Melbourne, Victoria State. Over the more-than-six years since then, **2,325 jurisdictions in 40 countries** have declared a climate emergency, covering over 1 billion citizens. (Up to April 9, 2023.)

The stated goal of the organizers of the Darebin declaration has not changed over those six years:

"**Considering** that there are dangerously increasing concentrations of greenhouse gases in the Earth's atmosphere ... and that the average global temperature is rising [as a direct consequence] and at an alarming rate and disrupting climate worldwide;

"**Considering** that scientific findings indicate that a **major climate crisis** is upon us and that we are heading straight for **disaster** in the short term, identified as "**abrupt and irreversible climate change**" threatening civilization and life as we know it;

"Our goal is for governments to **declare a climate emergency** and **mobilise** society-wide resources at sufficient scale and speed **to protect** civilisation, the economy, people, species, and ecosystems."

[The website, *Climate Emergency Declaration*, has many resources to assist local councils in their efforts to pursue the matter.]

The Canadian scene:

More detail and rationale on the global growth of these declarations, from Australia -- to Europe -- to North America, is included below. But let's skip directly to the Canadian situation.

It started in 2018 in Quebec province, when 525 individual municipalities signed on to the 'GMob' Climate Emergency Declaration. These separate declarations covered 83% of the population of Quebec, including the 16 separate boroughs of Montreal.

Then in January 2019, it was Vancouver (BC) to become the first city, outside of Quebec, to declare a climate emergency. In **Ontario**, Kingston was the first to declare, in March 2019, followed within the next month by Hamilton, Burlington and Ottawa. The federal government passed a motion to declare a **national climate emergency** in Canada on June 17, 2019. Even the Alberta cities of Edmonton and Calgary have made similar declarations, in 2019 and 2021, respectively. (Detailed rationales are shown below.)

In Eastern Ontario, alone, we have the early adopters (Kingston and Ottawa, above) plus Prince Edward County (May, 2019), Gananoque (July, 2019); then more recently Pembroke (April, 2021) and Cornwall (December, 2021).

According to the Darebin group's website, Ontario is now up to **66 jurisdictions** which have declared a climate emergency (to the end of March, 2023). Statistics show that these 66 municipalities **cover 91% of the Ontario population**. [The City of Guelph voted to acknowledge a "climate crisis," rather than an "emergency," in May, 2019. If Guelph's population were included, the figures would be 67 communities, covering 92% of Ontario's population.]

Commentary:

From the above material, it should be abundantly clear that climate change is already upon planet Earth; and that it is already causing serious, often **irreversible damage** to both nature and our human economy, health and civilization.

The predicament for humanity is quite simple: "Putting more carbon into the air makes climate change worse." -- Prof. John Sterman, Director of the Sustainability Initiative at the MIT Sloan School of Management (as quoted on CBC Radio):

More Carbon → More Warming → More Damage

It should also be abundantly clear that we have run out of time. Every decision to **continue burning carbon** means another increment of warming and that means more irreversible damage is **baked into** our future. (In short, adding to our carbon debt. It is much easier to stop adding to this debt, right now, than it will ever be 'to pay it down' in the future. This is especially true because much of the damage will be **irreversible** in human timeframes.)

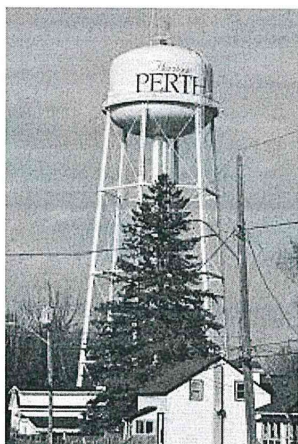
The WRI chart, "Comparing Risks from Rising Temperatures" clearly outlines the damages that will continue to grow if we fail to slow global warming. We face a bleak future with: **more** biodiversity loss, **more** drought, **more** crop loss and **more** food insecurity, **more** wildfires, **more** heat deaths, **more** heat waves, **more** sea-level rise, **more** floods, and **no more** coral reefs!

Discussion:

Are we really so self-centred that we can't relate to the increasing risks listed above? Here in land-locked Canadian Shield territory, does nobody care about the disappearance of coral reefs? Are we really so complacent? Are we so totally stuck with the 'status quo' (vested interests) and 'tradition' that we can't roll up our sleeves and start making the big changes required? — There are lots of guidebooks, outlining available solutions: authors such as Tony Seba, Mark Jacobson, Project Drawdown, and now a new book by Simon Sharpe: "Five Times Faster".

Why TVT needs to declare a Climate Emergency:

As outlined above and below, the main reasons for a municipality to declare a climate emergency are **to acknowledge** both the science and **the urgency** of climate change. [The concept of an 'emergency response' is a recognition of the need for both immediate and extraordinary action.]



By their very nature, municipalities have responsibility for building and maintaining **safe infrastructure**, such as roads, bridges, water towers and sewer systems. In the many examples of declarations of a climate emergency, collected in this document, it can be seen that the rationale for the declaration has often been about creating a **safe** environment and **protecting** both citizens and nature.

The **GE&CC WG** Terms of Ref. say, "Think globally and act locally." ← Here's our chance to do it!

Leadership sets the tone

Making a declaration is one way that TVT can 'show leadership' -- a goal at the front of our Climate Action Plan. It's a way to get started: a solid first step; a 'heads up' to township staff that **urgency** is in the corporate 'mission statement,' going forward.

Here's an excerpt from Darebin City Council, with their advice to other local councils:

"In acknowledging the climate emergency, government authorities (no matter how small) should **take responsibility** for trying to engage the world in achieving the goal of restoring a safe

climate. Since global action is needed, this means a council needs to act substantially via influence rather than via only what it can directly control.” [Full text below.]

Finally, **to refuse** to declare a climate emergency is to deny the science -- to deny the urgency -- and to deny that there are solutions available today. It is also a denial of our **collective responsibility** to protect economies, communities, and natural ecosystems from increasing damages due to global heating. Governments at all levels face an enormous responsibility **to act promptly** to avoid such climatic disruptions. Expert opinion, collected in this document, makes it clear that such disruptions could seriously alter the climate on Planet Earth **for thousands of years** into the future. Clearly, the climate crisis **cannot be ignored**.

Delay = Denial

Delaying action, i.e., deciding to continue with carbon-emitting systems long after cleaner solutions are available, is a denial of the **additional damage** those emissions will cause. Here is another instance of **denial of responsibility**. We all have to change to cleaner energy systems, immediately ‘if not sooner.’

“When facing a collective action problem like climate change, **the greatest threat is thinking that everyone else will take care of it,**” said Coun. Jasmine Mian, City of Calgary. [She was speaking in defence of her city’s declaration of a climate emergency, which passed by a vote of 13 - 2, November 2021.]

The current township policy, where no emergency has been declared, conveys to the public an impression that TVT:

- Does not understand the serious damage that global warming is already causing; and therefore
- Is not really committed to taking immediate action.
- Does not see delay as a ‘climate-killing’ act, i.e., a deliberate decision to continue polluting Earth’s atmosphere with GHGs that could have been avoided.
- Does not care about local air pollution and energy insecurity in TVT.
- Is indifferent to the serious efforts made by many other municipalities to declare a climate emergency.
- Considers itself justified in letting other levels of government do ‘the heavy lifting’ on this issue.
- Is only ‘paying lip-service’ to the issue of climate change; because
- a 2050 target is something for future governments to worry about.

Motion:

Given the above IPCC reports, news items and quotations, and given our understanding that there is no more urgent matter facing human society, the GE&CC Working Group recommends that Tay Valley Township should **do its part to demonstrate leadership on the climate crisis**, by joining with the roughly 650 other municipalities in Canada that have already declared a “climate emergency.”

The present situation -- where a climate emergency has not been declared -- and where substantive action on a clean-energy transition continues to be delayed or postponed -- is simply a **denial of the urgency** that the IPCC reports have clearly identified.

Background Material: History and Rationale for Declaring a Climate Emergency

The Darebin 'Call to action':

People are great at rising to the occasion in an emergency. If you happen to be there when a fire or flood occurs, chances are you'll pitch in alongside emergency service workers to do whatever is needed. Neighbours help neighbours, and strangers help strangers.

We are now in the biggest emergency ever – the climate emergency. Already people are dying and ecosystems are being destroyed.

We know what needs to be achieved – right now – and we already have the technology to do it. We must face up to climate facts, go into emergency mode, and throw everything we've got at restoring a safe climate.

We know from our experience of full-scale wartime mobilisations that amazing economic transformations can be achieved in just a few years when we face an existential threat. Let's demand equally strong leadership and action from our peacetime government in order to protect everything we love.

Join us in petitioning your local council and/or the Australian Parliament to declare a climate emergency and mobilise society-wide resources at sufficient scale and speed to protect civilisation, the economy, people, species, and ecosystems.

Reference link: <https://climateemergencydeclaration.org/about/>

Excerpts from Darebin City Council: "Framework for Effective Local Government Climate Emergency Response"

What is the climate emergency and restoration of a safe climate?

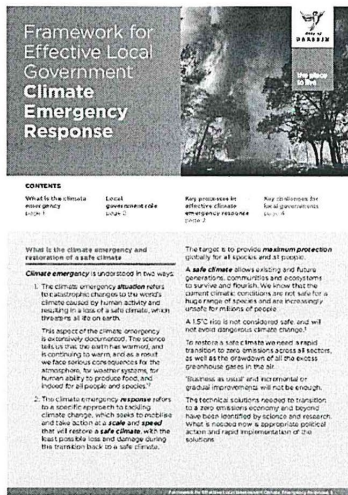
Climate emergency is understood in two ways:

1. The climate emergency **situation** refers to catastrophic changes to the world's climate caused by human activity and resulting in a loss of a safe climate, which threatens all life on earth.

This aspect of the climate emergency is extensively documented. The science tells us that the earth has warmed, and is continuing to warm, and as a result we face serious consequences for the atmosphere, for weather systems, for human ability to produce food, and indeed for all people and species.

2. The climate emergency **response** refers to a specific approach to tackling climate change, which seeks to mobilise and take action at a **scale** and **speed** that will restore a **safe climate**, with the least possible loss and damage during the transition back to a safe climate.

The target is to provide **maximum protection** globally for all species and all people.



A **safe climate** allows existing and future generations, communities and ecosystems to survive and flourish. We know that the current climatic conditions are not safe for a huge range of species and are increasingly unsafe for millions of people.

A 1.5°C rise is not considered safe, and will not avoid dangerous climate change.

To restore a safe climate we need a **rapid transition** to zero emissions across all sectors, as well as the drawdown of all the excess greenhouse gases in the air.

'Business as usual' and incremental or gradual improvements will not be enough.

The technical solutions needed to transition to a zero emissions economy and beyond have been identified by science and research. What is needed now is appropriate political action and rapid implementation of the solutions.

Darebin City Council (continued):

Engagement and advocacy should be a fundamental part of the Climate Emergency Plan.

Actions should include (but not be limited to):

- Switching to 100% renewable energy
- Getting off fossil gas
- Implementing energy efficiency across all facilities/buildings
- Redrafting procurement policy and practices to ensure suppliers to council are using renewable energy and resource recovery
- Embed climate emergency thinking into strategic planning and update planning schemes
- Refocus transport priorities to drive the shift to fossil fuel free transport
- Create a circular economy aimed at zero waste
- Increase your urban forest and/or revegetation activities
- Community education and empowerment to take action
- Increase community resilience to climate change impacts.

Climate emergency action also needs to be embedded across all of council, and reflected in all policies and strategies of council. Inwards engagement with all staff and units of council is essential, particularly ensuring education and empowerment of managers happens early on.

Global examples of declarations and their rationale:

In 2018, Bristol (U.K.) City Council's declaration of a climate emergency was the first in Europe. The city was widely credited for creating the 'breakthrough moment' for other cities and national parliaments to declare a climate emergency. For example, a Citizens' Assembly in Ireland made the following recommendations in April, 2018:

"To ensure climate change is at the centre of policy-making in Ireland, **as a matter of urgency** a new or existing independent body should be resourced appropriately, operate in an open and transparent manner, and be given a broad range of new functions and powers in legislation to **urgently address climate change**. (97% in favour)"

In April and May, 2019, declarations in Scotland and Wales began the process which culminated in the "Climate Change (Emissions Reduction Targets) (Scotland) Act" which was passed on 25 September 2019. The Parliament of the United Kingdom followed later that afternoon.

Pope Francis declared a climate emergency in June 2019. The Pope also called for a "radical energy transition" away from fossil fuels towards renewable energy sources, and urged leaders to "hear the increasingly desperate cries of the earth and its poor." He also argued against "the continued search for new fossil fuel reserves" and stated that "fossil fuels should remain underground."

In Vancouver's case, the vote was unanimous. Councillor Christine Boyle, who moved the resolution, said "**staff now have the mandate to dramatically strengthen** the city's climate action plan." "We need to respond to this crisis **urgently** and compassionately with a path towards a more equitable society," she added.

Canadian federal declaration (fm. Global News):

"The House of Commons passed a motion to declare a national climate emergency in Canada on Monday night (June 17, 2019). The motion was put forward by Environment and Climate Change Minister Catherine McKenna, with the vote passing 186 - 63. It declares a national climate emergency and supports the country's commitment to meeting the emissions targets outlined in the Paris Agreement."

The city of Ottawa resolution states that it "was for the purposes of naming, framing, and **deepening our commitment** to protecting our economy, our ecosystems, and our community from climate change. The declaration provides **additional direction to staff** for expanded work on the Climate Change Master Plan, Energy Evolution, and the future Climate Resiliency Plan.

A community group in Peterborough Ontario, "Random Acts of Green," (RAoG) has been keeping track of the number of Canadian municipalities that have declared a climate emergency. Up to 1st of March

of this year (2023), the number had grown to 649! [The Darebin website is even more up-to-date. It says there are 651 Canadian municipalities with climate-emergency declarations, as of the 9th of April.]

Quotes by RAOG: "This is a clear wake-up call for all Canadians that climate change is real and requires **urgent** action – and we want to help! The science is clear that we all need to reduce our carbon footprint."

Other municipalities have taken a bit longer to sign on. For example, the Town of Huntsville waited until 2021, as reported by the online news site, *Huntsville Doppler*, July 1, 2021:

"The Town of Huntsville has signed on **to do its part** in reducing greenhouse gas (GHG) emissions. Spurred on by Climate Action Muskoka—a local not-for-profit group concerned about climate change and its impacts—Huntsville councillors unanimously agreed to join the Town of Gravenhurst and District of Muskoka and declare a climate emergency."

"It adds that it is not only necessary to reduce greenhouse gas emissions "but also to increase community resiliency in the face of climate change, and that these approaches can offer multiple benefits, including **improved health and air quality**, increased innovation, economic development and reduced costs over time. The Town of Huntsville wishes **to protect** its economy, community, and ecosystems from the impacts of our changing climate."

City of Calgary, November 2021: One of Mayor Jyoti Gondek's first moves after being elected last month, was to introduce Calgary's own climate emergency declaration. The 13-2 vote in favour comes two years after Edmonton made its position known.

Quotes picked up by the *Calgary Herald*:

"It is a matter of making sure that we understand the reality of the table stakes that we are declaring a climate emergency, so we can actually attract capital and talent here," said Mayor Gondek.

"When facing a collective action problem like climate change, **the greatest threat is thinking that everyone else will take care of it,**" said Coun. Jasmine Mian.

Calgary Chamber president and CEO Deborah Yedlin:

"When we have this kind of pronouncement by the city, it puts us on the map. It takes away some regulatory uncertainty, **it takes away that perspective that we're not committed** and that people will look at us again in a different light," she said. "And that's what's really exciting because there is a lot of money on the sidelines looking to invest in the energy transformation, and we are so well-positioned to do that."

"We know we have an emissions problem, and **we have to show to Canadians**, but also actually our own investors, **that we treat this seriously** — which we do," said Tristan Goodman, president of the Explorers and Producers Association of Canada.

Some further quotations re the **urgency** of taking action on climate change:

"Once you articulate an agenda, you have to follow it. I think the government has to reposition environment on top of their national and international priorities. Whether the process proves to be Kyoto or something else, **let's acknowledge the urgency** of global warming."

-- **Brian Mulroney**, 18th prime minister of Canada, from 1984 to 1993. ← 30 years ago!

[Historical note: The *National Round Table on the Environment and the Economy* (NRTEE) was a Canadian advisory program created (in response to the 1987 United Nations document *Our Common Future*) by the Progressive Conservative Party of Canada. The NRTEE focused on sustaining Canada's prosperity without stealing resources from future generations or compromising their ability to live securely. The Conservative government of Stephen Harper ended funding to NRTEE, which ceased to exist on 31 March 2013. -- from Wikipedia]

"Through our work — and that of many others — people all around the world now know that the Paris Agreement coming into force today is a giant step forward, and, at the same time, that **greater ambition—earlier, deeper emissions cuts—is needed** to create a world in which all can thrive. And we know that, together, we can do it."

-- Prof. John Sterman, Director of the Sustainability Initiative at the MIT Sloan School of Management.

Morgan Solar -- the Canadian design company behind major solar farms in Ontario and Alberta:

"When he started the company 12 years ago, a key objective was cost containment. Today, he says, "Solar panels are (almost) cheaper than plywood. **The challenge is getting politicians to understand this.** Policy-makers were educated when solar was this impossibly expensive dream, when people said, 'Can we afford to do this?' Now the question is, '**Can we afford not to do this?**' I think solar is going to enable a future where energy is almost zero cost."

-- John Paul Morgan, as quoted by Gideon Forman in *Corporate Knights* magazine (Toronto), May 7, 2019.

"We're making progress – but we need to **move faster**. Inaction is not an option. We must change for the better. We need to move at scale and **at speed** to ensure our country, people and planet have the best possible chance, not only to survive, but to thrive."

-- From: "Changing Ireland for the Better," Ireland's Climate Action Plan 2023.

More quotations:

"A journey of a thousand miles begins with a single step" -- Chinese proverb.

"Progress is impossible without change, and those who cannot change their minds cannot change anything." -- George Bernard Shaw

"The environment is where we all meet; where we all have a mutual interest; it is the one thing all of us share." -- Lady Bird Johnson [I would say, "the atmosphere" is a more accurate expression for what everyone has in common, globally. "Mutual dependence" is also more realistic. -- PJN]

"You cannot get through a single day without having an impact on the world around you. What you do makes a difference and you have to decide what kind of a difference you want to make."
— Jane Goodall

"Climate change is real; it is happening right now. It is **the most urgent** threat facing our entire species, and we need to work collectively together and **stop procrastinating**. Let us not take this planet for granted." -- **Leonardo DiCaprio**, to applause from celebrities during his Oscar speech in Hollywood's Dolby Theatre, February 29, 2016.

Today's News, CBC Radio:

United Nations' IPCC Synthesis Report, 20 March 2023:

[The much-anticipated Climate Change 2023: Synthesis Report is based on years of work by hundreds of scientists during the Intergovernmental Panel on Climate Change's (IPCC) sixth assessment cycle which began in 2015.]

"Humanity is on thin ice — and that ice is melting **fast**. Our world needs climate action on all fronts — everything, everywhere, **all at once**. We must **move into warp speed** climate action **now**. **We don't have a moment to lose.**" -- United Nations Secretary-General Antonio Guterres, at Monday's release of the latest synthesis report from the Intergovernmental Panel on Climate Change.

"This Synthesis Report underscores the **urgency of taking more ambitious action** and shows that, **if we act now**, we can still secure a liveable sustainable future for all," said IPCC Chair Hoesung Lee.

Response to Today's News, Katharine Hayhoe:

"Climate change fear can be paralyzing. But you can spur action through hope," says scientist. "UN warning is dire, but 'solutions are at hand': Katharine Hayhoe.

By Padraig Moran · *CBC Radio/The Current* · Posted: Mar 21, 2023 2:34 PM EDT

[Link: <https://www.cbc.ca/radio/thecurrent/climate-report-katharine-hayhoe-1.6785778>]

Quotes from Katharine Hayhoe, w/Matt Galloway on CBC's *The Current*, Mar. 21/23:

"What's different now is we're much closer to that [existential crisis]. And **the window of time that we have to take meaningful action to avert the worst consequences is closing quickly.**"

"We are all being affected today and that's why **this is urgent. Climate change stands between every one of us and a better future.**"

Opinion, *The Irish Times*, March 20, 2023:

"As one of the six senior authors on this report it has been a real eye-opener to see the diverse perspectives of both very distinct disciplines and very distinct voices. We do have to be honest and recognise our enormous privilege relative to very many people, principally in the global south, who live far more precarious lives than we do.

"That privilege rests on over a century of unsustainable exploitation of fossil fuels, land use change and other activities that have not just contributed to climate change but also over-exploitation of natural resources and the depletion and degradation of nature. It is not somebody else who is principally responsible for this, it is us: you, me and everyone in our society and societies across the global north.

-- Peter Thorne is Professor in Physical Geography (Climate Change) at Maynooth University and was one of the authors of the IPCC synthesis report.

The Guardian, 10 April, 2023:

"The latest Intergovernmental Panel on Climate Change report is a grim, yet unsurprising, reminder of the catastrophic effect global heating is having on our planet. **The message from leading climate scientists is clear: action is needed now. Not tomorrow, not next year, not by the end of the decade.**

"Even drastic carbon reduction today that limits temperature increases to the 1.5C agreed in Paris will alter the world we live in forever. The IPCC concludes that **every fraction of a degree more** will edge us towards tipping points that will leave deep scars on our planet.

"While much has been said about the damage to weather patterns, crop yields and coral reefs, less well understood is the effect a hotter world has on our health. The reality is that the climate crisis is the biggest health crisis of our time, bigger even than Covid-19."

-- Pascal Soriot, chief executive, the Anglo-Swedish pharmaceutical company AstraZeneca

Guy Dauncey (fm. *The Tyee*, Nov., 2019):

"When we frame our thoughts around the negative language of 'energy descent' and 'deliberate contraction,' we confirm people's fear that solutions to the climate and ecological emergencies will wreck their comfortable lives. This is so harmful.

"We really don't benefit from unrealistic dooming and glooming. We need a far more determined, positive framing, celebrating the transition to a new ecological civilization in which we finally learn how to live in harmony with Nature, and with each other."

-- Guy Dauncey is the author of *Journey to the Future: A Better World Is Possible*, and nine other books. He lives in Yellow Point, on Vancouver Island.

Re: Earth's atmosphere:

We all live downstream/ we all live under the same sky/

"Earth's Atmosphere is Our Common 'Security Blanket'" -- Alan Buis, NASA's Jet Propulsion Laboratory

Quick Guide

What difference would restricting warming to 1.5C make?

A key finding of the new IPCC report is the dramatic difference that restricting warming to 1.5C above pre industrial levels would have on the global environment.

The scientists found:

- By 2100, global sea level rise would be 10cm lower with global warming of 1.5C compared with 2C.
- Extreme heatwaves will be experienced by 14% of the world's population at least once every five years at 1.5C. But that figure rises to more than a third of the planet if temperatures rise to 2C
- Arctic sea ice would remain during most summers if warming is kept to 1.5C. But at 2C, ice free summers are 10 times more likely, leading to greater habitat losses for polar bears, whales, seals and sea birds.
- If warming is kept to 1.5C, coral reefs will still decline by 70-90% but if temperatures rise to 2C virtually all of the world's reefs would be lost

-- From *The Guardian*, Oct., 2018. Article by Jonathan Watts entitled, " We have 12 years to limit climate change catastrophe, warns UN".

Link:

<https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-lan-dmark-un-report>

"Policymakers, themselves, need to understand **the urgency** and thus take bold steps."

-- Mark Jacobson, in his new book, "*No Miracles Needed*," Chapter 14.

A community group in Peterborough Ontario, "Random Acts of Green," (RAoG) has been keeping track of the number of Canadian municipalities that have declared a climate emergency. Up to 1st of March of this year (2023), the number had grown to 649! In Ontario alone, the number is 66. [The City of Guelph voted to 'acknowledge a climate crisis' rather than declare a climate emergency. Hence the Ontario total is really 67.]

Quotes by RAoG: "This is a clear wake-up call for all Canadians that climate change is real and requires **urgent** action – and we want to help! The science is clear that we all need to reduce our carbon footprint."

WRI: Impacts on people and ecosystems:

"One of AR6's most alarming conclusions is that adverse climate impacts are already more far-reaching and extreme than anticipated. About **half of the global population** currently contends with severe water scarcity for at least one month per year.

"Every fraction of a degree of warming will intensify these threats, and even limiting global temperature rise to 1.5 degree C is **not safe** for all. At this level of warming, for example, 950 million people across the world's drylands will experience water stress, heat stress and desertification, while the share of the global population exposed to flooding will rise by 24%." Allowing global warming to reach 2.0 degrees would result in a **further 20 to 30% increase** in these numbers.

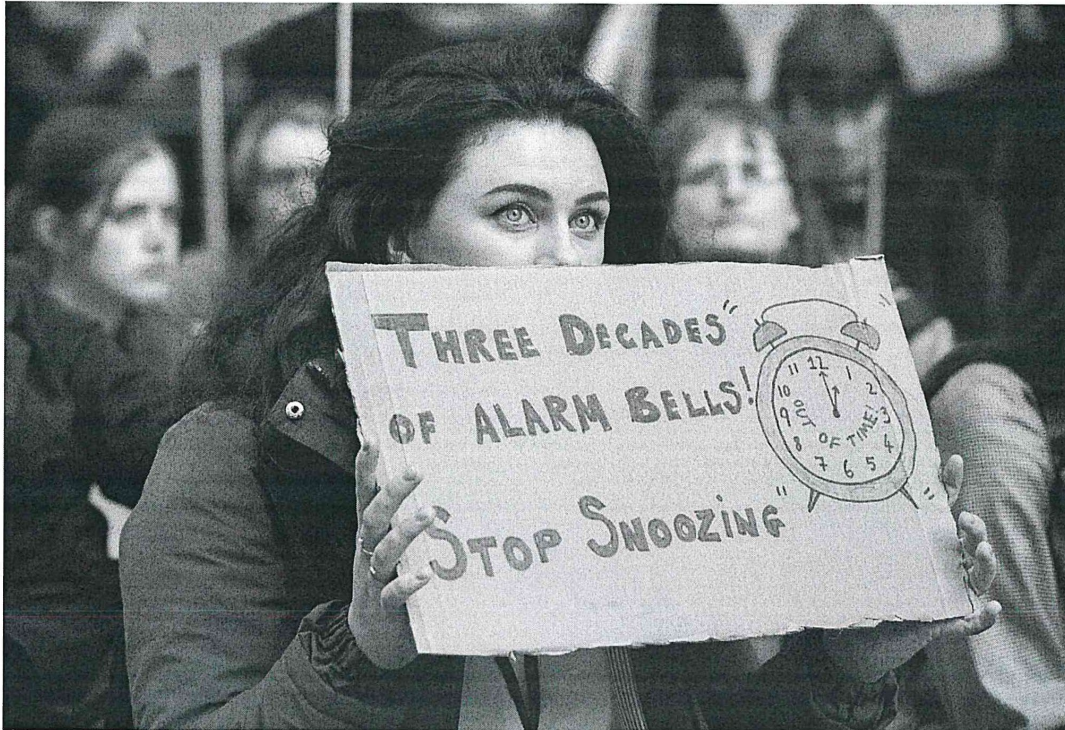
In another example, coastal communities in the tropics have seen entire coral reef systems experience widespread mortality from (the present) 1.1 degrees C of global warming. These reefs once supported the communities' livelihoods and food security. Again, further warming to just 1.5 degrees is expected to cause 70 to 90% **further decline** in these coral reefs and warming to 2.0 degrees would mean almost **total destruction** (99%) of these reefs.

-- From the latest report from the *World Resources Institute*, "10 Big Findings from the 2023 IPCC Report on Climate Change," March 20, 2023. The report contains a chart detailing 9 separate areas of risk, from Biodiversity Loss and Drought, etc., to Floods and Coral Reefs. The chart shows the increasing degree of loss and damage likely to occur with global warming of 1.5, 2.0, and 3.0 degrees C. The chart is entitled: "Comparing Risks from Rising Temperatures." (See link below.)

Our choices as consumers will determine how much greenhouse gas emissions occur

If we act immediately and at sufficient scale across global societies we can still keep warming well below 2°C and ensure a healthy planet for all.

By Peter Thorne. Opinion, *The Irish Times*, March 20, 2023



Rosin Fitzgerald from Crossbeg Wexford during a protest march by concerned Students and Civil Society Groups on Grafton Street, Dublin in November 2022. Photo: Gareth Chaney/Collins Photos

The final report of this Intergovernmental Panel on Climate Change cycle – the synthesis report – has appeared today. The report attempts to bring together the evidence provided in the prior reports, starting with the report on 1.5°C in 2018, to provide a final and holistic assessment.

As one of the six senior authors on this report it has been a real eye-opener to see the diverse perspectives of both very distinct disciplines and very distinct voices. We do have to be honest and recognise our enormous privilege relative to very many people, principally in the global south, who live far more precarious lives than we do.

That privilege rests on over a century of unsustainable exploitation of fossil fuels, land use change and other activities that have not just contributed to climate change but also over-exploitation of natural resources and the depletion and degradation of nature. It is not somebody else who is principally responsible for this, it is us: you, me and everyone in our society and societies across the global north.

We are witnessing in real-time the consequences of a world that is 1.1°C warmer than in the pre-industrial era owing to our historical and ongoing emissions of heat trapping greenhouse gases. Extreme events such as heat extremes, drought, wildfire, heavy rainfall and flooding are in all regions changing in both frequency and intensity owing to climate change. The changes in many extremes are largest in the global south. Those least responsible, who are most vulnerable, are being affected the most. That simply is not fair.

We know, and the report reaffirms, that for every increment of warming the impact will get worse. But it is important to recognise that this is not linear. A 1.5°C rise will be much worse than today, a 2°C rise will be much much much worse, and if we go yet further we start getting into unrecognisable futures. Furthermore, the more we warm the planet the further we risk reaching potential tipping points. We must stop treating our atmosphere as a proverbial rubbish bin.

While the report makes clear that it is probable that we will reach 1.5°C warming on a sustained basis in the early part of the next decade it is still in our hands whether we stabilise temperatures at or close to that level or blast right through that and even 2°C. And we must beware the allure of future promises of technological fixes of carbon removal and storage. This is unproven technologically at scale and unproven whether it will be economically viable. We need to stop putting all our casino chips on black. **The very best emission is an avoided emission.**

The report makes very clear that there are many proven options available to be deployed at scale that can begin to fix this problem. These solutions can not only help ensure a future climate that remains liveable but also address issues of equity, human health, and nature amongst others. This is what is termed in the report 'climate resilient development'.

The report stresses the need to remove persistent barriers and put in place enabling conditions to get this working. We need to recognise and, indeed embrace, that there are very particular national and regional contexts. There is not and cannot be a one-size fits all solution both between and within countries.

Solutions must ultimately be deployed by us as individuals. It is, ultimately, our choices as consumers that determine how much greenhouse gas emissions occur. But there is an enormous role for governments, international institutions, industry, financial institutions and others to set up enabling conditions and inform society at all levels.

Here in **Ireland** there has been good progress since the **Citizens Assembly** considerations [*]. The amended Climate Action Law has set up a robust governance structure and the successive Climate Action Plans have begun to flesh out a pathway, even though that pathway remains unclear in important aspects including, critically, unallocated emissions reductions necessary to meet the first carbon budget. The Central Bank has started to take steps to mainstream climate finance aspects. And there are myriad examples of effective actions by individuals and communities. But more can and must

be done and the scale and pace of action remains far below what is needed. We need to double down on our action if we are to play our part.

The report makes clear that those who are most impacted by the often difficult decisions ahead of us will need support. Climate action will only be truly effective if it addresses persistent inequities both between and within countries. Solutions need to understand and be tailored to the needs of communities and their particular circumstances. There are very distinct solutions in Kerry and Dublin. They are even more distinct between Ireland and Mali or Peru.

It is also, sadly, the case that we will need to adapt to our changed and changing climate. More adaptation options, with greater feasibility, exist if we keep overall warming to lower levels. Adaptation is inherently a local challenge because the impact varies depending upon local circumstances. Many proven adaptation options exist. But some losses and damages are unavoidable even with effective adaptation.

So we have all the options we need in our toolkit to avoid the worst impacts of climate change, to adapt to the changes that are inevitable, and to ensure a healthy planet. This is not a can we are able to kick any further down the road. If we had started taking meaningful action in the latter half of the 20th century we would have many more options open to us. Because we have left it so late – and even today emissions globally are continuing to rise – **we have no option but to undertake actions with immediacy and at scale.** This is still possible.

The decisions we make this decade will reverberate for hundreds to thousands of years. If we **act immediately** and at sufficient scale across global societies we can still keep warming well below 2°C and ensure a healthy planet for all. If we do not achieve this then we will leave an impoverished planet and never be forgiven by our children, grandchildren and generations as yet unborn. **It is well past time we started acting at the scale that is required.**

Every action matters. Every choice matters. Now, get cracking.

Peter Thorne is Professor in Physical Geography (Climate Change) at Maynooth University (National University of Ireland). He was one of the authors of the IPCC synthesis report.

[*] In April, 2018, Ireland's Citizens' Assembly voted 97% in support of their [Recommendation 1](#):

"To ensure climate change is at the centre of policy-making in Ireland, as **a matter of urgency** a new or existing independent body should be resourced appropriately, operate in an open and transparent manner, and be given a broad range of new functions and powers in legislation **to urgently address climate change.**"

The Republic of Ireland made a formal Climate Emergency Declaration (CED) on 9th May, 2019. All county and city governments had also made CEDs by January 2021, covering 100% of the population of Ireland.

The IPCC Synthesis Report Is Out, & It Offers A Faint Glimmer Of Hope

The latest IPCC Synthesis Report says there is still a chance of limiting global overheating, but it will take lots of time and money.

By Steve Hanley, CleanTechnica. Published March 21, 2023

Over the past 5 years, IPCC — the Intergovernmental Panel on Climate Change — has amassed more than 10,000 pages of scientific research, charts, graphs, footnotes, addenda, and analysis. Taken together, all that information conveys one simple message: the Earth is rapidly overheating to the point where life for humans and thousands of other species will soon become impossible.

Oh, sure, some species like cockroaches and rats may survive and new species may arise that are better able to live in hotter, drier conditions. But we the people will be dead and gone, largely because we have released several thousand years' worth of carbon dioxide and methane into the atmosphere in just over a century. The Earth simply can't keep up with the changes those excess gases have created.

The IPCC Synthesis Report

In an effort to make their research more accessible to non-scientists, 93 contributors to IPCC have created a 37-page synthesis report written in plain language they hope will make it understandable to the larger human community. In a press release, the authors said,

"More than a century of burning fossil fuels as well as unequal and unsustainable energy and land use has led to global warming of 1.1°C above pre-industrial levels. This has resulted in more frequent and more intense extreme weather events that have caused increasingly dangerous impacts on nature and people in every region of the world. Every increment of warming results in rapidly escalating hazards. More intense heatwaves, heavier rainfall and other weather extremes further increase risks for human health and ecosystems."

"In every region, people are dying from extreme heat. Climate-driven food and water insecurity is expected to increase with increased warming. When the risks combine with other adverse events, such as pandemics or conflicts, they become even more difficult to manage."

Bloomberg Green summarizes the report as follows:

- Greenhouse gas emissions generated by human activity have unequivocally caused global warming, and emissions have continued to rise, with some countries and groups contributing far more than others.
- The world must cut greenhouse gas emissions to 60% below 2019 levels by 2035.
- "Widespread and rapid" changes to planetary systems have already taken place, their impacts disproportionately affecting the world's at-risk populations. More than 3 billion people are highly vulnerable to climate change.
- Climate adaptation has advanced, but not enough. Current levels of funding are insufficient. Increased warming will make adaptation harder.

- Although policies to mitigate climate change have expanded, it's likely that the world will exceed 1.5C of warming "in the near term" unless emissions peak before 2025. If the world overshoots 1.5C, that level could be brought down again by ending emissions and deploying carbon removal, which brings its own additional concerns.
- Climate-related risks are rising with every increment of warming. "Deep, rapid and sustained" emissions cuts can avoid some future changes, but not others.

Everything, Everywhere, All At Once

UN Secretary General António Guterres said, "This report is a clarion call to massively fast track climate efforts by every country and every sector and on every time frame. In short, our world needs climate action on all fronts — everything, everywhere, all at once." Guterres called on developed countries to accelerate their plans by moving their 2050 pledges to end emissions up to 2040. "The transition must cover the entire economy," he said. "Partial pledges won't cut it."

Guterres also called for developed countries to phase out coal by 2030 and all other countries to do so by 2040. He asked there be no new licensing or funding of oil and gas projects, based on the findings of the International Energy Agency that all new oil and gas development must cease for the world to limit global heating to 1.5° C above pre-industrial levels.

There is sufficient global capital to rapidly reduce greenhouse gas emissions if existing barriers are reduced, the synthesis report says. Increasing finance to climate investments is important to achieve global climate goals. Governments, through public funding and clear signals to investors, are key in reducing these barriers. Investors, central banks, and financial regulators can also play their part.

"There are tried and tested policy measures that can work to achieve deep emissions reductions and climate resilience if they are scaled up and applied more widely. Political commitment, coordinated policies, international cooperation, ecosystem stewardship and inclusive governance are all important for effective and equitable climate action.

"If technology, know-how and suitable policy measures are shared, and adequate finance is made available now, every community can reduce or avoid carbon intensive consumption. At the same time, with significant investment in adaptation, we can avert rising risks, especially for vulnerable groups and regions.

"Climate, ecosystems, and society are interconnected. Effective and equitable conservation of approximately 30 to 50% of the Earth's land, freshwater, and oceans will help ensure a healthy planet. Urban areas offer a global scale opportunity for ambitious climate action that contributes to sustainable development.

"Changes in the food sector, electricity, transport, industry, buildings, and land-use can reduce greenhouse gas emissions. At the same time, they can make it easier for people to lead low carbon lifestyles, which will also improve health and well being. A better understanding of the consequences of over-consumption can help people make more informed choices."

IPCC Synthesis Report: It's Not Too Late

Speaking to the press about the IPCC Synthesis Report, Simon Stiell, the UN's top climate official, said. "We are in a critical decade for climate action. Global emissions need to be reduced by nearly 43% by 2030 for the world to achieve the Paris agreement's goal to limit global temperature rise to 2° C and pursuing efforts to limit the temperature increase to 1.5° C. The Synthesis Report highlights just how far off-track we are."

He added, "It's not too late. The IPCC clearly demonstrates that it is possible to limit global warming to 1.5° C with **rapid and deep emissions reductions** across all sectors of the global economy. It has given us many feasible, effective and low cost mitigation and adaptation options to scale up across sectors and countries."

We know what to do. Tony Seba, Mark Jacobson, and Project Drawdown have given us road maps that show us precisely what has to happen in order to dramatically lower carbon and methane emissions. The problem is, nobody wants to do the heavy lifting required to put those tools into action.

If the world takes bold action to slash carbon emissions, there is a chance we can manage global heating enough to save our species. If we don't, the sun will set for the last time on the human race much sooner than anyone thought possible just a decade ago. The choice is ours, but based on the observable evidence, our nations are too focused on world domination, our corporations too blinded by greed, to do what must be done.

The IPCC authors are cautiously optimistic that we as a people will decide to act in the best interest of us all. If so, it will be the first time in history that has ever happened.

WRITTEN BY: Steve Hanley

Steve writes about the interface between technology and sustainability from his home in Florida or anywhere else The Force may lead him. He is proud to be "woke" and doesn't really give a damn why the glass broke. He believes passionately in what Socrates said 3000 years ago: "The secret to change is to focus all of your energy not on fighting the old but on building the new."

Links in this essay:

<https://cleantechnica.com/2022/02/28/interview-tony-seba-on-the-cleantech-revolution/>

<https://cleantechnica.com/2022/02/21/renewable-energy-zero-blackouts-millions-of-new-jobs-mark-z-jacobson/>

<https://cleantechnica.com/2020/08/08/drawdown-review-2020-how-to-address-global-warming-in-a-responsible-manner/>

Reference Links for this document collection:

IPCC Synthesis Report: Address by Secretary-General António Guterres (7 min. video)
<https://youtu.be/A47M9wXs6Yg>

World Resources Institute: "10 Big Findings from the 2023 IPCC Report on Climate change"
Link: <https://www.wri.org/insights/2023-ipcc-ar6-synthesis-report-climate-change-findings>

The Irish Times: "This decade's climate decisions will last 'thousands of years', IPCC report warns"
<https://www.irishtimes.com/environment/climate-crisis/2023/03/20/climate-decisions-made-this-decade-will-last-thousands-of-years-ipcc-report-warns/>

Prof. Peter Thorne: "Our choices as consumers will determine how much greenhouse gas emissions occur" Link:
<https://www.irishtimes.com/opinion/2023/03/20/it-is-ultimately-our-choices-as-consumers-that-determine-how-much-greenhouse-gas-emissions-occur/>

Links re Climate Emergency Declarations:

https://en.wikipedia.org/wiki/Climate_emergency_declaration

Darebin City Council: <https://climateemergencydeclaration.org/>

<https://raog.ca/climate-emergency-declarations-canada/>

<https://www.groupmobilisation.com/>

<https://www.thestar.com/vancouver/2019/01/17/vancouver-councillors-unanimously-approve-motion-declaring-climate-emergency.html?rf>

<https://globalnews.ca/news/5401586/canada-national-climate-emergency/>

<https://www.canada.ca/en/environment-climate-change/news/2019/04/canadas-climate-is-warming-twice-as-fast-as-global-average.html>

<https://changingclimate.ca/CCCR2019/>

<https://doppleronline.ca/huntsville/town-of-huntsville-declares-a-climate-emergency-aims-to-reduce-greenhouse-gas-emissions-to-zero-by-2050/>

<https://calgaryherald.com/news/local-news/council-members-meet-with-energy-leaders-ahead-of-climate-emergency-vote>

<https://www.undp.org/publications/peoples-climate-vote>

<https://www.corporateknights.com/leadership/morgan-solar/>