



Hello, and Thank You for your interest.

I am from Adelaide, South Australia, which has a population of just 1-million and I must say is a very nice place to live & work – In fact, it is one of the least polluted cities in the World.

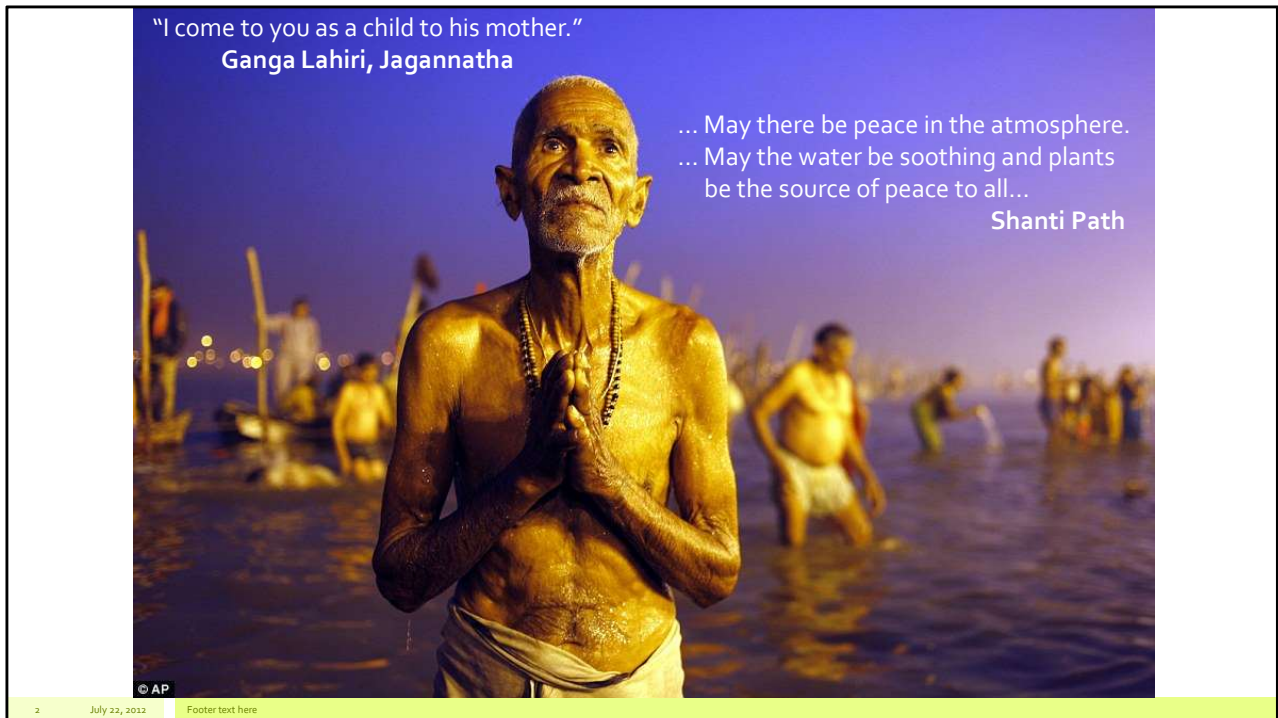
My only disappointment nevertheless is that Adelaide “is” polluted - The ground, the ocean, and the atmosphere are all effected – You see it, you taste it, you breathe it!

How can we as children of Earth continue to take, yet offer nothing sustainable in return? We deny Earth the respect it so deserves.

It is becoming apparent future economic growth requires a positive disruption to the environment, and “water” is the path to abundance

My presentation introduces the failures in current practices, the problems with pollution, and finally a disruptive innovation in water.

It calls for a social responsibility from every single citizen – Community by Community, City by City – The time for Change is Now



PAUSE

I quote from the Shanti Path mantra:

May there be peace in the atmosphere.

**May the water be soothing, and plants be the source of
peace to all.**

PAUSE

Corporate Social Responsibility : Eco Social Balance

Stakeholder Wealth NOW



Sustainable Practice FUTURE

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BALEEN - HARVESTING WASTEWATER'S RESOURCES TODAY

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You don't need to travel the world to decide which way the scales tip in this picture...

Money governs everything everywhere with little consideration or act of fairness towards Community, or the Earth that sustains us all – wealthy or poor.

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Corporate Social Responsibility Vs Uncaring Corporate Greed



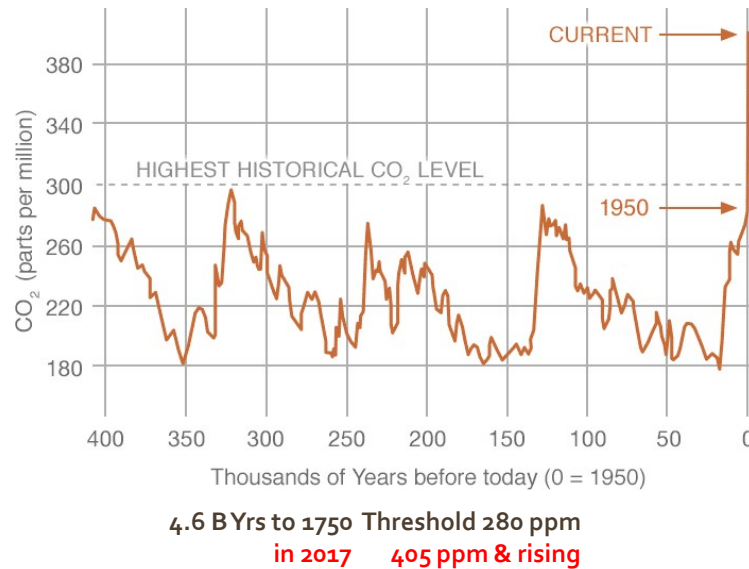
Unbridled Corporate Growth
=
Worldwide Ecological Destruction

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Together we form a Society that fuels corporatisation, both as bystander and as consumer, either way we devour Earth's resources for the profit of a few.

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The Great Tribulation : Climate Change

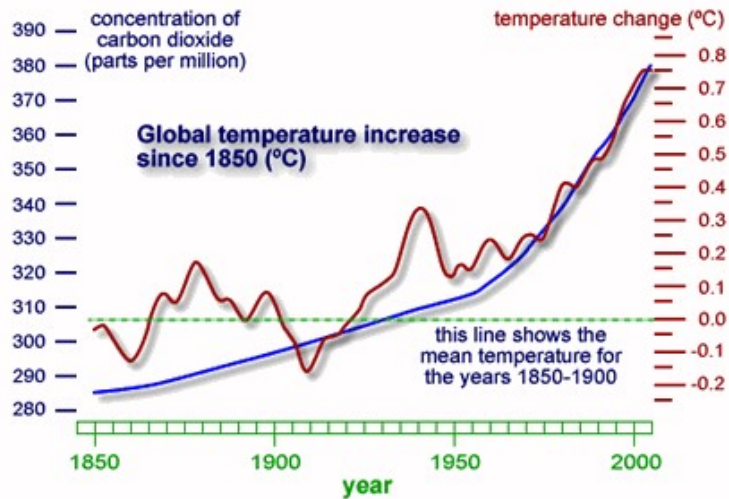


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The consequence is Climate Change – It's real, and its due to our carelessness in governance of Earth's ecosystems.

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The Great Tribulation : Climate Change



As CO₂ increases, Temperature increases ...

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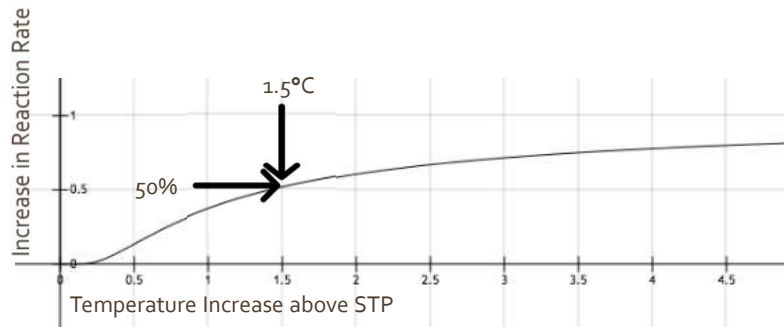
As CO₂ emissions climb, temperature climbs – proportionate to exploitation of the land, the water, and the air.

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The Great Tribulation : Climate Change

Earth's Ecosystems tolerant $\Delta 1^{\circ}\text{C}$

Many natural processes accord to Arrhenius equation;
the reaction rate doubles every 10-degrees



... accelerating natural processes. At first, EXPONENTIALLY !

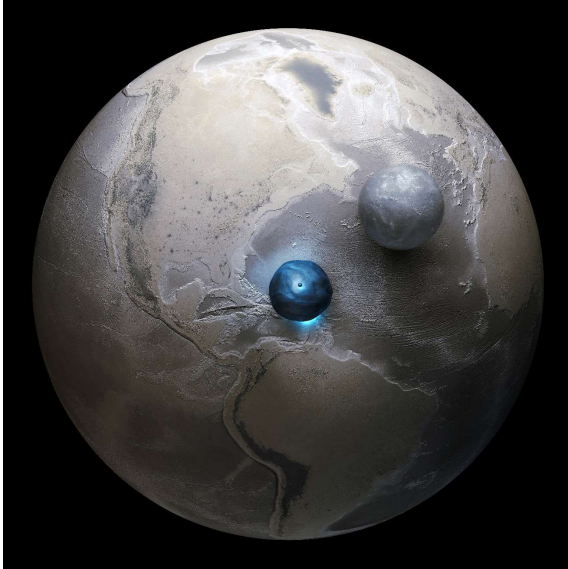
But there is much more to Climate Change...

Increasing Temperature in a single lifetime leads to death of natural ecosystems that have endured for millennia.

The reason is the metabolic rate of all living things rises exponentially leading to reduced lifecycle & immunity due to accelerated age-ing & infection.

A temperature increase beyond 1.5 degrees Celsius in our lifetime will lead to increased suffering, and increased divide between the wealthy and the poor.

A Global Responsibility : Air & Water is Eco Social Essential



All Air on Earth = Sphere of Diameter 1,999 km

All Water on Earth = Sphere of Diameter 1,384 km

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The Earth as we know is a solitary bubble of life, in which we co-exist with a multitude of ecosystems.

All of Earth's supporting ecosystems support others, including our own.

Our Corporate Social Responsibility must re-center upon sustainability of land, water and air for all ecosystems.

The air and water that we exclusively rely is limited.
Pollution of these invaluable resources must be mitigated.

We require a change in paradigm for Life's sake.

CSR Failure #3 : Deforestation



20% Global GG emissions
(more than transport)

130,000 sq. km lost each year

**Forecast World's rainforests
lost within next 100 Years**

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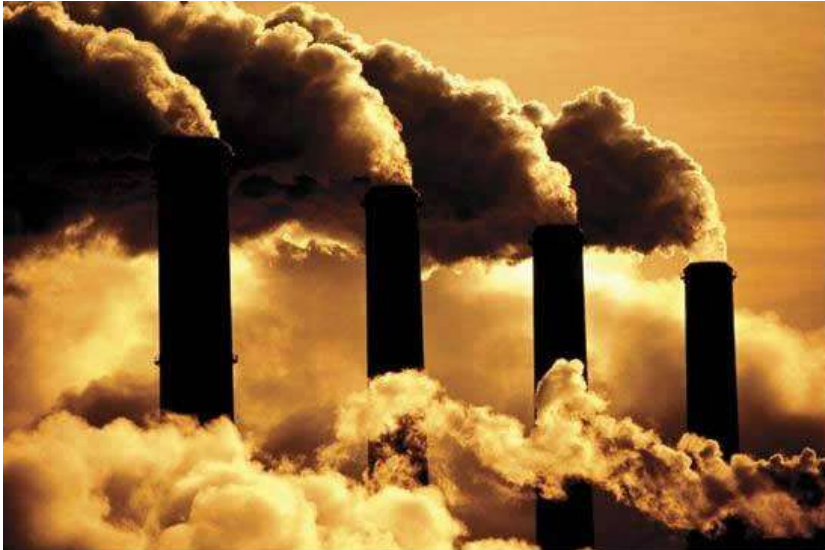
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Experts forecast at the present rate of deforestation that within 100-Years the lungs of the Earth will have collapsed.

PAUSE

CSR Failure #2 : Air Pollution



40% Global GG emissions
(90% fossil fuels)

Atmospheric CO₂ increased 45%
since pre-Industrial times

**Forecast World health concerns
(after 600 ppm) within 50 Yrs**

10 November 2016

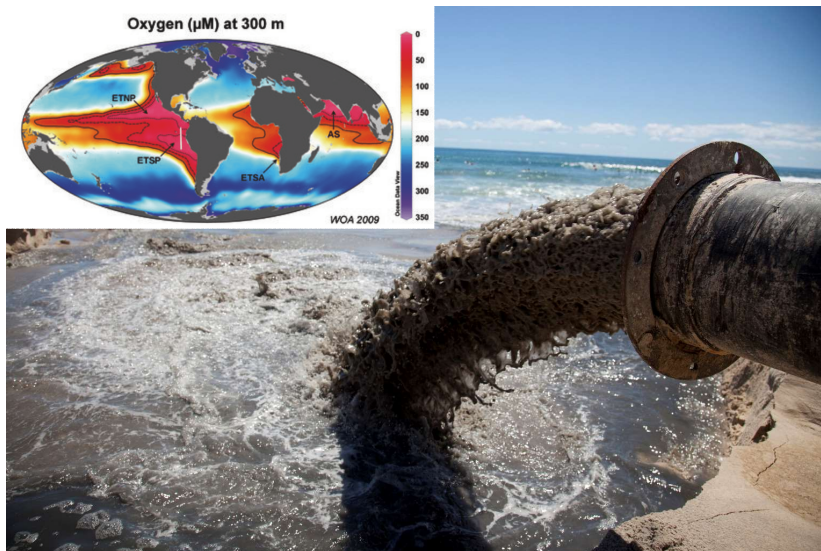
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Similarly, within 50-Years the air we breathe will seriously disadvantage current & future generations.

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CSR Failure #1 : Marine Pollution



The Ocean

Responsible for birth & re-birth

Regulates Water & Carbon cycles

Controls Climate

Absorbs 90% Global Warming

30% Pollutants GG emissions

40% Pollutants Waste Water

10% Ocean Dead (O₂ depleted)
doubling each decade... 25Yrs ?!

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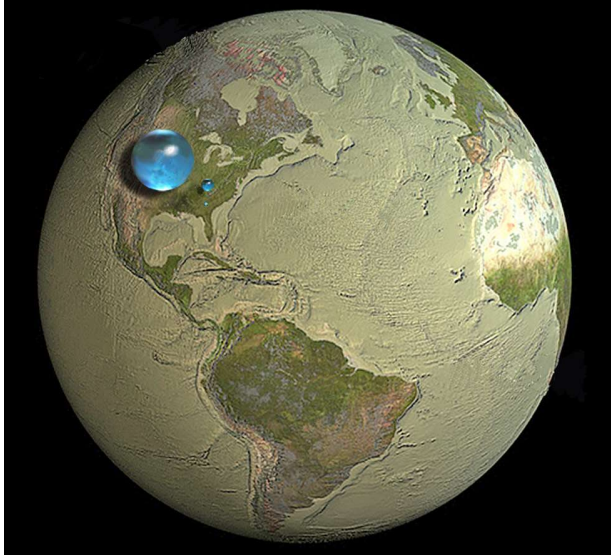
PAUSE

Worse still, the Ocean is already DYING and unless pollution is DRAMATICALLY mitigated we will witness widespread extinction of many varied flora & fauna within our lifetime.

The #1 contributor to Ocean Pollution is untreated "wastewater" - Some 1500 Billion Tons each year is discharged globally without further consideration.

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A Global Responsibility : Water is Eco Social Critical



Total Water (96.5% Ocean) = Sphere, DIA 1,384 km

Fresh Water Only = Sphere, DIA 273 km

Lakes & Rivers = Sphere, DIA 56 km
(main source of supply)

Rivers = Sphere, Diameter 16 km
(main means of Waste Water disposal)

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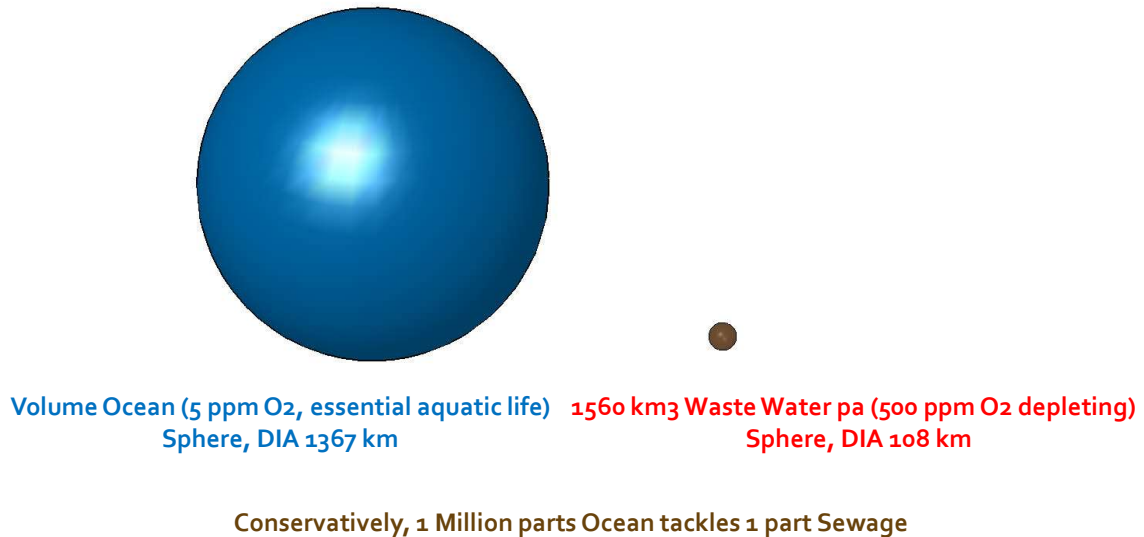
PAUSE

The remainder of my presentation will thus focus upon water from which the atmosphere, the air we breathe, first came into existence.

The CARELESS way in which we treat and dispose of water for which all life depends MUST change, and it needs to change quickly.

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A Global Responsibility : World Water Crisis Looms



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The Ocean is tackling Marine Pollution in Oxygen surplus terms at a ratio of 1 million to 1, which you could first be led to believe as favorable odds, but unfortunately the imbalance is quite the opposite when considering all wastewater disposed to marine environments occurs where populations reside.

As per my previous slide 10% of the Ocean is already dead, and this is forecast to increase to 20% within the next 10-years, and then 40% the following decade, and so on...

The way we manage wastewater must change quickly and dramatically before its too late.

An International Responsibility : Save Ganga



378.4 km³ annually (5 ppm O₂, essential aquatic life)
Sphere, DIA 9.0 km



1.06 km³ Waste Water pa (500 ppm O₂ depleting)
Sphere, DIA 5.9 km

Conservatively, 357 parts Ganga tackles 1 part Sewage

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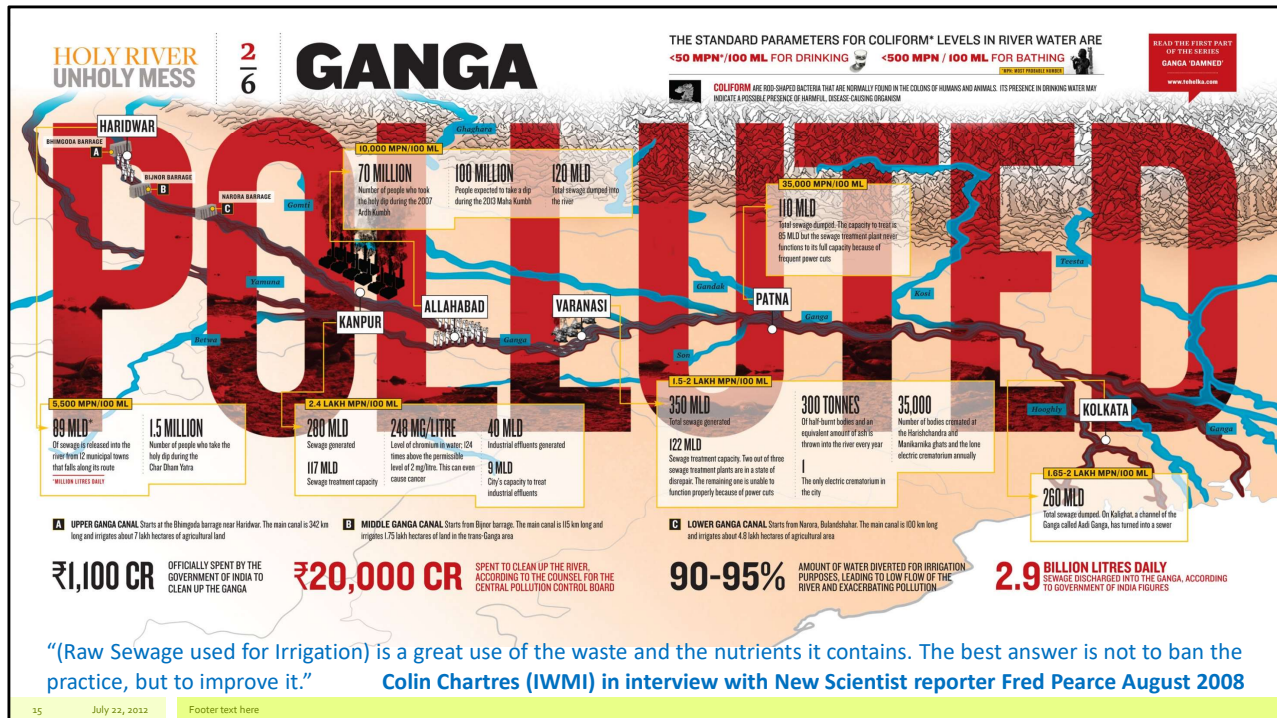
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A similar summary, declares why the river Ganges is one of the most polluted waterways on Earth – Just 357 parts healthy water tackles 1 part unhealthy water.

As the third largest river by flow it deserves our attention.

PAUSE



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There is no doubt the state of the River Ganges is the subject of much controversy and dire concern.

But within such adversity resides a practical opportunity, rather than an unsurmountable problem.

In Ganga there is love, I am therefore of the belief that 'Community by Community' India could effectively reverse ecological demise through wastewater re-use and consequently become a world leader in sustainable living.

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Simplify the Problem ...

baleen
engineered by nature

WasteWater = Water + Waste
From any Source 99.9 – 99.99% 0.1 – 0.01%



Toxic Sewage is turned into at least B-grade water after passing through the Baleen (& Disinfection) systems.
Tim Scholz, Mayor of Wudinna District Council, South Australia, May 2009

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Let's simplify the Problem;

Waste Water is typically more than 99.9% Water.

In 1-litre you find less than 1-millilitre of biological waste.

But such waste possesses an energy content greater than that of tar sands or shale oil, near equivalent to coal.

Waste aside, the resulting water contains trace fertilizer and once disinfected can be made available for agriculture.

In the case of Mumbai, almost 1GW of renewable energy and 2000ML of re-usable wastewater is lost every day.

Apply the Technology ...

baleen
engineered by nature



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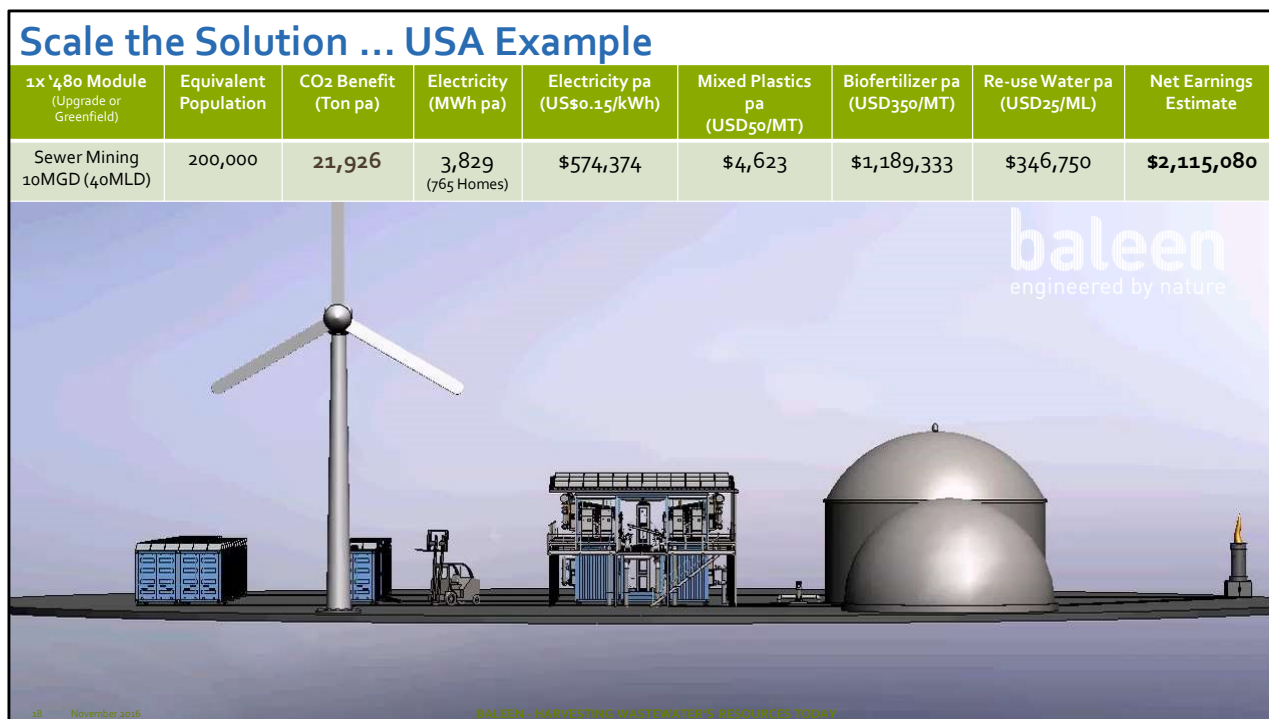
I now introduce a highly disruptive innovation in wastewater

Baleen utilises a novel combination of counter and clearing flows to simultaneously separate matter and clarify water.

Baleen's capital and operating costs are but a fraction of today's water technologies.

What makes Baleen so appealing is that it harvests more energy than it consumes.

In short, Baleen delivers a scale-able solution for a low carbon circular future on water driven by wastewater re-use.



This animation introduces a modular Baleen system, seen centre, with 'Waste to Energy' plant, on right, and 'Water to Irrigation' equipment, on left, together with ancillary power provided by wind and solar for all year round sustainability.

This packaged 'modular' system available now is capable of mining wastewater at the rate of 40 Million Litres per Day.

The entire system comes pre-assembled in 40-foot containers and can be commissioned in just 28-days.

In today's market this system offers a demonstrable payback within 10 Years – Amazing, Yes – Fallible, No.



I conclude as follows;

Ending Marine Pollution addresses sanitation.

Ending Marine Pollution re-births waterways.

Ending Marine Pollution aides agriculture and fights poverty.

Ending Marine Pollution delivers renewable energy.

Though a mother may not ask, we as children must do!

Just Imagine, for a moment, that ALL wastewater outfalls (on the Ganges) are shut-off and re-directed for agriculture.

Thank You for your attention.