

The sixth assessment report released by the IPCC paints an alarming and damning picture of how we're tracking

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About this update

This dated news record has been reorganised for clear reading and connected to current guidance.

Publication date: August 17, 2021.

Status note: Present-tense statements, market figures, deadlines and program details in the archived record belong to its publication date. Check current official sources before making a decision.

What this article reported

Climate change is a pressing global issue. So much so that climate policy now stands as a cornerstone piece to some countries' policy agenda.

Without urgent action countries will lock in high-emissions pathways for decades to come. We need to plan effectively and accelerate implementation of climate action plans to avoid the most devastating impacts of climate change.

New IPCC Report stresses the need for more Climate Action

Development on the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6) examines global impact under various climate change scenarios. The report suggests that limiting global warming to 1.5 degrees C relative to pre-industrial levels is still possible, but it will require swift action and significant global cooperation.

Many countries, including Australia, came together for the Paris Climate Agreement in 2015 to address climate change and commit to emissions targets aimed at keeping global temperature rise within 1.5 degrees C of pre-industrial temperatures. While the Paris Climate Agreement was a monumental step towards international cooperation to address climate change, a reflective look at countries' pledges shows that many nations will not hit their 2030 emissions targets.

Countries like China and India are poised to continue increasing carbon emissions through to 2030 while the United States and Australia's current tracks are insufficient in keeping pace with the Paris Climate Agreement.

To stay within a 1.5 degrees C increase, Earth's atmosphere could likely not take more than 500 billion tonnes of CO2 emissions. Considering the world currently emits roughly 40 billion tonnes of CO2 annually, these figures project that a decade of business-as-usual operations will force us past the 1.5 degrees C threshold.

Surpassing the 1.5 degrees C threshold will have significant ecological and socioeconomic impact as extreme weather events become more intense and frequent, changes to the global water cycle cause severe drought and intense flooding, and sea-level rise poses serious threat to low-lying islands and

river delta areas. The IPCC recommends that to stay well below 1.5C of warming, the cumulative emissions from 2018 needs to stay under 500 billion tonnes of carbon.

There is available technology to impact industrial decarbonisation

While policy can be a huge driver for environmental action, it's not the only force. Consumer demand for sustainably sourced products has increased over the past decade, and large financial institutions and investors are putting more stock into clean energy platforms. This puts pressure on companies to incorporate decarbonization methods and sustainability measures into their business practices.

On top of that, improving industrial efficiency can result in energy cost savings, helping businesses paving the way for sustainable practices to have a greater competitive edge. Good news is that there are already plenty of ways to effectively decarbonize commercial and industrial operations. Northmore Gordon is ready to help establish and execute commercial decarbonization plans and has been doing so for over a decade.

Some tried and true strategies businesses should consider to increase energy efficiency and reduce carbon emissions include:

- Recover and use heat wherever possible, such as the flue gas of an oven or boiler
- Electrify heating processes under 200 degrees C
- Identify and quickly rectify air and steam leaks
- Optimise the control of and monitor the efficiency of existing equipment
- Install on-site solar PV system
- Engage employees in a 'treasure hunt' for energy waste

Businesses have the power to lead on Climate Action

The IPCC report shows that global efforts to fulfil the Paris Climate Agreement are lacking. This decade is a pivotal time for us to step up to the challenge... to take ownership over our fossil fuel usage and transition to sustainable practices... to protect our home and communities for generations to come. Businesses have the opportunity to lead the charge on climate action. Technologies are available to lower industrial carbon footprint. Time will tell if we have the will to make it happen.

Resources:

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What does the IPCC's Sixth Assessment Report (AR6) suggest about limiting global warming to 1.5°C?

The AR6 report suggests that limiting global warming to 1.5°C relative to pre-industrial levels is still possible, but it will require swift action and significant global cooperation. This finding underscores the urgency for both governments and businesses to implement emissions reductions immediately. For organizations, this translates into a practical imperative: the decisions and investments made this decade will determine whether global temperature targets remain achievable. We support businesses in translating this urgency into concrete action through energy audits, decarbonization pathway development, and transition planning that connects emissions reduction opportunities with engineering and investment decisions.

How much CO₂ can Earth's atmosphere absorb before the 1.5°C threshold is exceeded, and what does this mean for annual emissions?

To stay within a 1.5°C increase, Earth's atmosphere could likely not take more than 500 billion tonnes of cumulative CO₂ emissions from 2018 onward. With the world currently emitting roughly 40 billion tonnes annually, this budget allows for only approximately 12-13 years at current emission rates before exhaustion. This finite carbon budget makes immediate action imperative for any organization seeking to contribute to climate targets. We help businesses quantify their current emissions through Scope 1, 2 and 3 inventories, assess reduction opportunities, and develop phased transition plans that prioritize the highest-impact interventions within this constrained timeframe.

Which countries are highlighted as being off track from their Paris Climate Agreement emissions targets?

China and India are poised to continue increasing carbon emissions through to 2030, while the United States and Australia's current emission reduction trajectories are insufficient to meet Paris Climate Agreement commitments. Australia's particular relevance lies in its regulatory framework: NSW Climate Change Mitigation and Adaptation Plans (CCMAPs) now require licensed premises exceeding 25,000 tonnes CO₂-e in Scope 1 and 2 emissions to develop and publish emissions reduction plans by 31 March or 31 August 2027. This creates both a regulatory obligation and a business opportunity. We provide CCMAP assessment, planning and implementation support to help Australian licensed premises meet these deadlines while identifying economically viable decarbonization pathways.

What ecological and socioeconomic impacts could occur if the 1.5°C threshold is surpassed?

Surpassing the 1.5°C threshold will trigger significant ecological and socioeconomic impacts: extreme weather events will become more intense and frequent, changes to the global water cycle will cause severe droughts and intense flooding, and sea-level rise will threaten low-lying islands and river delta regions. For businesses, particularly those in water, agriculture, manufacturing and coastal operations, these risks translate into supply-chain disruption, operational interruption, asset damage and increased cost of water and energy. Understanding climate risks alongside emissions reduction is essential for business resilience. We support this integrated approach through carbon advisory services that address both mitigation (emissions reduction) and adaptation planning for licensed premises and organizations seeking to build climate-resilient operations.

What specific energy efficiency strategies can businesses implement to reduce carbon emissions?

The article recommends: recovering and using heat wherever possible (such as flue gas from ovens or boilers); electrifying heating processes under 200°C; identifying and rectifying air and steam leaks; optimizing control and monitoring of existing equipment efficiency; installing on-site solar PV systems; and engaging employees in identifying energy waste. These strategies span low-cost operational improvements through to capital investment in renewable heat and electrification. We deliver practical support across this spectrum through energy audits that identify site-specific opportunities, renewable

heat feasibility assessments, electrification pathway planning, process-heat guidance aligned with temperature requirements, and measurement-and-verification services to confirm realized savings. A carbon-management diagnostic can establish the starting position and prioritize actions by impact and cost-effectiveness.

What role should businesses play in climate action, and why is this decade critical?

The article states that businesses have the opportunity to lead climate action, emphasizing that necessary technologies already exist to lower industrial carbon footprints and that this decade is pivotal for transitioning to sustainable practices. Businesses face converging pressures: consumer demand for sustainably sourced products has increased, and major financial institutions and investors increasingly prioritize clean energy platforms, creating both risk and opportunity for those slow to decarbonize. For Australian businesses, this is reinforced by regulatory requirements: NGER reporting obligations apply to corporate groups above 50,000 tonnes CO₂-e, sustainability reporting standards are becoming mandatory, and CCMA requirements now apply to licensed premises. We help businesses develop comprehensive carbon strategies that connect emissions inventories, opportunity assessment, transition planning and reporting support, enabling leadership in decarbonization while meeting regulatory timelines.

How does the finite carbon budget relate to business investment decisions and project timing?

The constrained global carbon budget—approximately 500 billion tonnes from 2018 at current emission rates—means that delaying emissions reductions increases future reduction requirements and may create financial or operational strain. Business investments made today have outsized impact on cumulative emissions through their operational lifetime. Project timing is therefore critical: early action allows phased investment, spreads capital requirements, and may capture current incentive programs (such as Australian Carbon Credit Units, Victorian Energy Upgrades, or NSW Energy Savings Scheme) that could be reduced or withdrawn. Our project timing guidance emphasizes capturing evidence and funding pathways early, before work commences. Its carbon advisory and transition planning services help organizations develop staged implementation roadmaps that balance capital constraints with the imperative for near-term action.

What is the relationship between the Paris Climate Agreement's 1.5°C target and current Australian regulatory requirements?

The Paris Climate Agreement, reached in 2015, committed signatory countries including Australia to limiting global temperature rise to 1.5°C above pre-industrial levels. Australia has translated this commitment into regulatory frameworks including NGER (National Greenhouse and Energy Reporting) for corporate and facility-level emissions reporting, mandatory sustainability reporting standards (ASRS), the ACCU carbon credit scheme, and NSW CCMA requirements requiring licensed premises to develop mitigation and adaptation plans. These schemes create both compliance obligations and economic opportunities: emissions reporting clarifies organizational baselines, CCMA requirements force strategic planning on emissions reduction, and carbon credit and energy efficiency certificates can fund transition investments. We support Australian organizations in navigating these intersecting requirements through emissions inventories, reporting support, opportunity assessment and transition pathway development that connects individual business actions to the broader 1.5°C climate imperative.