

## Item 7.1

### Items for the Action of the Partners in Project Green Executive Management Committee

**TO:** Chair and Members of the Partners in Project Green Executive Management Committee Tuesday, June 07, 2022 Meeting

**FROM:** Darryl Gray, Director, Education and Training

**RE:** **BRIEFING ON THE IPCC AR6 II**

---

#### KEY ISSUE

A summary of the Intergovernmental Panel on Climate Change Sixth Assessment Report, *Climate Change 2022: Impacts, Adaptation and Vulnerability (AR6 II)*

#### RECOMMENDATION

**IT IS RECOMMENDED THAT the following report summarizing the Intergovernmental Panel on Climate Change Sixth Assessment Report, *Climate Change 2022: Impacts, Adaptation and Vulnerability (AR6 II)*, be received.**

#### BACKGROUND

##### **AR6 I**

On February 27<sup>th</sup>, 2022, the International Panel on Climate Change (IPCC) released the Sixth Assessment Report (AR6 I), *Climate Change 2022: Impacts, Adaptation and Vulnerability (AR6 II)*. This report is the second in the series of the IPCC AR6, and a follow up to *Climate Change 2021: The Physical Science Basis (AR6 I)* released August 9, 2021.

The AR6 I addressed the most-up-to-date physical understanding of the climate system and climate change, drawing on the latest advances in climate science, and combining multiple lines of evidence from paleoclimate archives, observations, process understanding, and global and regional climate simulations.

##### **AR6 II**

The AR6 II represents the contributions of Working Group II to the IPCC Sixth Assessment Report and examines the impacts of climate change, looking at ecosystems, biodiversity, and human communities at global and regional levels. This report reviews vulnerabilities and the capabilities and limits of the natural world and human societies to adapt to climate change, revealing that future risks and vulnerabilities will become increasingly complex and compounded should temperatures exceed 1.5 degrees. The AR6 II advocates that social and environmental justice must be integral to future climate adaptation and resilience planning to holistically safeguard biodiversity and human health and wellbeing.

This summary report, presented to the PPG Executive Management Committee, summarizes key findings from the AR6 II that are relevant to the business community in a North American context. Specifically, this summary emphasizes the interconnectedness of natural systems and human societies that when impacted by climate change, threaten to interrupt supply chains and the viability of certain business operations.

#### RATIONALE

##### **Climate change and equity**

The AR6 I highlighted the unequivocally human-induced impacts of climate change on global and natural human systems, some of which are irreversible and no longer adaptable. We are

## Item 7.1

witnessing more frequent and severe weather events, extreme heat, and drought and wildfires across the globe with polar, mountain and coastal ecosystems being the worst impacted. This is resulting in higher human mortality rates, widespread deterioration of ecosystem structure and function, and damage to the built environment. The AR6 II highlights how when combined, these impacts are exacerbating socioeconomic consequences.

In North America, the primary ecosystem impacts include changes in ecosystem structure, and species and seasonal shifts. Human system impacts include water scarcity and food production shortages, poor health and wellbeing, and damages to built infrastructure. The AR6 II observes that these impacts are experienced disproportionately by vulnerable and marginalized communities.

For example, extreme heat and heatwaves are causing aggravated air pollution events in highly concentrated urban settings with higher proportions of immigrant and racialized residents. In areas where flooding events are becoming more frequent and severe, we are seeing limited functioning of vital infrastructure like transportation, water, sanitation, and energy systems that underprivileged groups are especially dependent on. Unsustainable land use and resource extraction has caused ecosystem degradation, resulting in long-term adverse effects on people directly dependent on ecosystems and the services they provide, such as Indigenous Peoples and local communities. These communities are described in the AR6 II as those *least responsible* for climate change and those *most affected* by its impacts. Therefore, it is critical that these groups be central to conversations on future solutions. It should be noted that Indigenous groups were consulted on each chapter of the AR6 II.

Many North American markets are dependent on exports from developing countries that are withstanding the worst of climate impacts where the implementation of adaptive options is especially limited. For example, climate-induced water crises have destabilized food systems in developing countries, which many markets in developed countries are intrinsically dependent on.

### **Adaptation and resilience as a privilege**

The AR6 I clearly demonstrate that human-induced climate change, including more frequent and intense extreme weather events, will only continue to worsen if fundamental action to slow global warming is not taken immediately. Extreme shifts in the climatic system disproportionately affect vulnerable human and natural systems alike, illustrating the inherent interdependency of humans and nature.

The AR6 II indicates with very high confidence that although progress has been made in climate adaptation planning and implementation across the globe, it has not occurred in an equitable way and many natural and human systems remain vulnerable to climate risks. The AR6 II critiques climate adaptation initiatives as being short-sighted and reactive as opposed to proactive and transformational. A one-size-fits-all approach to building climate resilience across differentiated sectors is neither feasible nor effective. These “maladaptive” responses to climate change serve to entrench vulnerability, exposure and risks and are difficult and expensive to reverse. Instead, we must work toward collaborative solutions that address social inequities and their unique climate risks. Furthermore, some existing adaptation measures will no longer be effective should temperatures exceed 1.5 degrees. For example, planting trees in urban areas that cannot survive hotter temperatures.

The AR6 II advocates for several enabling conditions to accelerate and sustain collaborative climate adaptation. Specifically, “political buy-in and follow-through, institutional frameworks,

## Item 7.1

policies and instruments with clear goals and priorities, enhanced knowledge on impacts and solutions, mobilization of and access to adequate financial resources, monitoring and evaluation, and inclusive governance processes”. The growing prevalence of vulnerabilities facing natural and human systems to climate impacts is evidence that climate resilience is a privilege and requires the action of privileged players.

With high confidence, the AR6 II indicates that nearly half of the world’s population live in areas that are highly vulnerable to climate change. PPG invites the business community to consider how the way they do business may not only be contributing to climate change but also perpetuating socio-economic inequalities and ecosystem stress across the entire supply chain. Some critical areas to explore include how business models contribute to unsustainable land use patterns and ecosystem deprivation that increase the vulnerability of human and natural systems.

### **Climate resilient development – an opportunity for business leadership**

In reference to “climate resilient development” the AR6 II states: “integrated, inclusive planning and investment in everyday decision-making about urban infrastructure, including social, ecological and grey/physical infrastructures, can significantly increase the adaptive capacity of urban and rural settlements”. Climate resilient development is an approach to climate action that combines mitigation with adaptation. Businesses have a unique opportunity to be leaders in climate resilient development and facilitate it in ways that are inclusive, equitable, and just.

Furthermore, the AR6 II concludes with high confidence that climate change is hindering efforts to meet the Sustainable Development Goals (SDG). The notion that climate change and sustainable development are inextricably linked is thoroughly demonstrated through the AR6 II: eliminating poverty, ensuring access to clean drinking water, promoting inclusive and sustainable infrastructure and economic growth etc., are all sustainable development solutions that align with smart climate solutions. Integrating the SDGs with PPG programs, such as the People Power Challenge bring attention to the important relationship between social justice and climate justice.

### **Partners in Project Green Programming**

To support businesses, PPG’s water stewardship, energy performance and circular economy programs are being continually adapted based on emerging research on best practices for climate change mitigation and adaptation.

Key examples include:

- **Advancing diversity, equity, and inclusion (DEI) in the green economy, and supporting broader TRCA DEI efforts:** PPG has been hard at work developing its own DEI framework for each performance area, and the program at large. PPG maintains an open dialogue with the TRCA Senior Leadership Team to identify alignments and areas for mutual improvement in the DEI space. For example, ensuring TRCA/PPG employees are valued for their unique knowledge of, and relationship to environmental conservation. Similarly, honouring the knowledge and experiences of Indigenous and equity-serving communities that are least responsible for, and most affected by climate change.
- **Facilitating uptake in climate resilient development through investments in implementation of LID/natural infrastructure:** PPG understands that the business community requires hands-on support and incentives for implementation of LID on their properties. PPG is working to ensure Water Stewardship programming incorporates these components. Including:

## Item 7.1

- The PPG Greening Corporate Grounds Pilot with Credit Valley Conservation and the City of Mississauga.
- The Intact Foundation proposal in partnership with the Sustainable Technologies Evaluation Program (STEP) and the City of Mississauga for a Commercial Flood Risk Assessment Course.
- Developing the Water and Climate Resiliency Consortium.
- **Promoting cooperation and collaboration across sectors:** this is fundamental to the PPG Consortium model and demonstrated through the long-time success of the Energy Leaders Consortium (ELC). The recently launched Circular Economy Leaders Consortium will be formatted similarly.
- **Advocating for a clean energy transition:** Innovative, low carbon energy solutions are promoted through ELC curriculum and will be a key part of GreenBiz Caledon energy programming in 2022.

### **Collaborative, cross-sectoral solutions**

Feasible and effective adaptation relies on cross-sectoral solutions that address climate risks and vulnerabilities in holistic ways. Holistic business models examine how both suppliers of materials and services as well as stakeholders in the supply chain are affected by climate change. The AR6 II states that “weather and climate extremes are causing economic and societal impacts across national boundaries through supply-chains, markets, and natural resource flows, with increasing transboundary risks projected across the water, energy and food sectors”. It is a key priority for PPG to create a safe and constructive space for member business to consider how they benefit from systems of power and oppression that manifest in climate-related risks and vulnerabilities facing human and natural systems. And, to not lose sight of the reality that these risks are hitting close to home in sectors vital to the North American economy.

### **Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan**

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

**Strategy 5 – Foster sustainable citizenship**

**Strategy 8 – Gather and share the best sustainability knowledge**

### **DETAILS OF WORK TO BE DONE**

PPG will provide summaries to the Executive Management Committee on each of the IPCC's upcoming reports shortly after their release. The outstanding reports include:

The Sixth Assessment Report Plenary Schedule is as follows:

- Working Group III: Mitigation of Climate Change (21-25 March 2022)
- Synthesis Report (26-30 September 2022)

**Report prepared by: Anna Currier, extension 6489**

**Email: [anna.currier@trca.ca](mailto:anna.currier@trca.ca)**

**For Information contact: Anna Currier, extension 6489**

**Email: [anna.currier@trca.ca](mailto:anna.currier@trca.ca)**

**Date: May 2, 2022**