RAPIDQUBE

TRANSFORMING BUSINESS PARADIGMS

PARYAVARAN MITR

CARBON FOOTPRINT REDUCTION

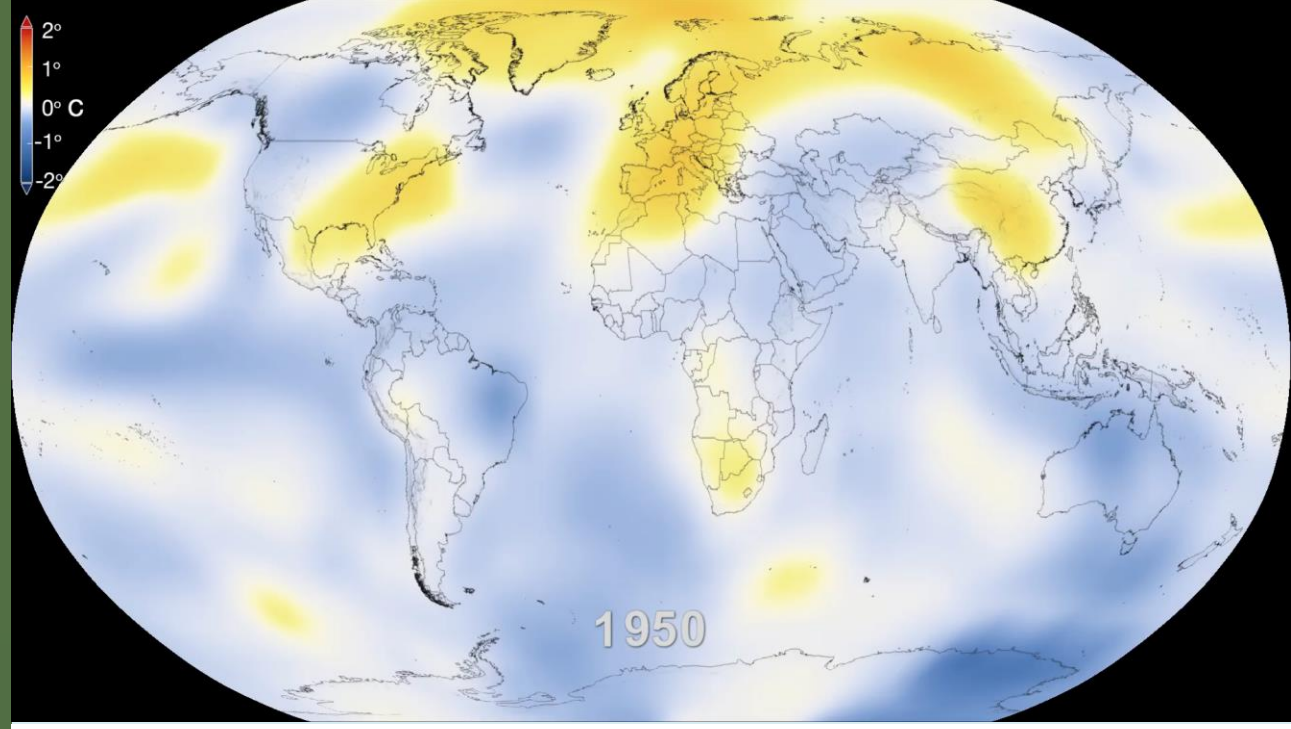
SOLUTION PROTOTYPE

A trusted, scalable and single unified platform to reduce carbon emission there by develop a sustainable energy future and a better economy

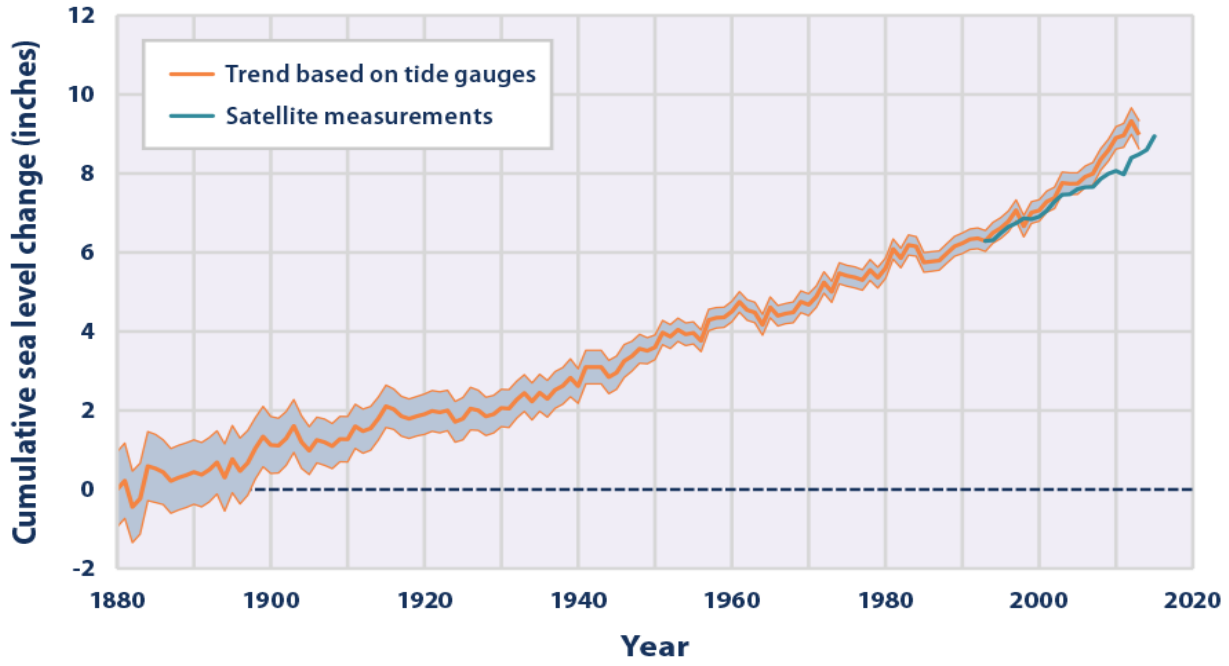
PROBLEM & IMPACT

What's happening?

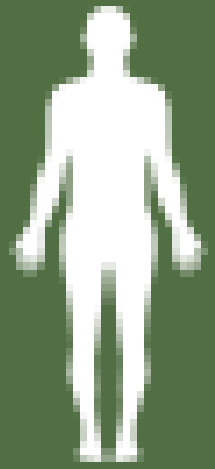
Surface Temperature shoot-up



Sea level will rise 1-4 feet by 2100



HUMAN BODY ANALOGY



"Take the human body. If your temperature rises 2°C, you have a significant fever. If it rises 4°C or 6°C you can die. It's not a linear change. You're pushing a complex system outside the range it's adapted to. And all our assessments indicate that once you do that, the system's resilience gets stretched thin."

--GLOBAL WARMING--

The Impact

FACTS

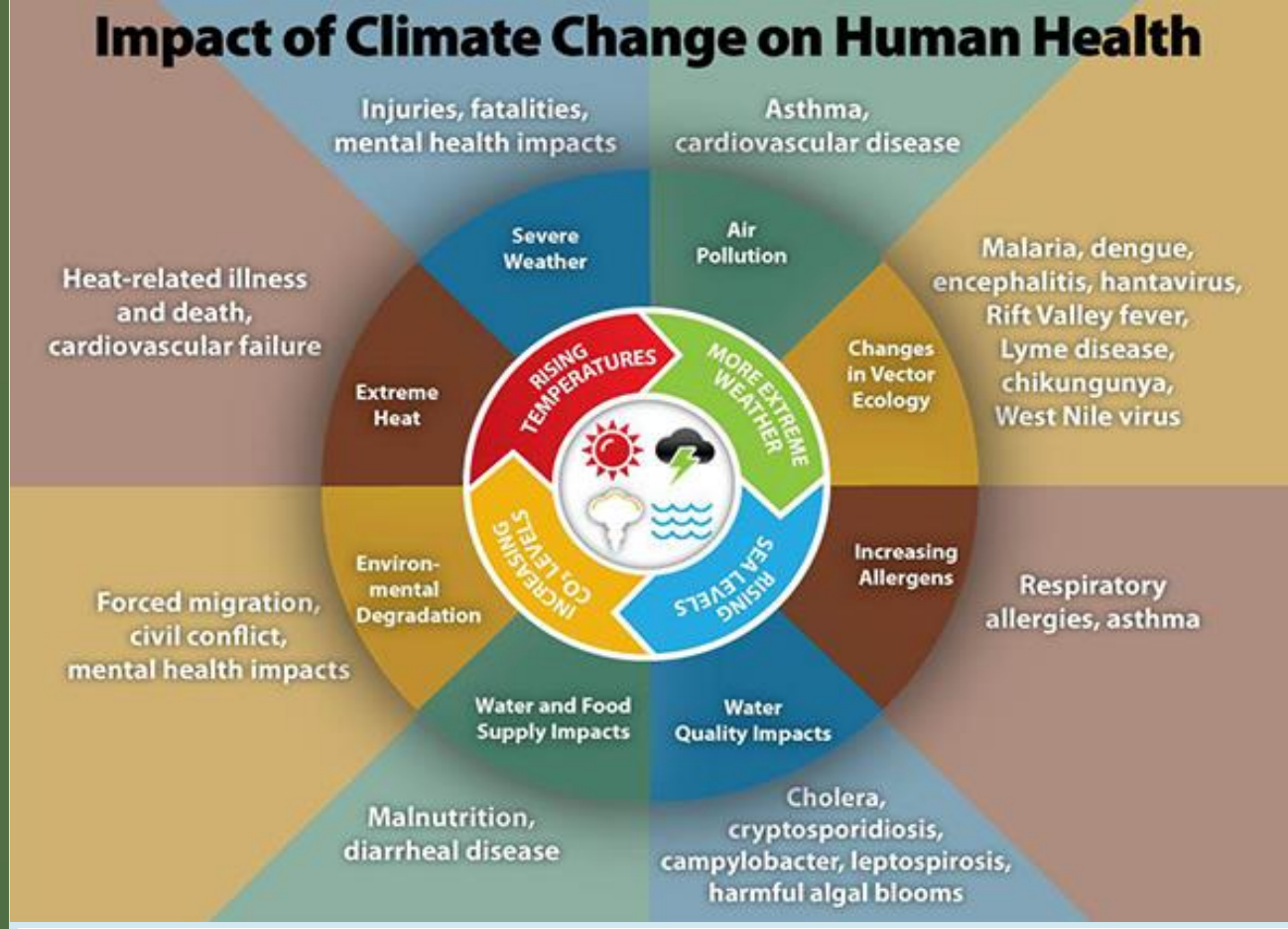
Total available utilizable groundwater for Rajasthan is 11159 mcm and the increase of 1% in temperature will put additional stress of 6.43% to 20.16% on existing groundwater resources and will reduce the number of safe districts from 6 to 3. An increase in temperature by 2-3% from normal (i.e. 0.82-1.24oC) will leave only 1 district in the category of 'safe' zone. The remaining 31 districts will be mostly in the category of 'overexploited'.

MILK PRODUCTION LOSS

Rajasthan is the second highest producer of milk in the country (amounting to nearly 17 lakh kg per day). But the current annual loss in milk production due to heat stress in Rajasthan is 98.65, 40.55 and 29.74 liters per animal per year in crossbred cows, local cows and buffaloes respectively," states the report.

FOOD GRAINS YIELD DECREASE

The harvest prices of food grains, pulses, vegetables and spices have constantly been on the rise. Yield-temperature response curves show that there is a decrease in grain yield of wheat in Rajasthan at the rate of 2.49 quintals per hectare per degree rise in seasonal temperature, 0.92 quintals per hectare decrease in yield of mustard



"

Farmer income losses from climate change could be between 15% and 18% on an average, rising to anywhere between 20%-25% in unirrigated areas of the country

Why is this happening?

INDUSTRIAL

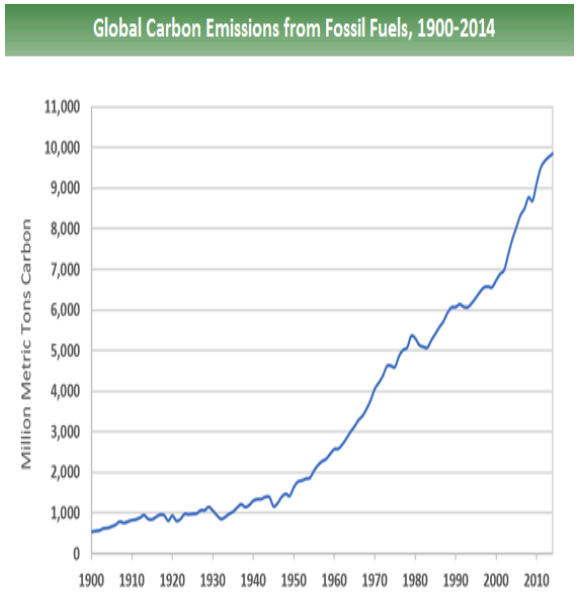
Revolution

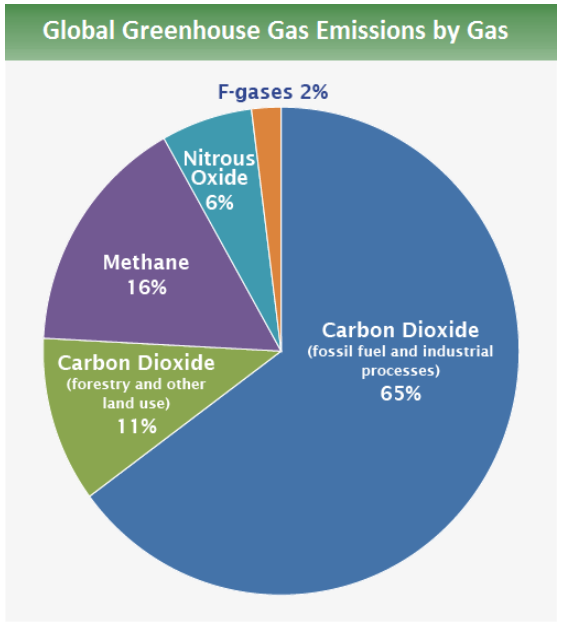
IMPACT

GHG Gases

Proportionate rise of

EMISSION

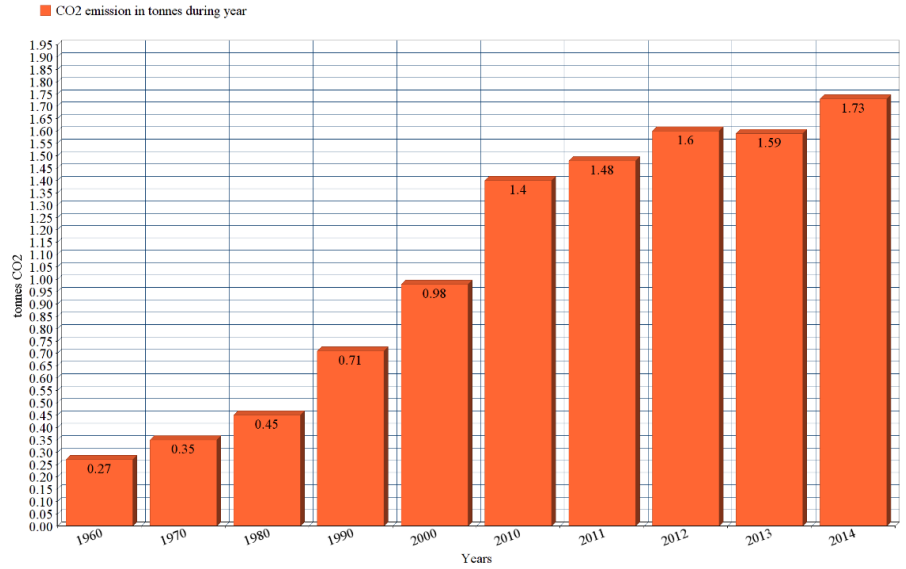


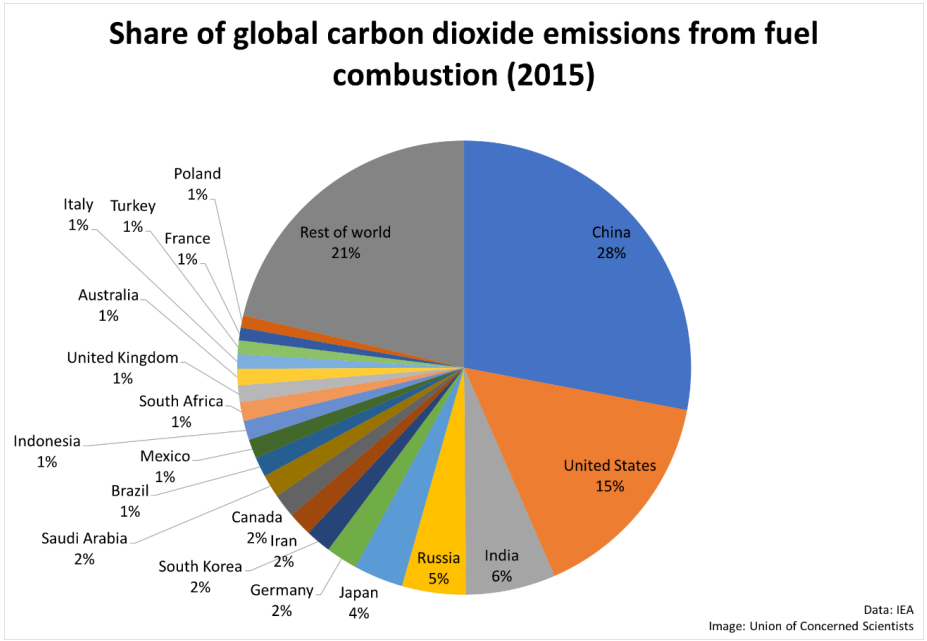


76%

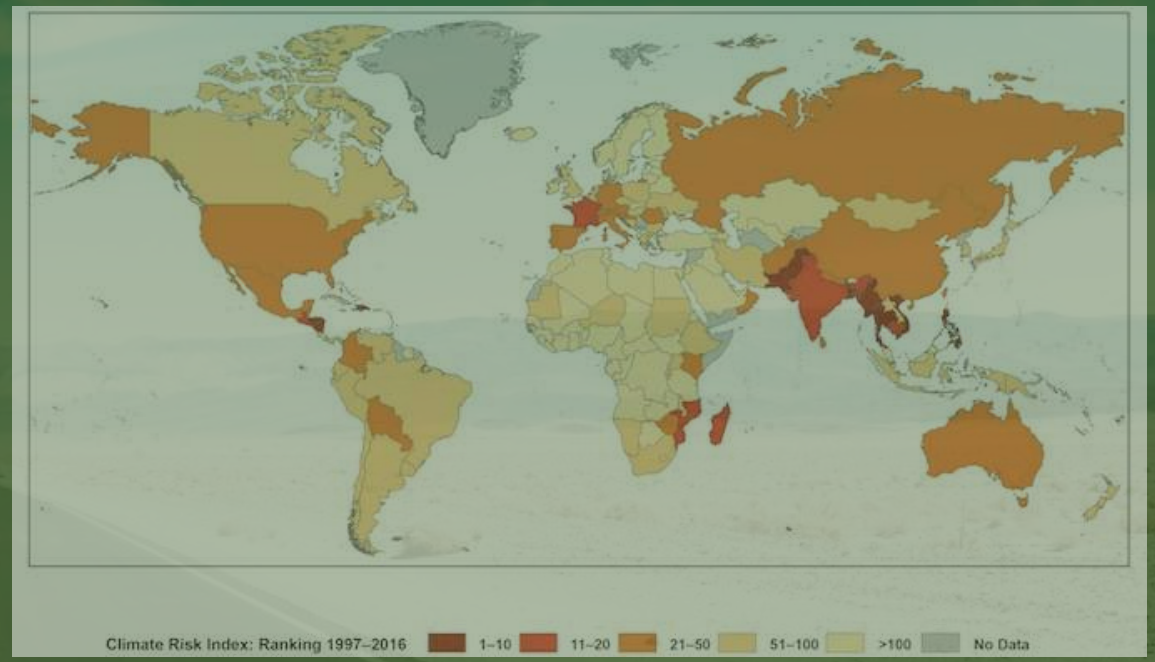
CARBON DIOXIDE'S CONTRIBUTION IN GHG IS THE MOST

India's role in carbon emissions





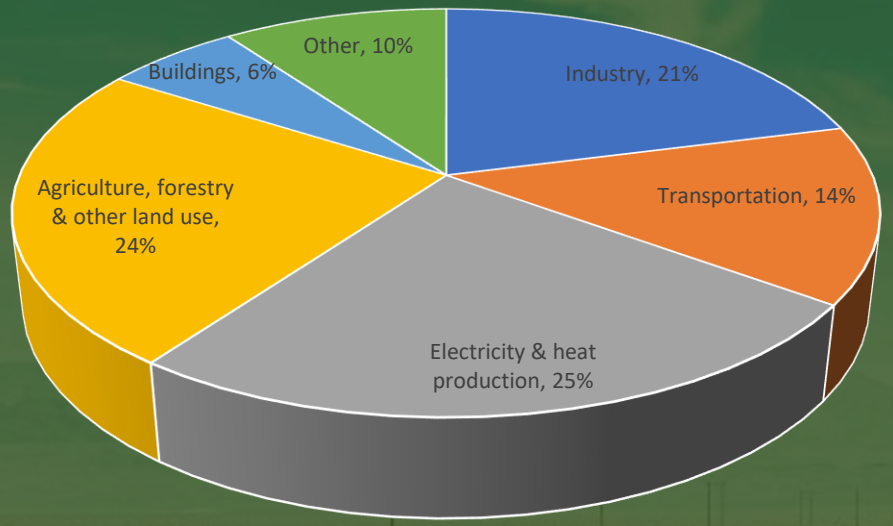
What is the reason to worry if India is contributing only 6%?



INDIA is in top 20 risky countries in climate change risk

RAJASTHAN is considered to be the **FOURTH** vulnerable state due to climate change

Is it controllable?



"The world's nations have pledged to prevent global average temperatures from rising more than 2° Celsius (or 3.6° Fahrenheit) above pre-industrial levels. If we go too far above that, the worry goes, we dramatically increase the risks of things like rapid sea-level rise or mass extinctions or severe damage to our farms and crops."

CONTROL MEASURES

Govt & Industries are adopting methods to help reduce carbon emissions.

Rajasthan Govt has formed steering committee and constituted bodies to ensure the emissions are brought to a level below NAPCC/SAPCC standards.

Measures that helps in controlling the emissions

- Urban Forests
- Open Green Spaces

Major part of the responsibility in reducing carbon emissions lies with individuals but there isn't any mechanism to bring in this awareness

SOLUTION

Carbon Credits as a solution

CURRENT STATE	Carbon credits are still with organizational level like government and the industries
OUR SOLUTION	Bringing Carbon credits at a individual level will solve this problem
OUR STUDIES	We saw that the contribution of industries is 21%
WE THINK	There are other factors to reduce carbon footprint and individuals can reduce other factors
WE PLAN	To take this carbon trading on the individual level

Is it possible at individual level?

INDIA → per Capita emission of CO_2 per year → 1.73 TONNES

It will very complex to give 1 or 1.5 credits per year → Remove complexity → Consider 1 carbon credit as a currency → Introduce → CARBON COIN as small currency

.001 CARBON CREDIT ⟷ 1 - CARBON COIN

1000 CARBON COIN ⟷ 1 - CARBON CREDIT

What to do with the carbon coins?

Per person 128 Carbon coins per month limit in their Carbon wallet 10% reduction to current levels.

Govt. objective is set to reduce the emission intensity of GDP by 2030 to 33 -35% to that reported in 2005

Average daily emission of carbon/person is 0.00473 tonne

=

Per person 141.9 Carbon coins per month

Spend the Carbon coins

Based on CO2 emission quantity for each of the product or service being availed

Fuel pump

Air Travel

.
.
.

Utility Bills

If the person has spent all coins before completion of month, he cannot buy petrol or gas or anything even if they want

They will have only 2 options

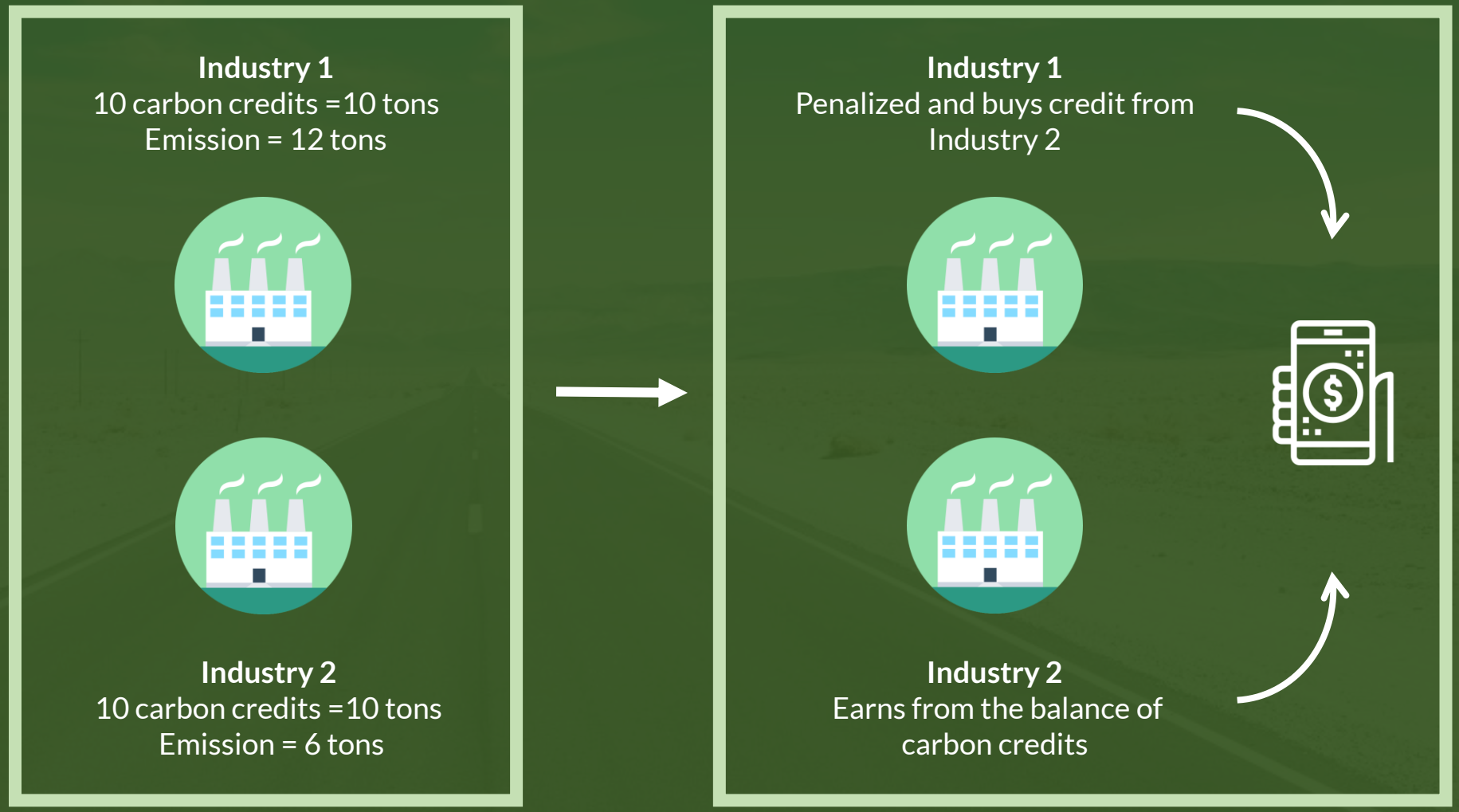
1. Wait till next month
2. Buy extra coins from the person who had remaining coins on that day – Carbon Trading

What is Carbon trading?

1 carbon credit = 1 ton of CO_2 emitted in environment

There is a fixed amount of carbon credit industries get and they have to emit CO_2 based upon that limit

Means the industry which cross the limit to emit CO_2 that industry have to penalized themselves with buying carbon credits from the other industries and that other industries can also earn from remaining carbon credits.



How will it work?

The knowledge of the carbon emissions that each of these products and services carry, combined with the carbon coin exchange platform will empower consumers to be active participants in the fight against climate change

USER

Services availed

Purchase Details with the CARBON IMPACT recorded in the User's Digital Profile

Travel

Household products

Food

Shopping

Each person will be have a quota of their carbon coins

People have to sell and buy carbon coins with the Carbon Coin Exchange

CARBON COIN EXCHANGE PLATFORM

RECEIVE

CARBON COINS

People planting trees

People using renewable sources of energy

People who have exhausted their coins will have to pay and buy from the exchange to offset their carbon credit

People who have extra coins can sell the coins for fiat currency at the exchange

Any different method to set Carbon accounting?

Once allotted Carbon coins exceeds, the coins goes in negative indicating a liability

At end of two month cycle, the average of liability across two months are converted to assets

The 10% of such asset is discounted and the remaining is applied as a Carbon Cap.

The Carbon emission can be set within Cap by Avoiding, Sharing, Adoption and Absorption techniques followed by the individual.

How this has affect on reducing CO2?

SHARING

If people is taking their personal car for regular office or any travelling then they have to spend the coins for that emission. This will push people to give lift another 4 persons in the car and take their carbon coins based on the shared emission of total 5 persons.

ADOPTION

Switching to cleaner energy source that shouldn't emit CO2, such as Solar Panels, Wind Mill etc.

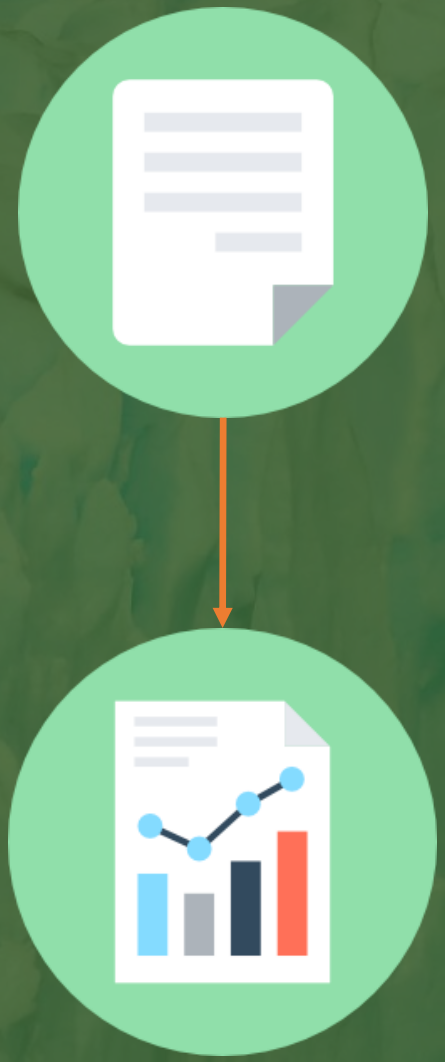
AVOIDING

But, in other way if people started avoiding private vehicle for regular use then also it will be beneficial to the environment. And remaining carbon points people can sale to the person who want extra carbon coins.

ABSORPTION

Engaging in methods and practices that absorb Carbon that had been already emitted into the atmosphere such as planting trees.

How people will know where to reduce and what to reduce?



Carbon statement similar to credit card or bank statements to view and analyze the carbon spent

We will analyze the consumer's data and provide personalized advise that will help to understand where to spend less coins and what you can do excepting what you are doing

SWOT Analysis

Strengths

Individual awareness & responsibility

Reformist Stance

Untampered reporting

Weakness

Multiple iterations of releases to understand the emission pattern & build thresholds across different segments of people.

World's first - untested waters

Opportunity

Demand for renewable sources of energy and thereby making them economically viable.

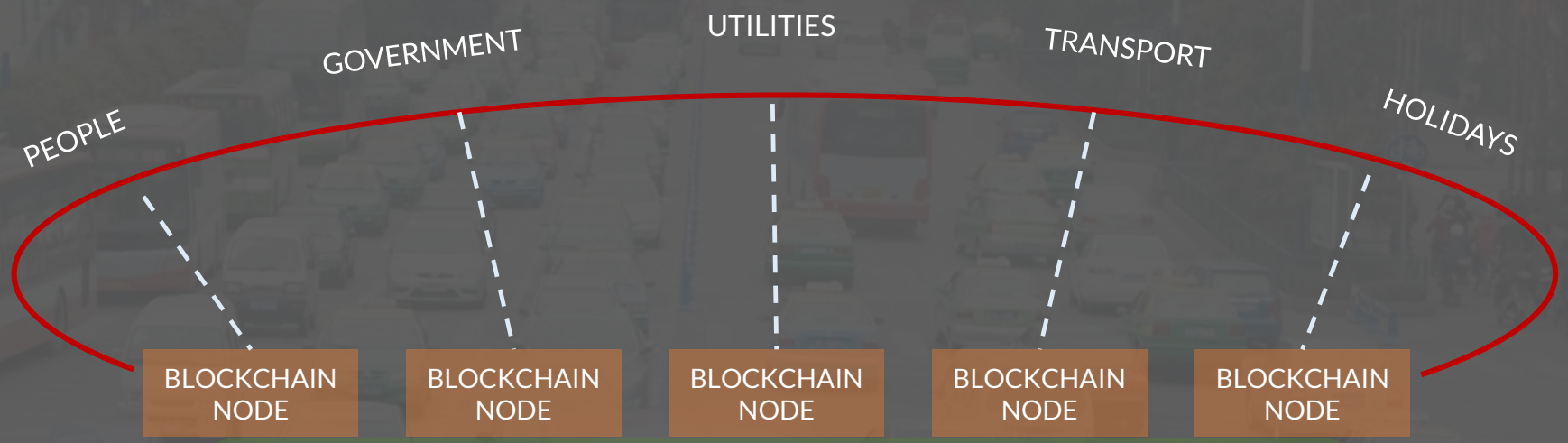
More Carbon Credits at National level available for trade in International market.

Threats

Political apprehension

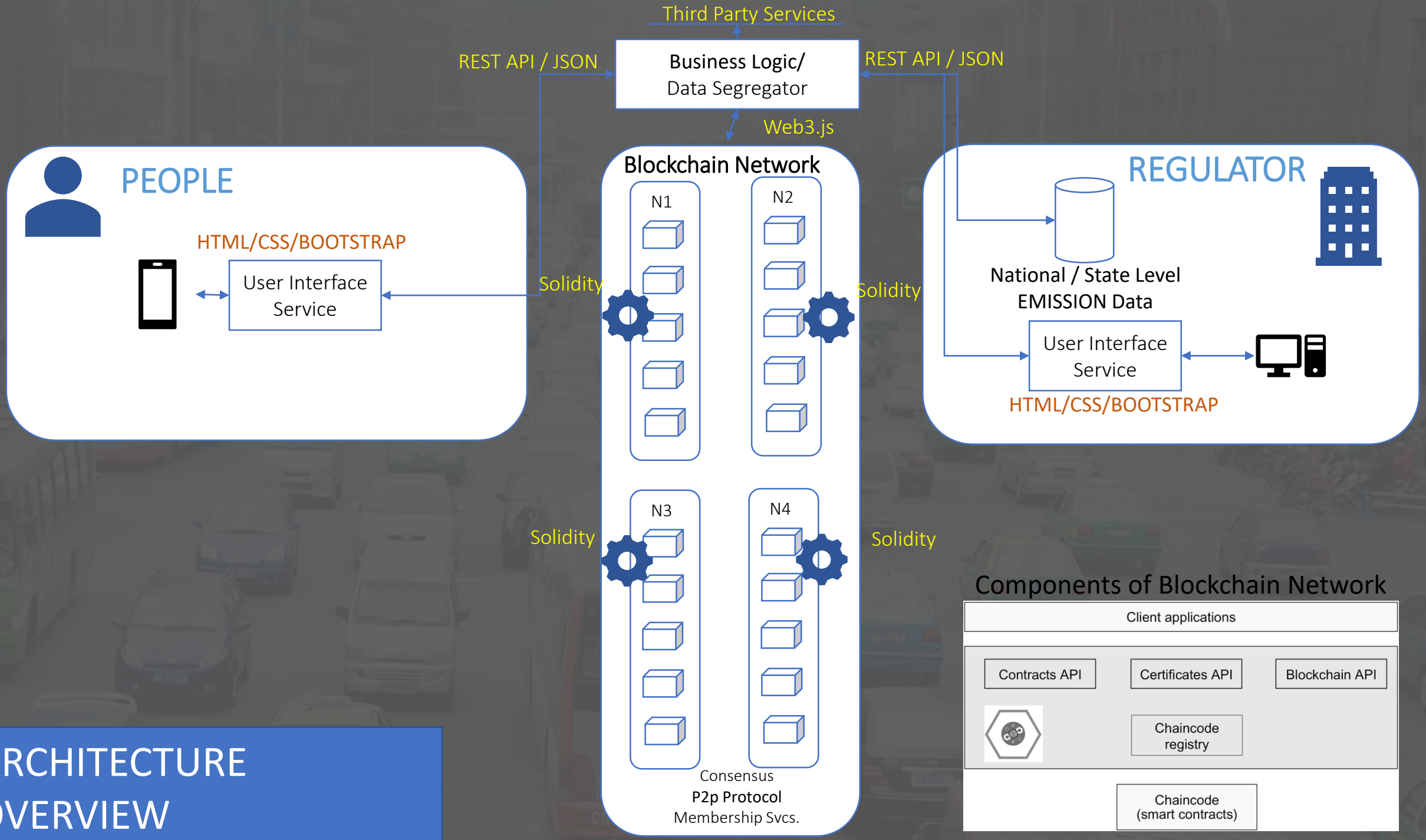
Initial panic and confusion for not understanding the way this would work

SOLUTION ARCHITECTURE



BLOCKCHAIN NETWORK

CARBON CREDIT SHARING
CARBON EMISSION CALCULATION
CARBON CREDIT PRICING
CARBON EMISSION TRACKING


Third Party Services
REST API / JSON
Business Logic/
Data Segregator
REST API / JSON
Web3.js
PEOPLE
HTML/CSS/BOOTSTRAP
User Interface
Service
Solidity
Blockchain Network
N1
N2
N3
N4
Solidity
Solidity
Solidity
Consensus
P2p Protocol
Membership Svcs.
REGULATOR
National / State Level
EMISSION Data
User Interface
Service
HTML/CSS/BOOTSTRAP
Components of Blockchain Network
Client applications
Contracts API
Certificates API
Blockchain API
Chaincode
registry
Chaincode
(smart contracts)
ARCHITECTURE
OVERVIEW

EXECUTION APPROACH

Reduce time to proof and solution development leveraging frameworks and agile approach

SPRINT 0	SPRINT 1	SPRINT 2 TO N	SPRINT N+1	SPRINT N+2 >>
Week 1 - 3	Week 4 to 5	Week 6 to 8 (iterate)	Week n+1 to n+3	Week n+3 >>
Understand requirements, Develop business case and deploy framework	Identify product features, define architecture and plan sprints	Develop features, test system and fix bugs (incl. DevOps)	Set-up production environment, deploy and go live	Manage Infrastructure and Support application
Minimum Viable Product (MVP with framework)	Product Backlog UX Wireframes Architecture	Product V 0.1 to Product V 0.n to Product V 1.0	Productionized Application	Continuous Operations

Note: Above is an indicative approach that will be customized specific to the client context and needs.

CONTACT

TEAM

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THANKYOU