

# Climate Change Mitigation and Resilience Initiatives

## ICCA Webinar

### **Moderator:**

Irene van Luijken, Cefic

### **Introduction & objectives**

Masamichi Yagishita, Showa Denko, Chair ICCA E&CC LG

Ignacio Hernandez-Bonnett, Shell, Vice Chair ICCA E&CC LG



# Climate Change Mitigation and Resilience Initiatives

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**Climate Change Mitigation and Resilience materials**

Jorge Soto, Braskem

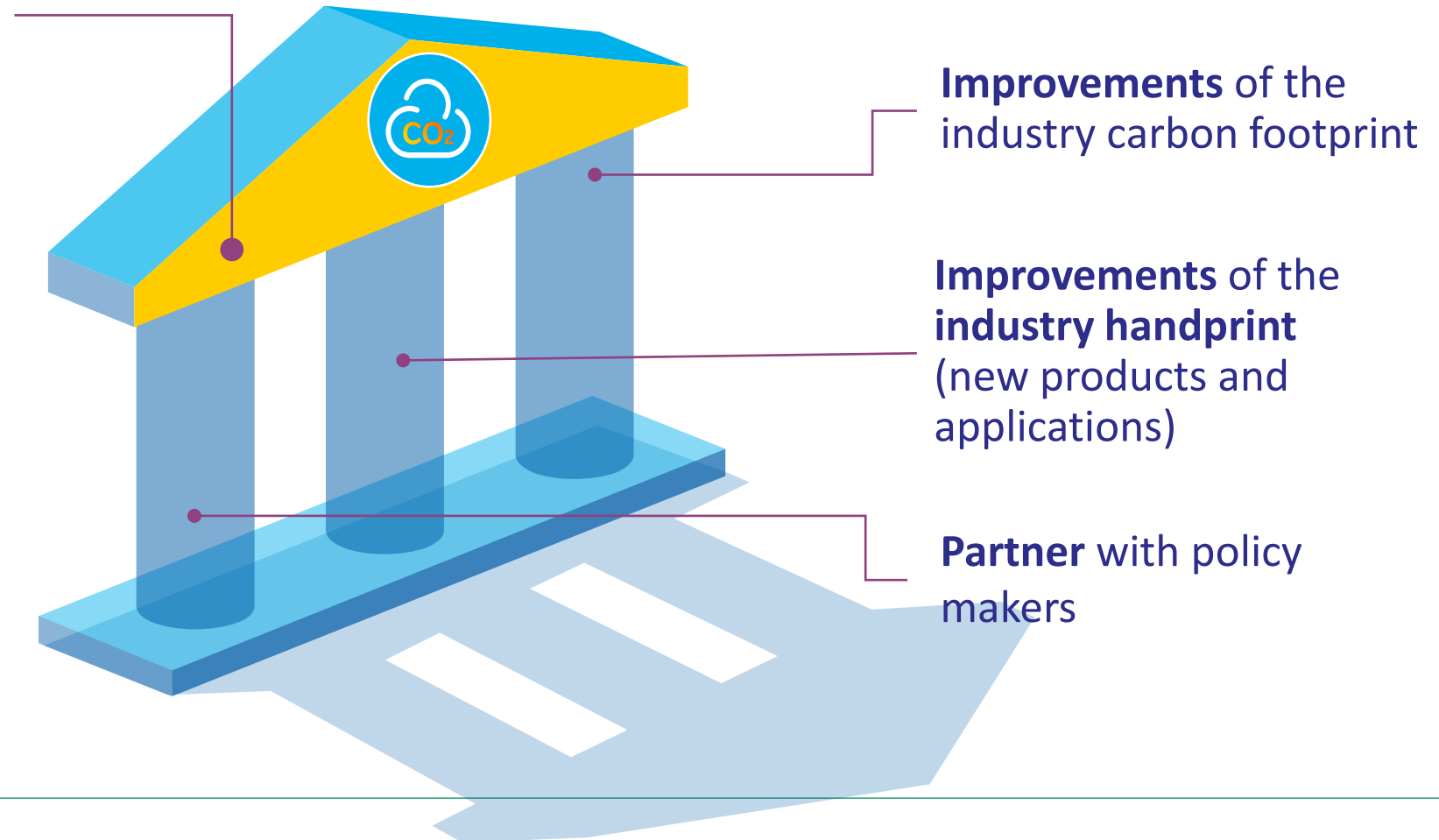




# ICCA Initiatives to Support Climate Change Mitigation and Resilience

## OBJECTIVE

To be seen as solution provider and creator for climate change mitigation and Resilience



## Improving performance in our own operations

In the European chemicals sector, total GHG emissions have fallen nearly 61% since 1990.



Source: CEFIC (European Chemical Industry Council). Data for 1990-2015.

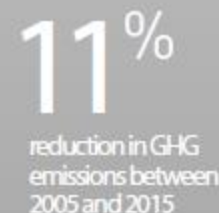
In the US chemicals sector, energy efficiency has improved 18 percent since 1990, while GHG intensity has improved 38 percent since 1990.



Source: ACCI (American Chemistry Council). Data for 1990-2016.



In the Japanese chemicals sector, GHG emissions have fallen 11% since 2005.

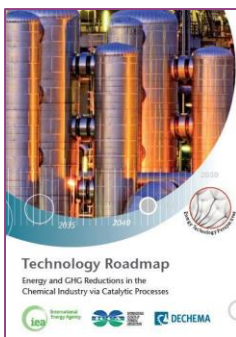


Source: JICA (Japan Chemical Industry Association). Annual Report 2017. Data for 2005-2015.



Brazilian Chemical Sector has reduced 29% of the Intensity of its emissions from 2006-2015

Source: Abiquim Responsible Care 2018 Report



2013

Identify 40 major products manufactured with energy intensive processes

Selected 18 for detailed analysis

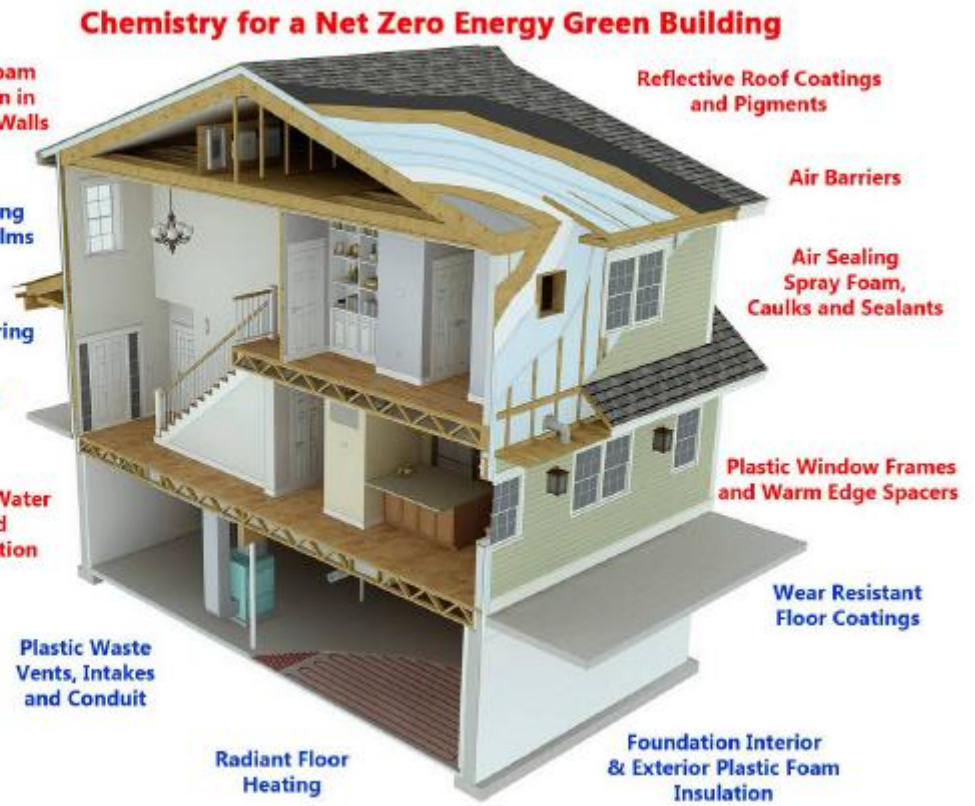
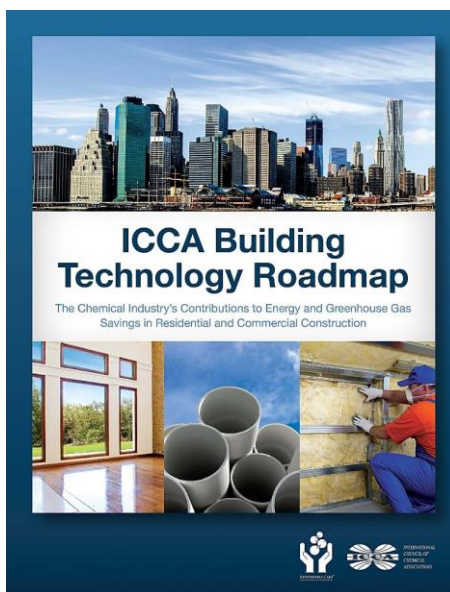
*“By 2050 catalysis could reduce energy by 47% and GHGs by 50% globally as compared to business as usual”*



# Has Improved its Handprint

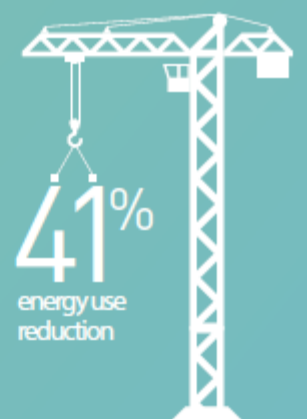
## Avoided Emissions

2012



### Building energy efficiency

Combining ambitious building efficiency improvements with lower-carbon fuels could lead to a 41 percent reduction in energy use and a 70 percent reduction in GHG emissions by 2050.



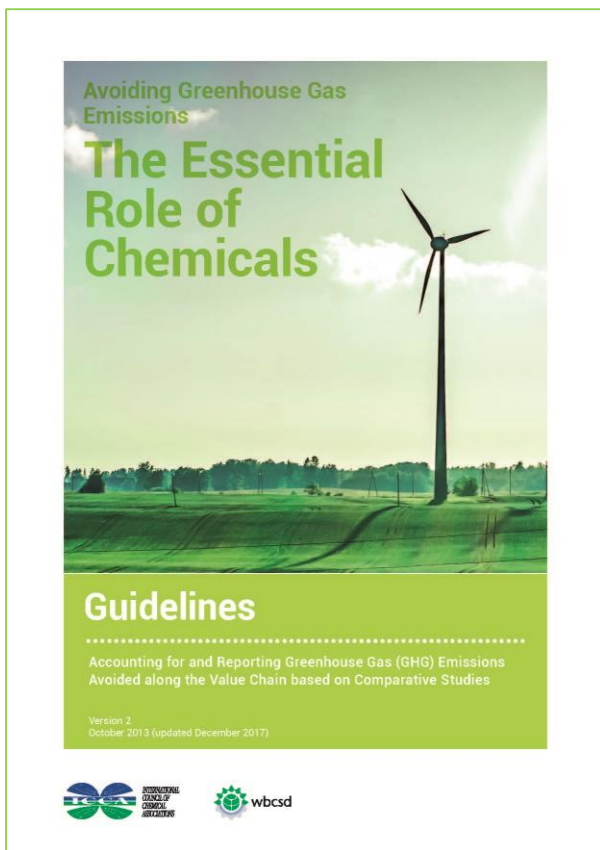
Source: ICCA (2012), Building Technology Roadmap



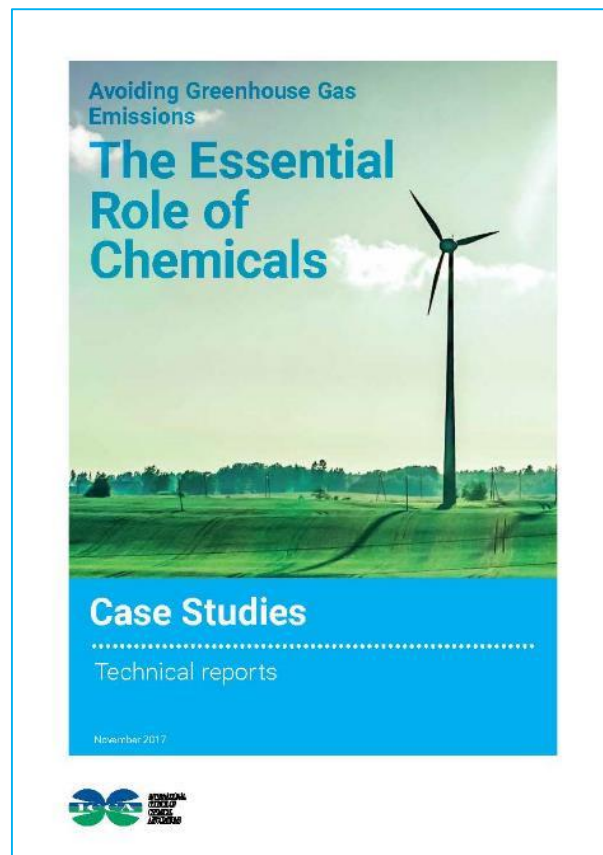


# Has Supported Methodology Development

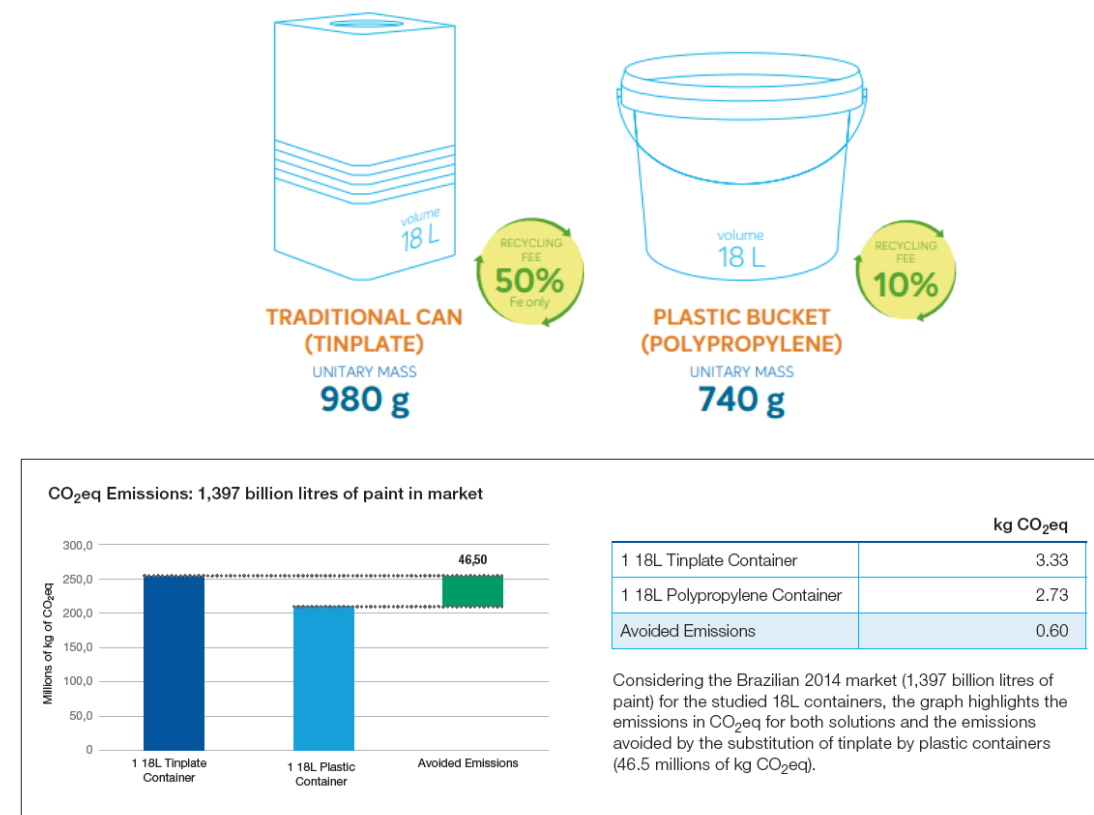
## cLCA and Avoided Emissions Methodology



2013 & 2017

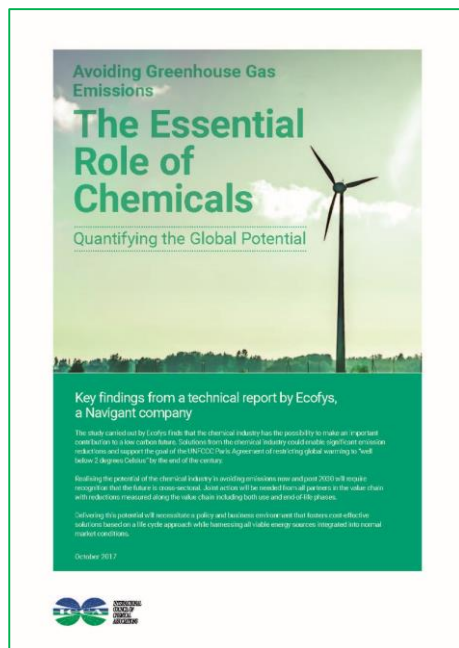


17 Cases

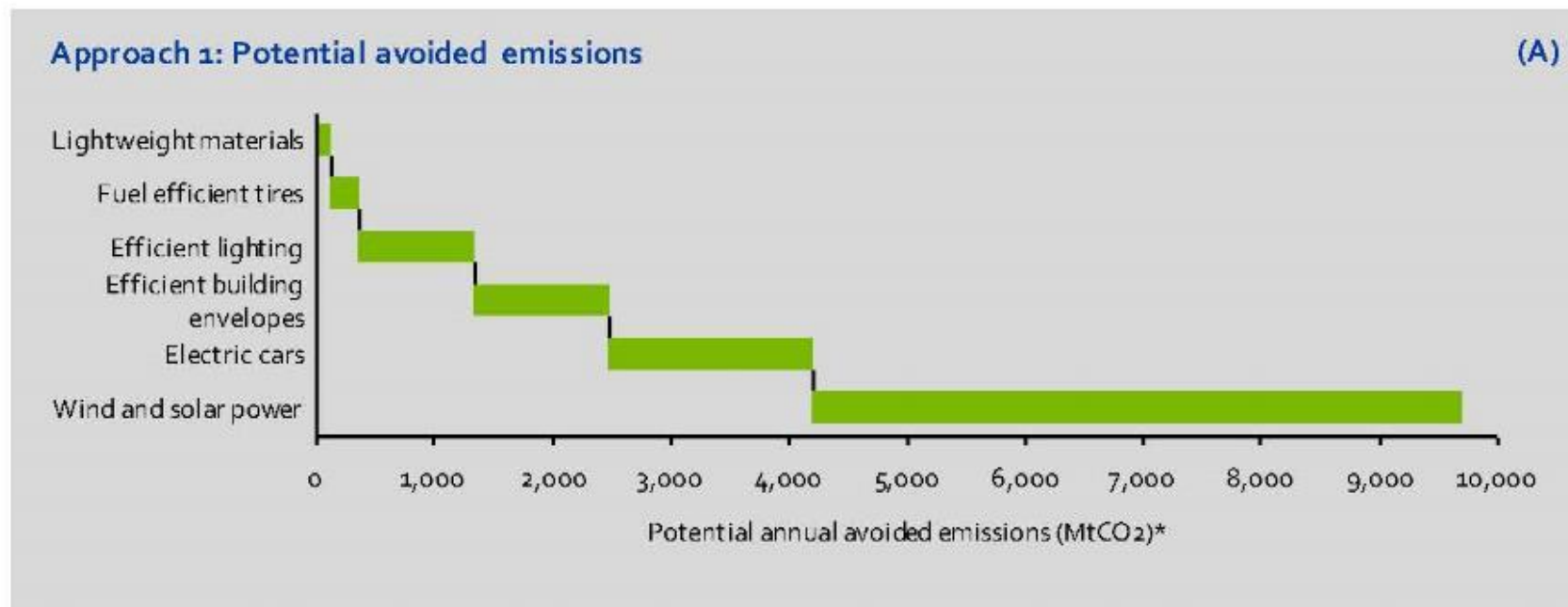


Example: Plastics Bucket vs Traditional Can (Braskem)





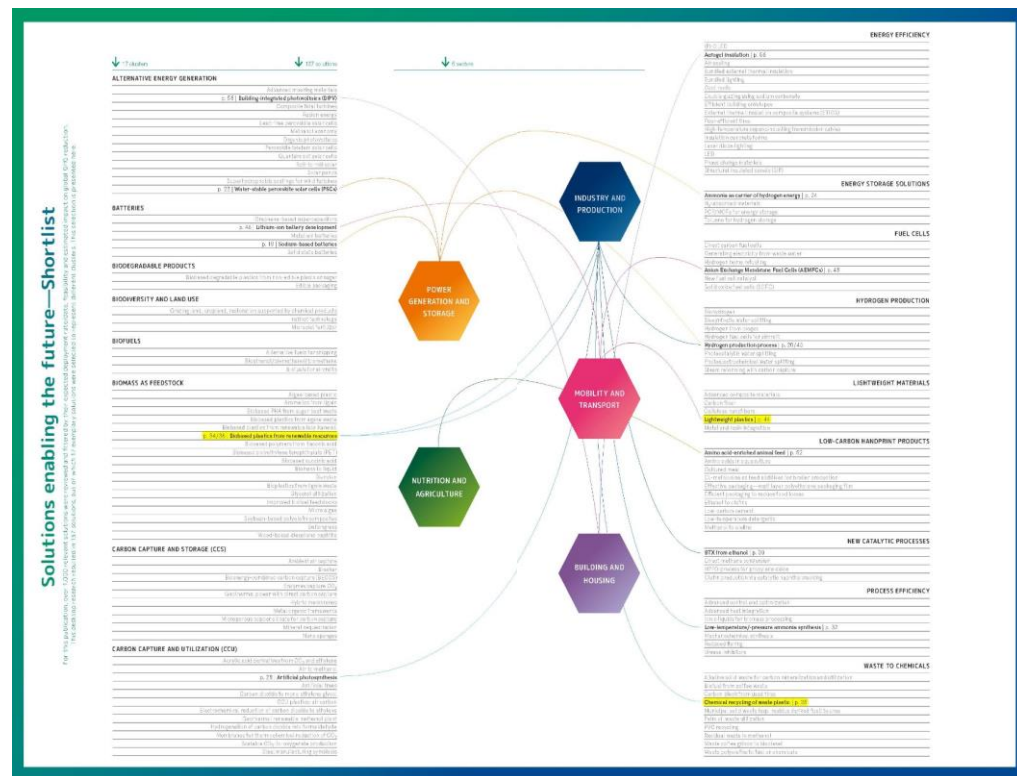
2017



Global GHG emissions reduction would be over 9 GtCO<sub>2</sub>e per year lower if the selected six solutions were used to their full potential



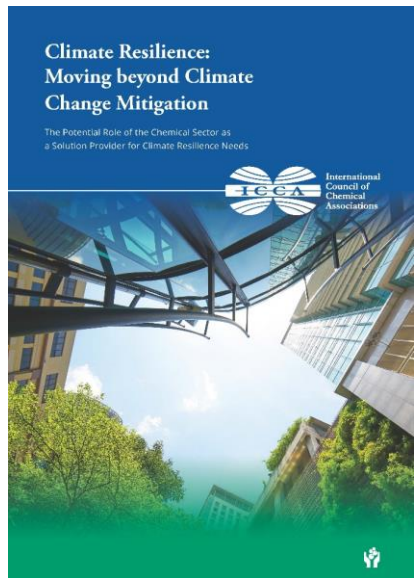
2019



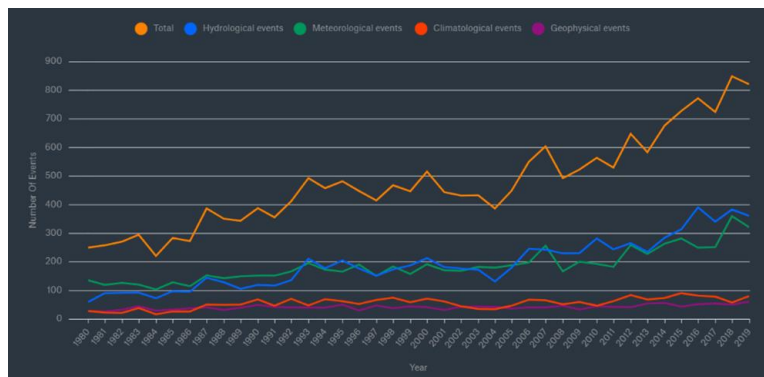
Potential reduction of 5 to 10 GtCO<sub>2</sub>eq/y by 2050 only with 14 examples

- Biodegradable products
- Biodiversity and land use
- Biofuels
- Biomass as feedstock
- Carbon Capture and Storage
- Carbo capture and utilization
- Energy efficiency
- Hydrogen production
- Lightweight materials
- New catalytic process
- Process efficiency
- Waste to chemicals...





2020



Fonte: Munich Re (2020)



Example: Micro Irrigation

- Developing solutions to the changing environment** providing greater resilience and reliability to the weather conditions:
- To the housing, transportation and energy sectors for **efficient use and productions of energy**
  - For securing **food production**
  - To improve access to, efficiency of use and protect **water resources**
  - To **exposed surfaces** (roads, bridges, buildings and vehicles)
  - To help protect people (changed weather patterns, changing disease profiles).

Supporting the society to **face crises** from extreme weather patterns, providing knowledge, expertise, and products



# Conclusion

- The Chemical Industry has increased its carbon efficiency (improved carbon footprint)
- Chemicals are essential to GHG and Energy Savings by other industries and by the society (improved carbon handprint)
- The life-cycle thinking is very important to take correct decisions (methodologies are available)
- Innovation effort is allowing the chemical industry to create new solutions for climate change mitigation and resilience
- Important solutions are already available to improve climate change resilience
- A set of policies that support innovation, collaboration and partnership is crucial for scale up and accelerate the chemical industry contribution

**Further information <https://icca-chem.org/focus/energy-and-climate/>**



# Climate Change Mitigation and Resilience Initiatives

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**Ways to engage with government / institutions and  
the Global Chemical Industry main advocacy messages**

Tara Nitz, Covestro



## Engagement at international level: Focus UNFCCC



### UNFCCC & PA: Climate Convention & Paris Agreement

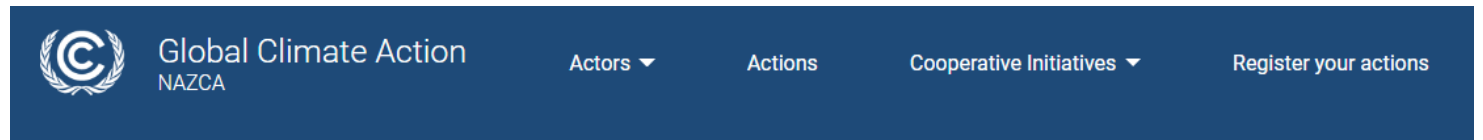
- Holding global temperature increase to well below 2°C, pursuing efforts to 1,5°C
- Increase ability to adapt to climate change and foster climate resilience
- Making financial flows consistent with low ghg emissions and climate-resilient development

#### UNFCCC Topics

- Action on Climate and SDG
- Adaptation and resilience
- Capacity-building
- Climate Finance
- Climate Technology
- Education & Youth
- Gender

- Land Use
- Local Communities and Indigenous Peoples Platform
- Mitigation
- Pre-2020 Ambition and Implementation
- Science
- [Market and Non-Market Mechanisms](#)

#### Initiatives



Signatories of the Fashion Industry Charter Launch Guide to Support Collaborative Climate Action



197 Parties

Stakeholders: ENGOs, RINGOs, Farmers, IGP, TUNGOs, BINGOs (Business & Industry NGOs)...



## Engagement at international level: Focus UNFCCC

### Prior to COPs / on national level:

- Informing Parties on chemical sector contribution and possibilities to reduce GHG emissions and to mitigate climate change
- engagement on Parties' development of NDCs (National Determined Contribution) and contribution to Paris Agreement goals
- Reflected in national climate and sector policies
- Informing and advocating views of global industry on international climate policy aspects

### During the COP: Informing and advocating industry contributions to the goals of the Paris Agreement





## Principles for Reducing Worldwide GHG Emissions

Consistent, predictable policy and regulatory environments that foster innovation, investment and economic growth

### The global chemical industry supports climate policies that:

- Encourage global **participation from all sectors** of society
- Achieve **net global GHG reductions** and avoid shifting emissions between regions or countries – known as carbon leakage
- Include transparent **monitoring, reporting and verification systems (MRV)**
- Encourage the use of energy-efficient products and technologies
- Incorporate both mitigation and adaptation strategies
- Maintain energy affordability and do not distort markets
- Promote **life-cycle considerations and science-based decisions**
- Provide adequate flexibility to fit local, national or regional circumstances.
- Establish **transparent, predictable, technology-neutral economic signals** that will facilitate lower GHG emissions, such as **price signals on GHG externalities like carbon emissions** or incentives to support new technologies toward commercialization
- Acknowledge the role of **carbon and bio-based feedstocks** in creating essential products
- Encourage the integration of regional or national climate and energy policies
- Minimize complexity and administrative costs



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## ICCA Webinar

### Discussion and Q&A

**Moderator:** Irene van Luijken

**Speakers:** Masamichi Yagishita, Ignacio Hernandez Bonnett,  
Marvin Hill, Tara Nitz and Jorge Soto

**Audience**



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**Conclusions and closure**

Irene van Luijken, Cefic

