

Meet the most
misunderstood
element on
Earth.




A feature (89") and broadcast one-
hour (45" & 56") documentary

PRESS KIT

C⁶CARBON

THE UNAUTHORIZED BIOGRAPHY



“I was caught by the wind, flung down and buried under the earth

I was breathed in by a falcon and expelled.

I was burned in the belly of a machine...

You think you know me... but do you?”

The Voice of Carbon, inspired by Primo Levi

CARBON – THE UNAUTHORIZED BIOGRAPHY

PRESS KIT

Contents

Synopses

One line and one paragraph 3

One page 4

Press release 5

Production companies

Genepool Productions 8

Handful of Films 8

Voice of Carbon, Sarah Snook 9

Key expert bios

Dr. Neil deGrasse Tyson, Prof. Tamara Davis, Dr. Robert Hazen 10

Prof. Mark Miodownik, Prof. Martin Van Kranendonk, Dr Carin Bondar 11

Prof. David Christian, Prof. Ian Miller, Prof. Katherine Hayhoe 12

Emeritus prof. Will Steffen, Dr Katey Walter Anthony, Dr Joelle Gergis 13

Gisele Martin, Prof. Suzanne Simard, Dr. Phil de Luna 14

Andy McCarthy 15

Director/Producer statements

Niobe Thompson 16

Daniella Ortega 18

Sonya Pemberton 20

Creative team 22

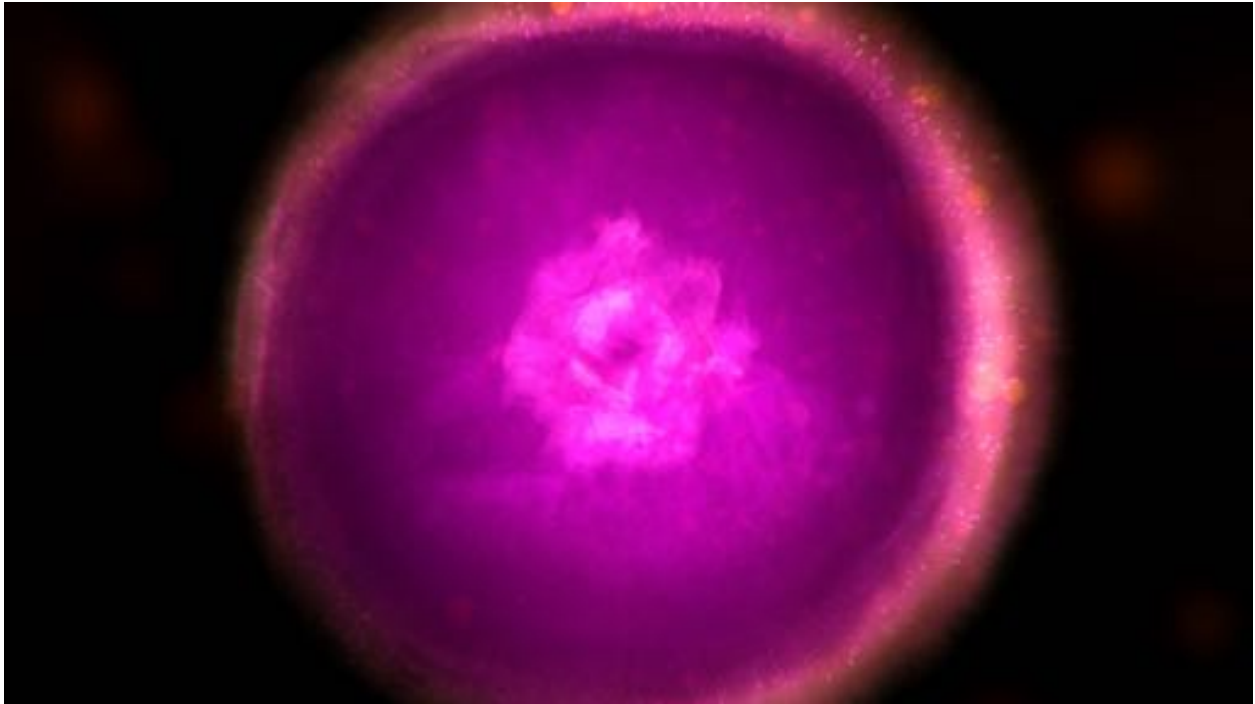
Expert advisors 27

Contact information 29

Credits 30

CARBON – THE UNAUTHORIZED BIOGRAPHY

Synopses



Hero carbon animation from 'Carbon – The Unauthorized Biography.' Credit: Bruce Alcock/Global Mechanic

Tagline

The spectacular and surprisingly unorthodox biography of Carbon, the most misunderstood element on Earth.

One paragraph synopsis [100 words]

With Carbon in the news every day, you might think you know everything about her. But you'd be wrong. This spectacular and surprisingly unorthodox documentary reveals the paradoxical story of the element that builds all life, and yet may end it all. Narrated in first person by Sarah Snook (Succession), Carbon tells of her birth in the violent core of an exploding star and of turbulent sagas through the fabric of our evolving Earth. Accompanied by celebrated scientists, unique animations and a stunning orchestral score, Carbon reminds us of our humble participation in the most extraordinary story in the universe.

1-Page (Long) synopsis [420 words]

With Carbon in the news every day, you might think you know everything about her. But you'd be wrong. We're not at war with Carbon – we are made of Carbon! Yet, paradoxically, the element at the core of life is now the greatest threat to our survival.

This surprisingly unorthodox and creatively ambitious documentary pulls back the covers on the most talked about but least understood element on the planet. Actor Sarah Snook (Succession) lends a cheeky, powerful and immortal voice to Carbon, spinning the epic saga of how she was born in the violent heart of a star, sparked the earliest life and rode the journeys of evolution, and how she captures the sun's energy in photosynthesis, fuels our modern world, and keeps our planet's atmosphere in delicate balance.

The animations of renowned artist Bruce Alcock (Global Mechanic) trace Carbon's endless journeys, taking us on joyful and surprising rides through her atomic existence, from the formation of DNA to the metabolic circus taking place inside us every second, to million-year cycles from Earth's core to the atmosphere. Jonathan Kawchuk's striking orchestral music underpins the wonder and curiosity we feel as we witness Carbon's astonishing molecular dance.

World-renowned experts, including astrophysicists Neil deGrasse Tyson and Tamara Davis, climate scientists Katharine Hayhoe and Will Steffen, forest ecologist Suzanne Simard, materials scientist Mark Miodownik, and historian David Christian translate this complex story with striking clarity and infectious enthusiasm.

Accompanying Carbon's own voice, our cast of experts transports us from life's earliest origins to the fossil-fuelled revolutions of modern civilisation, and to the terrible violence of fossil-fuelled warfare. They celebrate the alchemies of modern industry and the age of plastics, and reveal how by harnessing Carbon's chemical flexibility, we have built our world.

But now, as we liberate vast buried stores of it into our atmosphere to fuel the Anthropocene, we're discovering Carbon's dark side: she is the enabler of life, and she is also its destroyer.

How will humanity's grand affair with Carbon end – in reconciliation or ruin? We meet a new generation of Carbon-capture scientists, forest guardians and renewables entrepreneurs working hard to make peace with her, giving her places to hide.

Spectacular, illuminating and surprisingly eccentric, Carbon is produced by the award-winning teams at Genepool Productions and Handful of Films. This story of life's core element promises to transform how we think of Carbon, from maligned destroyer towards a powerful enabler. Carbon is not the enemy. Carbon is life!



Neil deGrasse Tyson surrounded by animated carbon from 'Carbon – The Unauthorized Biography.' Credit: Bruce Alcock/Global Mechanic

PRESS RELEASE

Creator and destroyer: learning to live with carbon

Neil deGrasse Tyson and Sarah Snook lead a deep dive into the most talked about but least understood element on Earth.

The old Joni Mitchell song was half-right: we are stardust.

But we are not golden. In fact, we are carbon.

One-fifth of your body is made of carbon – one of the most abundant elements in the Universe – and every atom of it was forged in the extreme heat and pressure of a dying star.

In *Carbon: the unauthorized biography*, world-leading scientists tell the surprisingly intimate story of the element that made the Earth and everything in it.

Carbon is part of the air and the ground, the plants and the animals. It makes coal and diamonds. It built the planet and, as its concentration swells in the atmosphere, it is now also cooking it.

This documentary – from Emmy Award-winning Australian company Genepool Productions and Sundance Award-winning Canadian filmmakers Handful of Films – tells the story of carbon, from its unlikely creation in superheated, violent cosmic forges, to its endless cycling through photosynthesis, minerals, plastics – and the very air we breathe.

Carbon's remarkable history is told by several distinguished researchers, including:

- American astrophysicist, cosmologist and author Neil deGrasse Tyson

- Canadian forest ecologist and author *Finding the Mother Tree: Discovering the Wisdom of the Forest* Suzanne Simard
- Australian astrophysicist and dark matter expert Tamara Davis
- Canadian carbon capture scientist Phil De Luna, the youngest ever Director of a National Research Council laboratory
- American geologist and author of *Symphony in C - Carbon and the Evolution of (Almost) Everything*, Robert Hazen
- British materials scientist, engineer, broadcaster Mark Miodownik
- Canadian biologist and animal sexuality expert Carin Bondar
- Australian award-winning climate scientists Joelle Gergis and Will Steffen
- Canadian climate scientist and Chief Scientist of The Nature Conservancy, Katherine Hayhoe

The scientists are joined by others whose lives are intimately tied up with carbon, including Australian solar energy entrepreneur Andy McCarthy and Canadian Indigenous language activist and Tla-o-qui-aht Tribal Parks Guardian Gisele Martin.

And in a world-first, the atom itself gets to tell its own story, voiced by distinguished Australian actor Sarah Snook (*Succession; Steve Jobs; Pieces of a Woman*).

“Your body, your mind,” Carbon tells us, “are made of my collisions. ... So is almost everything else.”

The documentary was written and co-directed by award-winning filmmaker Daniella Ortega. It is a result of her determination to tell the story of carbon and climate in a way that cuts through the noise and the polarised politics.

“I have two young children,” she says. “In a world with a climate already changed and a future filled with the destructive consequences of this, I want to offer them a narrative that can best prepare them for the journey ahead, and that I believe is the life story of carbon.”

She was joined by co-director Niobe Thompson, a filmmaker who realised that all stories about the natural world were shaped by climate change.

For him, the opportunity to collaborate on the documentary represented a chance to walk away from making pieces framed around “climate wars”.

“We hear the cliché ‘everything is connected’, but with Carbon, here was the opportunity to actually explore the fascinating chemical reality of that idea,” he says. “Carbon’s journeys through our world really are the tendrils of matter and energy that connect us with all things.”

Their film takes us on a journey in time and space. Cameras transport us from the remote Pilbara region of Australia to the Arctic, Canada, and Mongolia, tracking the multitude of ways people transform and adapt carbon atoms for fuel, food, a million useful polymers, the machines of industry – and the engines of war.

We discover how over centuries humans have learned to use carbon in ways that constitute “almost a miracle” – a modern alchemy.

And we discover, too, how those very achievements have unleashed a terrifying accelerating chain reaction, setting free vast stores of carbon sequestered deep inside the planet that fuel a perhaps unstoppable transition to an uninhabitable “Hothouse Earth”.

For all the very real fear, however, hope still remains – and at the basis of that hope, as ever, lies carbon, what we do with it – and what it does with us.

Carbon: the unauthorized biography is produced by Handful of Films and Genepool Productions.

Directors: Niobe Thompson and Daniella Ortega

Writer: Daniella Ortega

Producers: Niobe Thompson, Sonya Pemberton, Lucy Maclaren

Executive Producers: Niobe Thompson and Sonya Pemberton

More about Handful of Films: <https://handfuloffilms.ca/>

More about Genepool Productions: <https://genepoolproductions.com/>

More about Niobe Thompson: <https://handfuloffilms.ca/about/niobe-thompson/>

More about Daniella Ortega: <https://www.imdb.com/name/nm1099165/>



Tamara Davis surrounded by animated molecules from ‘Carbon – The Unauthorized Biography.’ Credit: Bruce Alcock/Global Mechanic

The Production Companies

In June 2019 the Canadian Broadcasting Corporation (CBC) and Australian Broadcasting Corporation (ABC) announced a creative and commercial collaboration to enhance the reach and impact of their content across both countries. David Anderson, ABC Managing Director stated, “This collaboration between the ABC and CBC will drive our limited resources further, leveraging our strengths to create and share distinctive content that connects with audiences at home and overseas.” ‘CARBON – The Unauthorized Biography’ is the first documentary production to work via this collaboration. This initiative helped trigger a co-production between two of the world's most esteemed science production companies, Genepool Productions (Australia) and Handful of Films (Canada).

Introducing Handful of Films

Specialist science and nature producer Handful of Films is known for intelligent, ambitious, and impactful documentary storytelling. Winner of 7 Canadian Screen Awards for Best Science and Nature Program, Best Cinematography and Best Original Score for the recent documentaries [The Great Human Odyssey](#), [The Perfect Runner](#), and [Equus - Story of the Horse](#), we reached new heights in 2019, with a win at Sundance for [Fast Horse](#) and our second Emmy nomination for [Transplanting Hope](#). We work with CBC’s The Nature of Things, PBS NOVA and Nature, The Smithsonian Channel, ZDF, Arte and other major broadcasters and distributors.



Introducing Genepool Productions

Genepool Productions specialises in creating powerful and illuminating science documentaries for international audiences. Sonya Pemberton, Emmy award winner and record breaking five-time winner of the prestigious Eureka Award for Science Journalism, leads the company. Previous projects include the critically acclaimed and multi-award-winning documentaries [Immortal](#), [Catching Cancer](#), [Jabbed – love, fear and vaccines](#), [Uranium-Twisting the Dragon’s Tail](#), [Vitamina - the sense and nonsense of vitamins](#) and, most recently, [Cracking COVID](#). Based in Melbourne, Australia, Genepool works in partnership with global broadcasters including ABC, SBS, Arte, ZDF, PBS, Smithsonian Channel and CuriosityStream.



THE VOICE OF CARBON

SARAH SNOOK



Sarah Snook is one of Australia's most exciting actresses. Since graduating from the National Institute of Dramatic Arts (NIDA) in 2008, Sarah has starred in a number of award-winning feature films, theatre productions and television series both locally and internationally.

Sarah is best known for her work in the popular HBO drama series *Succession* opposite Brian Cox and Kieran Culkin, which earned her an Emmy nomination for Outstanding Supporting Actress in a Drama series in 2020. Her other television credits include *Black Mirror*, *The Beautiful Lie*, *The Secret River*, *The Moodys*, *Redfern Now*, *Spirited*, *Blood Brothers*, *Packed to The Rafters*, *Soulmates*, *My Place* and *All Saints*.

In film, Sarah was most recently seen in *An American Pickle*, opposite Seth Rogen. In 2015 Sarah featured in Neil Armfield's film *Holding the Man* alongside Guy Pearce, Anthony Lapaglia and Ryan Corr which closed the 2015 Sydney Film Festival and in Jocelyn Moorehouse's

The Dressmaker alongside Kate Winslet, Judy Davis and Liam Hemsworth which screened at the Toronto and Melbourne International Film Festivals. Sarah's other film credits include *The Glass Castle*, alongside Brie Larson and Woody Harrelson, *Pieces of a Woman*, *Winchester* alongside Helen Mirren, *Brother's Nest*, Danny Boyle's *Steve Jobs* alongside Michael Fassbender and Kate Winslet; *Sleeping Beauty*, *These Final Hours*, *Oddball*, and *Sibling Rivalry*.

Sarah received the 2014 AACTA Award for Best Actress and the Film Critics Circle of Australia Award for Best Actress for the film *Predestination* opposite Ethan Hawke. In 2011 Sarah was runner up for the prestigious Australians In Film Heath Ledger Scholarship. Sarah's other awards include the 2012 AACTA Award for Best Lead Actress in a Television Drama for the ABC series *Sisters Of War*; the 2013 Film Critics Circle of Australia Award for Best Actress for *Not Suitable For Children* and she was nominated for Best Lead Actress in a Feature Film at the 2013 AACTA Awards for *Not Suitable for Children*. In 2016 she was nominated for Best Lead Actress in a Television Drama AACTA Award and Best Outstanding Actress Logie Award for *The Beautiful Lie*.

Sarah's theatre credits include *Saint Joan* for Sydney Theatre Company, *King Lear* for the South Australian Theatre Company, three productions for Griffin Theatre Company: *Lovely/Ugly*, *Transformer*, *Crestfall*, and *S27*. In 2015 Sarah returned to the stage for Henrik Ibsen's *The Master Builder* alongside Ralph Fiennes at London's iconic Old Vic theatre.

ON-CAMERA EXPERTS



ASTROPHYSICIST

[Dr. Neil deGrasse Tyson](#)

Rose Center for Earth and Space
New York, USA

One of America's best-known scientists, astrophysicist Neil deGrasse Tyson has spent much of his career sharing his knowledge with others. He has a great talent for presenting complex concepts in a clear and accessible manner. After studying at Harvard University, he earned his doctorate from Columbia University in 1991. Tyson went to work for the Hayden Planetarium in 1996 before becoming its director. Additionally, he has served as host of NOVA ScienceNow and the StarTalk Radio podcast. Tyson remains a popular TV science expert today. Tyson is the fifth head since 1935 of the world-renowned Hayden Planetarium in New York City and the first occupant of its Frederick P. Rose Directorship. He is also a research associate of the Department of Astrophysics at the American Museum of Natural History.



ASTROPHYSICIST

[Professor Tamara Davis](#)

University of Queensland
Brisbane, Australia

Astrophysicist Tamara Davis uses exploding stars known as supernovae, to investigate the elusive "dark energy" that's accelerating the expansion of the Universe. Supernovae are where much of the carbon in the universe was born. Her accolades include the Astronomical Society of Australia's Louise Webster Medal, the Australian Institute of Physics Women in Physics Lectureship, the Australian Academy of Science's Nancy Millis Medal, an Australian Research Council Laureate Fellowship, and a Member of the Order of Australia (AM).



GEOLOGIST

[Dr. Robert Hazen](#)

George Mason University
USA

Photo credit: Carnegie Institute for Science

Robert M. Hazen is Senior Staff Scientist at the Carnegie Institution's Geophysical Laboratory and Clarence Robinson Professor of Earth Sciences at George Mason University. In 2008 Hazen was named Principal Investigator and in 2011 Executive Director of the Deep Carbon Observatory (DCO), a 10-year effort to achieve fundamental advances in understanding the chemical and biological roles of carbon in Earth. Author of many books including most recently, 'Symphony in C, Carbon and the Evolution of (Almost) Everything'.



MATERIALS SCIENTIST

[Professor Mark Miodownik](#)

University College London
London, UK

For more than ten years Mark has championed materials research that links the arts and humanities to medicine, engineering and materials science. This culminated in the establishment of the UCL Institute of Making where he is Director and runs the research programme. His current research interests are animate materials, innovative manufacturing, and sensoaesthetic materials.



PALEOBIOGEOCHEMIST

[Professor Martin Van Kranendonk](#)

University of New South Wales
Sydney, Australia

Martin's research interests span the lithosphere, biosphere & atmosphere, across a broad range of disciplines relating to early Earth, from global tectonics to early life, and pretty much everything in between. He is also the director of the Australian Centre for Astrobiology. Martin goes every year to the Pilbara to work on the earliest biosignatures of life on the Earth.



BIOLOGIST

[Dr. Carin Bondar](#)

British Columbia, Canada

Carin Bondar is a Canadian biologist, author, university-lecturer, and television personality. She is a host of Outrageous Acts of Science, Stephen Hawking's Brave New World, and Worlds Oddest Animal Couples. Her work focuses on increasing science literacy and communication, and STEM education for girls. She is an adventurer and explorer, having co-discovered 7 new species of beetles and snails in the remote jungles of Borneo.



HISTORIAN
[Professor David Christian](#)
Macquarie University
Sydney, Australia

David Christian is a distinguished professor in modern history at Macquarie University in Australia and the co-founder, with Bill Gates, of The Big History Project, which has built a free online syllabus on the history of the universe that unites different disciplines and is taught in schools all over the world. He received his doctorate from the University of Oxford and is a Fellow of the Australian Academy of the Humanities. He has given many keynote speeches, including Davos and TED, where his talk 'The history of our world in 18 minutes' has been viewed over seven million times.



HISTORIAN
[Professor Ian Miller](#)
Harvard University
Boston, USA

Ian Miller is a history professor at Harvard, Boston USA. Ian was the co-chair of Harvard and Cambridge University's Energy History project (2011-2016). The project explored how the historical study of energy use and transformation can widen perspectives on economic, social, and environmental processes in the past. It also served as a forum for the historical discussion of energy in all its forms in a global and comparative context.



CLIMATE SCIENTIST
[Professor Katherine Hayhoe](#)
Texas Tech University
Photo credit: Ashley Rogers/ Texas Tech University

Katharine Hayhoe is an atmospheric scientist whose research focuses on understanding what climate change means for people and the places where we live. She is the Chief Scientist for The Nature Conservancy and a Horn Distinguished Professor & Endowed Professor of Public Policy and Public Law in the Dept. of Political Science at Texas Tech University. Katharine has been named one of TIME's 100 Most Influential People, the United Nations Champion of the Environment, and the World Evangelical Alliance's Climate Ambassador.



CLIMATE SCIENTIST (EARTH SYSTEM SCIENTIST)

[Emeritus Professor Will Steffen](#)

Australian National University
Canberra, Australia

Internationally renowned Earth System scientist. Emeritus Professor Will Steffen served on the Australian Multi-Party Climate Change Committee (MPCCC) in 2010-11 and is currently a Councillor with the Climate Council of Australia. He is a Senior Fellow at the Stockholm Resilience Centre, Sweden, and a member of the Anthropocene Working Group. From 1998 to mid-2004, Steffen served as Executive Director of the International Geosphere-Biosphere Programme, based in Stockholm.



ARCTIC AQUATIC ECOLOGIST

[Dr Katey Walter Anthony](#)

University of Alaska
Alaska, USA

Katey Walter Anthony's research focuses on methane and carbon dioxide FLUXES IN arctic lakes and wetlands in Alaska and Siberia, and the processes involved in greenhouse gas emissions from lakes, including permafrost thaw, geology, and changes in lake area.



CLIMATE SCIENTIST

[Dr Joëlle Gergis](#)

Australian National University
Canberra, Australia

Dr Joëlle Gergis is an award-winning climate scientist and writer from the Australian National University. She is an internationally recognised expert in Australian and Southern Hemisphere climate variability and change; based in the Australian Research Council (ARC) Centre of Excellence for Climate Extremes. Her research focuses on providing a long-term historical context for assessing recently observed climate variability and extremes. She is a lead

author on the UN Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report Climate Change 2022: The Physical Science Basis.



TLA-O-QUI-AHT TRIBAL PARK GUARDIAN

[Gisele Martin](#)

Tla-o-qui-aht First Nation, Canada

Gisele Maria Martin (they/she) is an Indigenous Cultural Lifeways and Tla-o-qui-aht Tribal Parks Guardian, public speaker, educator, guide, ocean-going traditional canoe skipper, writer, photographer and artist.



ECOLOGIST

[Professor Suzanne Simard](#)

University of British Columbia
Canada

Suzanne Simard is a Professor of Forest Ecology at the University of British Columbia and the author of Finding the Mother Tree: Discovering the Wisdom of the Forest.

Suzanne is a pioneer on the frontier of plant communication and intelligence; and has been hailed as a scientist who conveys complex, technical ideas in a way that is dazzling and profound. Her work has influenced filmmakers (the Tree of Souls in James Cameron's Avatar) and her TED talks have been viewed by more

than 10 million people worldwide.



CARBON CAPTURE SCIENTIST

[Dr Phil De Luna](#)

Vice Chair, Carbon Management Canada
Toronto, Canada

Phil De Luna (Ph.D, Materials Science) is a world-leading expert in carbon conversion technologies, artificial photosynthesis, clean energy materials, and machine learning for materials discovery. De Luna is currently the Vice Chair of Carbon Management Canada, a carbontech non-profit, and a Director at a Canadian national lab in Toronto.



SOLAR ENTREPRENEUR

[Andy McCarthy](#)

Victoria, Australia

Andy McCarthy is a lifelong advocate for renewable energy, electric vehicles, a smarter and more responsive grid, and the economic and social opportunities that exist within the energy transition. He is passionate about creating improved social and environmental outcomes, diversity and inclusion in the workplace, and raising awareness of mental health and wellbeing. The founder of Gippsland Solar - which was acquired by RACV in December 2019 - Andy still leads the company as CEO and Director of RACV Solar.



Professor Martin Van Kranendonk in the Pilbara during the filming of 'Carbon – The Unauthorized Biography.' Photo credit: Brett Stayt

DIRECTOR STATEMENT - NIOBE THOMPSON



Director Niobe Thompson (right) with composer Jonathan Kawchuk (left) during the music recording session for 'Carbon – The Unauthorized Biography.'
Photo credit: Ryan Wilkes

Several years ago, I realized there were no stories left to tell about the natural world that aren't somehow shaped by our changing climate. Carbon – the unauthorized biography embraces the biggest science story one could possibly tell – the story of life through the eyes of its central atomic constituent – and yet, once again, our narrative leads us to a warming world. This is what it means to make science documentaries today, as the climate emergency begins.

The last seven years (starting in 2016) were the hottest ever recorded. Each decade since 1980 has been hotter than the previous one. We have known about this growing crisis since I was a child. In an historic address to Congress in the summer of 1988, NASA climate scientist James Hansen electrified the world with these words: “In my opinion, the greenhouse effect has been detected, and it is changing our climate now.” Hansen’s words marked the birth of public awareness of climate change, but also the beginning of an effective campaign of corporate pushback. Today, as much greenhouse has been emitted since Hansen’s testimony as in the two centuries previous to his announcement.

The good news is, large majorities in most countries (including my own, Canada) finally accept that the climate is changing and that human activities are the culprit. In 2015, the community of

nations agreed in Paris to make our planet safe by limiting global warming to under 2 degrees Centigrade by the middle of this century. That means we must halve global carbon emissions by the end of this decade, and reach net zero by 2050. Difficult as this goal might be, it finally feels like we have a blueprint for change.

For me, the challenge is personal. By 2050, my two teenage girls will be in the middle of their own professional careers and parenting storms. With luck, by that time I'll be a white-haired grandfather. And my girls, alongside their own children, will be asking me what I was doing as the climate emergency took hold. Whether or not we succeed in making the transition to net zero, their lives will inevitably and entirely be shaped by that emergency. No matter what we do now, their seas will be rising, their summers will be hotter, and their weather will be weirder.

So, I believe the story of my children, and of their entire generation, will be a story of change, of adaptation, and of finding hope in new ways of life. Carbon – the unauthorized biography is likewise a story of transformation, for carbon is the great shapeshifter, the element that gives us life and renewal just as she threatens our survival.

Two years ago, my co-director Daniella Ortega and my co-producer Sonya Pemberton invited me to join them in making Carbon, bringing our Canadian team of cinematographers, animators, musicians, and editors alongside their team in Australia. I jumped at the opportunity because I was entranced by the ambition and scope of their vision: to tell the story of our world, and our present moment, through the eyes of the element at the core of it all. I loved the idea of walking away from the thankless politics of the “climate wars” into an agnostic and open-eyed journey through the story of carbon life. We hear the cliché “everything is connected”, but with Carbon, here was the opportunity to actually explore the fascinating chemical reality of that idea. Carbon's journeys through our world really are the tendrils of matter and energy that connect us with all things.

We aren't at war with carbon. We are carbon, and carbon is in almost everything around us. Carbon's gifts are generous, and endless. Right now, we find ourselves stuck in a difficult moment, because we have taken carbon's gifts for granted. But I believe that if we better understood carbon's many faces, creative and destructive, we could rise above the politics of carbon into the realm of science. And there, we could work together to put carbon back into the balance we need for our children to have good future.

In 2050, when my children ask me what I was doing about the climate emergency, this film will be my answer.

Niobe Thompson, Co-Director & Co-Producer, Handful of Films

WRITER + DIRECTOR STATEMENT - DANIELLA ORTEGA



Director Daniella Ortega in the Pilbara during the filming of 'Carbon – The Unauthorized Biography.' Photo credit: Brett Stayt

Carbon - the most talked about but least understood element on Earth. There is so much talk about carbon and climate that I fear I've become desensitized to the noise. Yet I know that this is the most important issue of our time.

I have two young children. In a world with a climate already changed and a future filled with the destructive consequences of this, I want to offer them a narrative that can best prepare them for the journey ahead, and that I believe is the life story of Carbon. Like a modern origin story it seeks to unify, to provide clarity and understanding of our world and our place in it, especially in relation to the climate crisis. This telling of Carbon's story seeks to cross the boundary between the factual story of climate change and our emotional selves, to forge a personal connection between viewers and Carbon.

My approach is to build an intimate, emotional and personal documentary biography of this wondrous element Carbon as if she were human. By blurring the line between living and non-living, the invisible and the visible, for the first time we give Carbon a voice: she needs to be heard.

The genesis of this approach was a short story imagining the life of a single carbon atom by chemist Primo Levi in his book *The Periodic Table*. When I read this story, it brought carbon to life so vividly that it took my breath away. My approach was to go further, to make Carbon a 'character' and visualise her multiple personalities and adventures.

Our film is now over 5 years in the making. In 2016, the first person to embrace this unconventional vision was Executive Producer, Sonya Pemberton (Genepool Productions). In 2018, we received crucial development support from Shark Island Institute and Film Victoria. Then in late 2019, I was catching up with an old friend, esteemed Canadian filmmaker Niobe Thompson, talking again about the 'carbon film' I wanted to make. Niobe came on board as a co-production partner, Executive Producer and Co-Director. Now with the strength of two powerhouse Executive Producers determined to pull together the finance and team to realise this project, we were finally up and running in 2020. And then the COVID 19 pandemic swept the world.

Making a global, complex, ambitious film is fraught with challenges at the best of times, so the pandemic added another layer of complexity. However, between the co-production partners we were able to divide the hemispheres, film in person where we could and pull together the best teams on the ground where we couldn't.

Our onscreen experts we chose were excellent at embracing the approach of personifying Carbon, expressing their own emotional connections to Carbon – whether it be admiration, love or fear. And our animation team led by Bruce Alcock (Global Mechanic) in his signature painterly style has transcended my imagination of how we could visualise Carbon and her journeys.

Now in the midst of another pandemic wave, we release the film. It's been an epic ride getting to this point, almost like the journey of Carbon herself!

For Carbon is so much more than a climate monster. Her life story illuminates something more fundamental and profound - that we are all intimately interconnected to the planet and everything on it. Carbon is the wondrous common thread that binds us all.

We want to change the narrative about Carbon, to provide a basis for more impactful and sophisticated conversations, while motivating viewers towards actions that combat climate change. If we are to deeply understand and care about climate change and life on earth, we need to understand Carbon.

Carbon is life, Carbon is us.

Daniella Ortega, Writer & Co-Director, Genepool Productions

EXECUTIVE PRODUCER STATEMENT - SONYA PEMBERTON

At Genepool Productions we aim to create illuminating science films about the most consequential and polarising issues of our times; recently we've made films about COVID-19, vaccination, vitamins, and uranium. Our approach is informed by evidence and backed by the emerging study of science communication, where experts investigate how to communicate effectively across ideological divides. After working with teams at Yale University, we now distil this to a few key ideas: find imaginative and unexpected ways to incite curiosity, avoid signalling which 'side' you are on, tell your story with passion but avoid the triggers that spark conflict and shut down useful conversation.

'Carbon – the unauthorized biography' began in 2016, when we were considering how we might apply these insights to the issue of climate change. Writer and director Daniella Ortega had a novel idea. Why not tell the incredible story of Carbon, the story that underpins so much of climate change, and do it as if this element were a person? A biography of sorts. I was hooked and development began, with the ABC, Film Victoria and Shark Island Lab supporting the early days of the project.

In 2019 we partnered with Niobe Thompson (co-director/producer/executive producer) from Canada's Handful of Films, with whom we share a love of science and a commitment to quality filmmaking. Backed by our broadcast partners at the ABC, CBC, and ARTE, plus a bevy of film agencies, production began in mid 2020.

The key idea that won wide support was that we were not framing this production as a 'climate change film'. This is a film about an element, about its role in shaping the natural and manmade world. There's a clear focus on the science – chemistry, physics, biology, materials and environmental science – exploring what we know about the element and how it works. We also focus on history, the evolving story of carbon and humanity. Using intimate character portraits, stunning landscapes, beautiful animation and an epic score, this film is designed to excite wonder and curiosity about how things work.

Of course, the most startling element is the fact that Carbon speaks. This was the creative edge that allowed us to tell a very different, surprising climate story.

By taking this approach we aim to reduce the fear, anxiety and guilt that may be triggered by films about our changing climate. The audience (regardless of their positions on climate change) can travel an extraordinary imaginary journey yet come to better understand our very real role in harnessing carbon. They discover for themselves how our relationship to carbon shapes everything.

Working with expert advisors – some of whom study climate denialism – we sought to illuminate the remarkable science and history of Carbon yet avoid the political and ideological trigger points. For that reason, there are no images of polar bears on melting sea ice.

'Carbon – the unauthorized biography' is no dystopian vision of doom and gloom, nor a utopian dream of a world made right, but rather an inspired and illuminating exploration of the profound connections that bind our world. And of course, deep down, this is a film about understanding our changing climate, and the importance of giving Carbon 'places to hide'.

'Carbon' will have an Australian and New Zealand cinema release in March 2022 (Umbrella Films), with global television broadcast to follow (ABC, CBC, ARTE). International distribution by TVF.

Sonya Pemberton, Producer, Executive Producer, Creative Director, Genepool Productions



Earth forming animation from 'Carbon – The Unauthorized Biography.' Credit: Bruce Alcock/Global Mechanic

CREATIVE TEAM



DIRECTOR, PRODUCER + EXECUTIVE PRODUCER
NIOBE THOMPSON

The documentaries of anthropologist filmmaker Niobe Thompson reach back to our human origins, explore the mysteries of evolution, and tackle the environmental dilemmas of the Anthropocene. As a science and adventure host, he makes a laboratory of his body and mind, a storytelling style the Globe & Mail calls “indescribable, but brilliant.” As a verité director, he brings unique and powerful moments in the human experience to the screen, from Siberian reindeer herders, to ancient DNA laboratories, to the organ transplant surgeries.

Niobe’s work has won three Canadian Screen Awards for Best Science and Nature Documentary, wins at Sundance and Jackson Hole, and two Emmy nominations. A long-time collaborator with Canadian-born composer Darren Fung, he presents select documentaries to live audiences as orchestral performances. After co-directing and co-producing the feature documentary *Carbon - the unauthorized biography*, Niobe will start filming in 2022 on a new documentary for Tangled Bank Studios called *Before the Ice*, about the ancient DNA revolution.



WRITER + DIRECTOR
DANIELLA ORTEGA

Daniella Ortega is an award-winning documentary filmmaker and screen professional dedicated to excellence in storytelling and communicating complex concepts in innovative ways. Daniella is the originator, Writer and Co-Director of *Carbon - the unauthorized biography*, an unconventional documentary project responding to the climate emergency we are living in.

Focused on high-end documentaries about science, history and natural history, Daniella’s work traverses subjects as diverse as archaeological discovery, colonial violence and the mysteries of the teenage brain. An accomplished Series Producer, she has steered major complex projects for a variety of international broadcasters.

Daniella has recently joined the documentary team at Screen Australia as a Development and Investment Manager, a role that allows her to draw on her experience to support the wider documentary industry.



PRODUCER + EXECUTIVE PRODUCER
SONYA PEMBERTON

Creative Director [Genepool Productions](#)

Sonya Pemberton is one of Australia's leading documentary filmmakers; an Emmy Award recipient and record-breaking five-time winner of the prestigious Eureka Prize for Science Journalism. Her passion is creating quality science documentaries for international audiences.

Sonya has written, directed, and produced over 70 hours of broadcast documentary, her films winning over 80 international awards. Previously Head of Specialist Factual at the ABC, Sonya created Genepool Productions to explore complex and polarised areas of science. Recent titles

include 'Vitamina' (SBS/Arte/CuriosityStream), 'Uranium - Twisting the Dragon's Tail' (SBS/PBS/ ZDF/Arte), 'Jabbed - love, fear and vaccines' (SBS/Arte), and 'Vaccines Calling the Shots' (PBS NOVA, with Tangled Bank Studios). In 2021 Sonya directed the ABC feature documentary "Cracking COVID", and co-produced the theatrical documentary, 'Carbon - The Unauthorized Biography' (ABC/CBC/Arte).



PRODUCER
LUCY MACLAREN

In 2000 Lucy produced her first feature film 'Strange Fits of Passion' which was accepted into Critic's Week at the Cannes Film Festival. Since 2008 Lucy has been producing documentaries including 'Love Letters From a War', the three part series for SBS 'Immigration Nation' and the award winning 'Inside The Firestorm', 'Utopia Girls' and 'Subtopia' for the ABC. In 2015 she produced the one-hour documentary 'The Diplomat, The Artist and The Suit' for the ABC, and in 2018 'Aftermath: Beyond the Firestorm'. In 2018 she co-produced the feature film 'Miss Fisher and the Crypt of Tears' and is in production on feature documentary 'Carbon – The Unauthorized Biography' and 'Rebuilding Mallacoota', a six- part series.

EDITOR
ANDREW ARESTIDES ASE

Andrew is a multi-award-winning Sydney based editor. Andrew's credits include 'The Cars That Ate China' for which he was awarded the ASE award for Best Editing of a Documentary; He co produced and edited 'Junction House Blues' for SBS ; 'Facing The Demons' a powerful story of restorative justice which won a Logie and the UN Peace Award for TV Documentary; the AFI award-winning, 'Wedding In Ramallah'.

Andrew received an AFI award for Best Achievement in Editing for 'Painting with Light in a Dark World.' He was awarded his second ASE Award for 'My Asian Heart' directed by David Bradbury. He edited 'Monsieur Mayonnaise' a feature documentary directed by Trevor Graham, which premiered at MIFF 2016 and was nominated for an ASE Award. Last year he finished Antonio's Recipes for Revolution and Wandering Souls.

DIRECTOR OF PHOTOGRAPHY
SHERWIN AKBARZADEH

Sherwin Akbarzadeh is a Melbourne-based cinematographer. He is a graduate of the AFTRS cinematography program and the recipient of twelve Australian Cinematography Society Awards. Sherwin's recent credits include the 6-part comedy-musical series 'Stories from OZ' (2021) for ABC TV and feature documentary 'The Record' (2020) which premiered on Amazon Prime.

His past independent feature film credits include, 'Play it Safe' (2014) and 'Perry and Emile' (2012), the latter winning Best Louisiana Feature at the New Orleans Film Festival. Sherwin has also acted as 2nd unit DOP on feature film 'Guilty' (2017) and the SBS TV drama 'On the Ropes' (2018).



Director Daniella Ortega with crew and Martin Van Kranendonk in the Pilbara, Western Australia. Photo credit: Brett Stayt

DIRECTOR OF PHOTOGRAPHY
ATHAN MERRICK

Athan Merrick is an award-winning cinematographer with a background in narrative lighting and adventure ski films. He was raised in the desert vistas of New Mexico by artist parents and settled well north in the ocean and mountain wonderland of Vancouver Island, Canada. These experiences meld into cinematography that brings souvenirs from the frontier to the screen.

COMPOSER

JONATHAN KAWCHUK

Jonathan Kawchuk is a Canadian composer signed to Paper Bag Records for his work as a recording artist and represented by Evolution Music Partners as a film composer. His credits include films that have premiered at TIFF and Sundance, commissions for Vogue, Dior, and the MUTEK festival, and his debut album North (with over 4.5 million streams). Jonathan was inducted as a voting member of the Recording Academy (Grammy Awards) in 2020.

View a short Behind-the-Scenes documentary about creating the film score:

<https://vimeo.com/668427613>

Password: carbon

ANIMATION TEAM

GLOBAL MECHANIC MEDIA

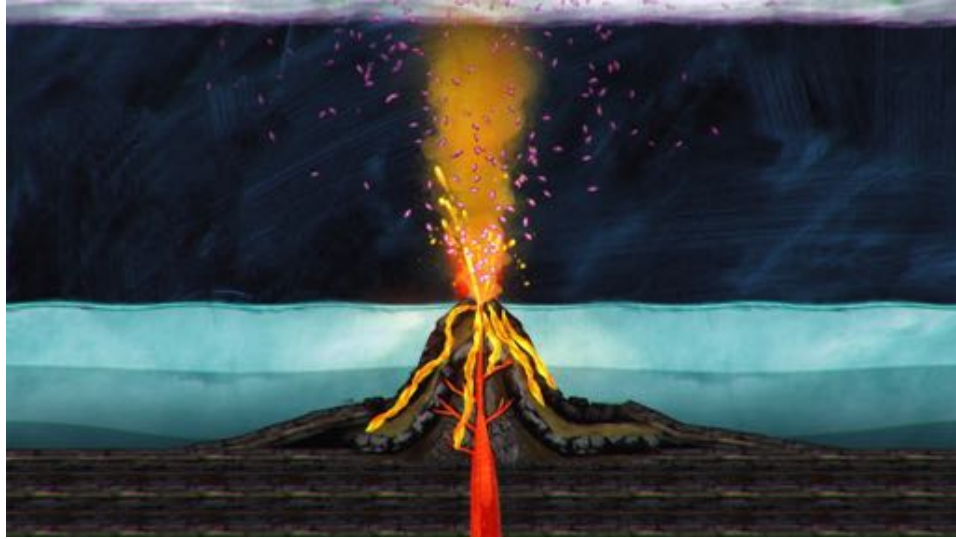
Since 2000, Global Mechanic has produced thousands of hours of content for children's series, films, digital media, advertising, and art projects. Currently in production and development with PBS Kids, Global Mechanic has also worked in partnership with Nickelodeon, the Cartoon Network, and Netflix, including Emmy award winning series 'Fetch! with Ruff Ruffman' and the innovative hybrid drawing app/show 'Scribbles & Ink'. We've also just wrapped production with The National Film Board of Canada on 'Far Away from Far Away,' a long-form Instagram-style interactive story for the mobile phone.

Global Mechanic is constantly evolving, creating beautiful, accessible content informed by the deep expertise and confidence of many years' experience. Principals Bruce Alcock and Tina Ouellette bring their personal attention and decades of wide-ranging experience in content creation and design to every project. Strong leadership and cohesive vision define our work. Our Directors oversee hand-picked teams who are, of course, experts in their specific discipline (animation, coding UI design) but who also share common knowledge across all platforms.

View a short Behind-the-Scenes documentary about creating the animations:

<https://vimeo.com/668427516>

Password: carbon



Volcano, pipeline cracking and earth family animations from 'Carbon – The Unauthorized Biography.' Credit: Bruce Alcock/Global Mechanic

EXPERT ADVISORS

CLIMATE SCIENTIST

[PROFESSOR DAVID KAROLY](#)

Leader, Earth Systems and Climate Change Hub National Environmental Science Program, CSIRO, Australia. Professor Karoly was a member of the Australian National Climate Science Advisory Committee during 2018-2019. During 2012-2017, he was a member of the Climate Change Authority, which provides advice to the Australian government on responding to climate change, including targets for reducing greenhouse gas emissions. He has been involved in the Assessment Reports of the Intergovernmental Panel on Climate Change in 2001, 2007, 2014 and 2021 in several different roles.

David is an internationally recognised expert on climate change and climate variability, as well as climate scientist communicator with the ability to explain the complexities of his research to the general public.

CLIMATE SCIENTIST

[DR. PEP CANADELL](#)

Senior Principal Research Scientist, CSIRO Climate Science Centre, Australia. Executive Director of the Global Carbon Project (a global consortium of scientists studying the impact of human activities on the carbon cycle and its associated changes in the climate system).

Dr Pep Canadell has been involved in the Assessment Reports of the Intergovernmental Panel on Climate Change in 2007, 2014 and 2021 in several different roles.

SOCIAL TRENDS RESEARCHER, WRITER, CONSULTANT, PUBLIC SPEAKER

[DR. REBECCA HUNTLEY](#)

Dr Rebecca Huntley is one of Australia's foremost researchers on social trends. She is an author and researcher and holds degrees in law and film studies and a PhD in Gender Studies. For nearly 9 years Rebecca was the Director of The Mind & Mood Report, Australia's longest running social trends report.

She has lead research at Essential Media and Vox Populi, part of the CIRCA research group, before starting her own research and consultancy business. She works closely with The Sunrise Movement on the Climate Compass Project as well as with many other climate and environment NGOs.

Under her own climate research and consultancy business, Rebecca published a report for Aware Super in early 2021 outlining how Australia can recover from the COVID-19 pandemic by focusing on the intersections of climate action, health and wellbeing and thriving communities.

She is the author of numerous books, most recently 'How to Talk About Climate Change in a Way that Makes a Difference' (Murdoch books, 2020), writes occasionally for The Guardian and co-presented the Guardian's podcast Common Ground with Lenore Taylor in 2017. Rebecca has also written for The Australian, The Sydney Morning Herald, Marie Claire and Griffith Review. She was a feature writer for Australian Vogue, a columnist for BRW and the presenter of Drive on a Friday on Radio National.

Rebecca is on the board of The Bell Shakespeare Company and on the Executive Board of the NSW branch of the ALP. She is the Chair of the Advisory Board of Australian Parents for Climate Action and has held board positions on

The Whitlam Institute and The Dusseldorp Forum.

ENVIRONMENTAL HISTORIAN

[PROFESSOR JOHN MCNEILL](#)

University Professor at Georgetown University, holding dual appointments in Georgetown's School of Foreign Service and its Department of History. Prior to being named University Professor, he was the Cinco Hermanos Chair of Environment and International Affairs in the School of Foreign Service. Professor McNeill has also taught at Goucher College in Towson, Maryland and at Duke University in Durham, North Carolina. Professor McNeill has served as President of both the American Historical Association and the American Society for Environmental History. He is also a member of the Anthropocene Working Group of the International Union of the Geological Sciences.

CHEMISTRY PROFESSOR

[PROFESSOR PETER MAHAFFY](#)

Professor of chemistry at The King's University and co-director of King's Centre for Visualization in Science, which provides digital learning resources used by well over a quarter million students, educators, and the public from over 100 countries each year. Professor Mahaffy is a Charter Member of the Organization for the Prohibition of Chemical Weapons (OPCW), which received the Nobel Peace Prize in 2013. He is also a member of the American Chemical Society Presidential Working Group on Climate Science and the Past-Chair of the International Union of Pure & Applied Chemistry Committee on Chemistry Education and member of IUPAC Bureau.



Carbon molecules in the forest animation from 'Carbon – The Unauthorised Biography.' Credit: Bruce Alcock/Global Mechanic

WEB LINKS

For more information about the film including bonus videos, links to additional resources and an education kit, go to: www.thecarbonmovie.com

To follow the film on socials, head to:



<https://www.facebook.com/thecarbonmovie>



<https://www.instagram.com/thecarbonmovie/>



<https://www.twitter.com/thecarbonmovie>

[LINK TO PRESS ASSETS](#) – POSTER, TRAILER, STILLS AND EXTRA VIDEOS

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WRITER DANIELLA ORTEGA
CINEMATOGRAPHY SHERWIN AKBARZADEH, ATHAN MERRICK
EDITORS ANDREW ARESTIDES ASE, JAY MCMILLAN

COMPOSER JONATHAN KAWCHUK ANIMATION AND ART DIRECTOR BRUCE ALCOCK
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FULL CREDITS AVAILABLE ON REQUEST
www.thecarbonmovie.com