

High Level Background Story

What This Decks Contains

- This is the seventh of seven high level overviews of the proposals:
 - [Chemistry, Toxicology, Environmental Effects and Dispersal](#)
 - [Governance](#)
 - [Operational Data and Security](#)
 - [Costs Overview](#)
 - [Methane Moment & Politics](#)
 - [Program/Project Plan](#)
 - [Background Story](#)
- This one contains:
 - High-level discussion of the small team that came together to create the proposal

Methane Moment Pitch Package

This deck is part of a Methane Moment package:

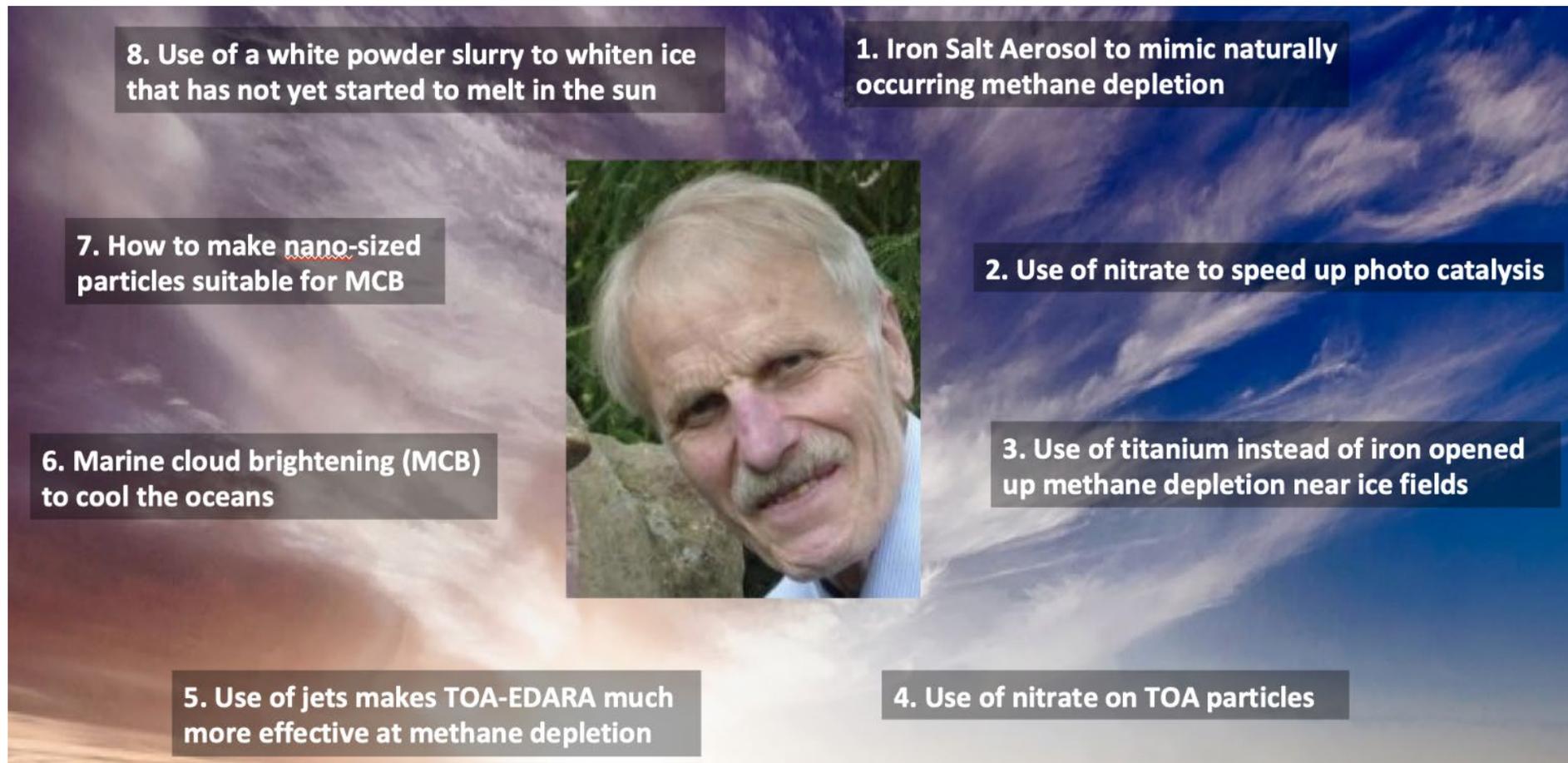
- [Website](#)
- [Methane Moment Pitch deck](#)
- **High Level Summary Decks:**
 - [Chemistry, Toxicology, Environmental Effects & Dispersal](#)
 - [Governance](#)
 - [Operational Data & Security](#)
 - [Cost Overview](#)
 - [Methane Moment & Politics](#)
 - [Program/Project Plan](#)
 - [Background Story](#)
- [Reference Document](#)
- [Methane Moment Cost Estimates](#)

A Time of Transformation

- Guy Huntington and Herman Gyr have consulted to many large complex transformation or identity projects in companies such as BP, the BBC, Swisscom, Swiss Post, Boeing, Capital One and governments such as Gov't of Alberta
- They understand
 - How politically challenging new climate mitigation strategies can be
 - How important it is to limit political friction
 - That low toxicity of solutions is fundamentally important for a public that is just beginning to understand the magnitude of climate challenges and what will be required to mitigate against them
 - Tackling methane bursts and arctic warming are the most important priority, since the arctic is the critical element of the planet's cooling system and is at great risk from increasing methane emissions
 - That large scale methane oxidation/neutralization is our single greatest hope for reducing warming by 0.6° by 2050

Franz Oeste

- Franz Oeste is a chemical engineer who has been working away at developing climate modification processes mimicking nature



8. Use of a white powder slurry to whiten ice that has not yet started to melt in the sun

1. Iron Salt Aerosol to mimic naturally occurring methane depletion

7. How to make nano-sized particles suitable for MCB

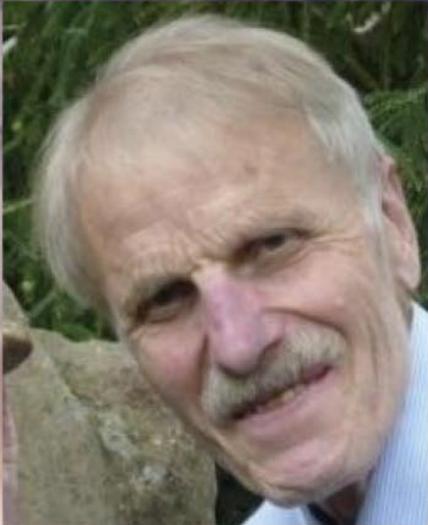
2. Use of nitrate to speed up photo catalysis

6. Marine cloud brightening (MCB) to cool the oceans

3. Use of titanium instead of iron opened up methane depletion near ice fields

5. Use of jets makes TOA-EDARA much more effective at methane depletion

4. Use of nitrate on TOA particles



Clive Elsworth

- Clive is an engineer who partnered with Franz Oeste to create numerous patents based on Franz's ideas
- He also convenes and chairs fortnightly meetings of international scientists and volunteers, titled *Nature-Based Ocean and Atmospheric Cooling*
- He and Franz are currently working on a paper about natural oceanic carbon dioxide absorption, transport, and sequestration mechanisms

We Came Together as a Team

- Upfront, Guy and Herman stated they wanted no participation commercially in their patents
 - They saw their role as independent change agents governments could trust
- As a team we agreed to create a “solution framework” first addressing methane bursts and arctic cooling
- With an eye to taking what’s learned and apply it to efforts for halving methane levels and cool critical mountain glaciers which are headwaters for human drinking water and other species

Chemistry and Toxicology

- Our first tasks were to document the chemistry and toxicology of TOA-EDARA, TOA and white marble dust
- We wanted to follow the feedstock components all the way from delivery to the feedstock dispersal delivery craft, through to dispersal and then on the ground

Next We Focussed On Delivery/Dispersal

- We wanted to understand the economics involved in delivery of the dispersants
- So we created spreadsheets where we crudely modeled dispersing:
 - In relatively small areas
 - Greenland as an example of a large area
 - The arctic
- **From this, we quickly learnt about how the actual feedstock costs were low, BUT THE DELIVERY COSTS WERE HIGH**

This Requires Breakthrough Innovations

- New, cost-effective, innovative dispersal delivery platforms would be required including:
 - Pilotless jets
 - Drones
 - Hovering drones
 - Containers able to be drop shipped upon which drones could land, restock and refuel
 - Ships with drones
 - Etc.

Early Warning Systems

- A methane burst and arctic cooling “early warning system” will be required, able to determine – in real time – such disruptive events
- This will require the use of satellite systems with the sensing and monitoring technology that enable activation of critical responses

Operation Centers

- Operation centers will be able to take in the live data, and
- Process the data by modeling local areas, weather, availability of different dispersal craft and
- Recommend what responses should be made to mitigate the methane burst or melting ice
- Managers of operation centers can then approve recommendations from the monitoring technology and direct relevant responses at the site of the identified crisis

Governance & Politics

- **Each country will be in control of their own decisions, but will be closely-integrated into an intra-governmental solution framework**
- A global network of ANCRG, MACOC's etc. will be created

Milton Friedman about Transformation

“Only a crisis - actual or perceived - produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes the politically inevitable.”

Do It Quietly At First...

- The proposed strategy is to find seed funding from Arctic governments for research & development, and for developing proof of concepts and pilots for proving the models, chemistry, technical dimensions, operational models, as well as toxicology
- **Governments can then be ready for the inevitable crisis moment when they can announce the now required solutions to the public, declare their proven safety, rapidly deploy and scale**

Participation of Arctic People...

- We recognize how the rapidly changing arctic weather will significantly affect arctic citizens' ways of life
- We see the opportunity of creating significant funding programs for turning increasingly existential problems and turn them into opportunities or recovery and restoration
- Arctic based companies could develop products and services leveraging climate restoration technologies from our proposals
- In addition technologies like molten salt reactors and indoor agriculture could be piloted in the arctic region to give citizens whole new ways for supporting themselves

Arctic Citizens Must Be At The Table

- We recognized how arctic citizens must be at the table when implementing the proposed interventions and changes
- **Which is why in the governance structure, it lays out structures for arctic citizens to fully participate and take ownership of the efforts impacting their regions**

Rapid Change Coupled With Prudence

- **Our underlying philosophy, based on years of experience with transformational efforts, is to aim for speed, but in (often) small iterative steps**
- **Prudence must be applied such that participating agencies don't go down the wrong roads technically, cost wise and politically**

It Doesn't Solve All of Climate Changes Problems

- The team has assembled a suite of tools to use for addressing critical portions of climate change
- **These new solution frameworks give governments the ability to mitigate some of the most serious problems with some of the most hopeful and high-impact solutions, as eco-crises increase in number and magnitude**

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