TECH mahindra

GREEN IT
Customer Deck on Green CodeRefiner

SCALE AT SPEED

October 2024
Awareness Session

Table of Content

Who We Are?

Tech Mahindra is a company with the purpose of *Sustainability*, not only in business but also beyond it.

We are driven by the purpose of endowing society by creating an imperishable future.

Focused on enhancing operational eco-efficiency

Lead Sustainability Transformation through Process Improvements, Innovation and Disruption

To be rated amongst the top brand to work for

Focused responsible business growth

Our Sustainability Commitments

2035

Net Zero by 2035

90%
Renewable energy mix by FY30

37%
Women in organization by FY26

2030

Carbon Neutral

180,000
Volunteering hours/ year by FY26

5
ESG Reporting – TCFD, GRI, IIRC, SDG, SASB

20%
Reduce water withdrawal intensity by FY 26

100%
Zero waste to landfill by FY26 - owned locations

200
Supplier audits by FY 26

Best in class sustainability performance
Recognized by the most relevant ESG indices

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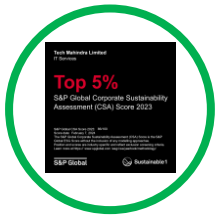
TIME and Statista
Included in World's Most Sustainable Companies 2024 list ***- #1 among all Indian companies***

CDP 2023
Included in the **"A'** list for Climate & Water Security

Dow Jones Sustainability Index (DJSI) 2023
Only Indian company in Software & Services on DJSI World Index and has been ranked **2nd** globally with perfect **100** percentile.

EcoiVads 2023
Gold rating with 93 percentile



Only Indian IT company to be included in the top 5% of global sustainable companies and a member of **S&P Global Yearbook 2024** for the 9th consecutive year

CDP Supply Chain
Recognized by CDP as a Supplier Engagement Leader (SER) 2022

First Indian company in the world to have been awarded the Sustainable Markets Initiative's **Terra Carta Seal**

Ranked **1st** amongst the Top 25 IT Sustainable Companies in India at **Business World Sustainability Conclave 2023**

Capri Global Capital HURUN List
Ranked **2nd** with a sustainability score of 46, in the Impact 50 for SDG Goals

Morgan Stanley Capital International 2023
Awarded **'A'** rating badge

Included in the **Sustainalytics 2023** Top-Rated ESG Companies list

Constituent of **FTSE4Good Index Series 2023**

About Green IT

Making each IT Project sustainable…

“Embedding Sustainability by design in any transformation project is part of our DNA.”

Focused on Optimizing IT Infra & App carbon emissions

Making Every Project Sustainable

Whitepaper published on “**How to Improve Software Sustainability**”

Recommending Green IT roadmap for large clients

Context

Impact and Priorities due to Sustainability

Industry Megatrends & Use Cases

Megatrend 1: Industry 4.0 and smart operations

Megatrend 2: Intelligent and meta mobility (ACES)

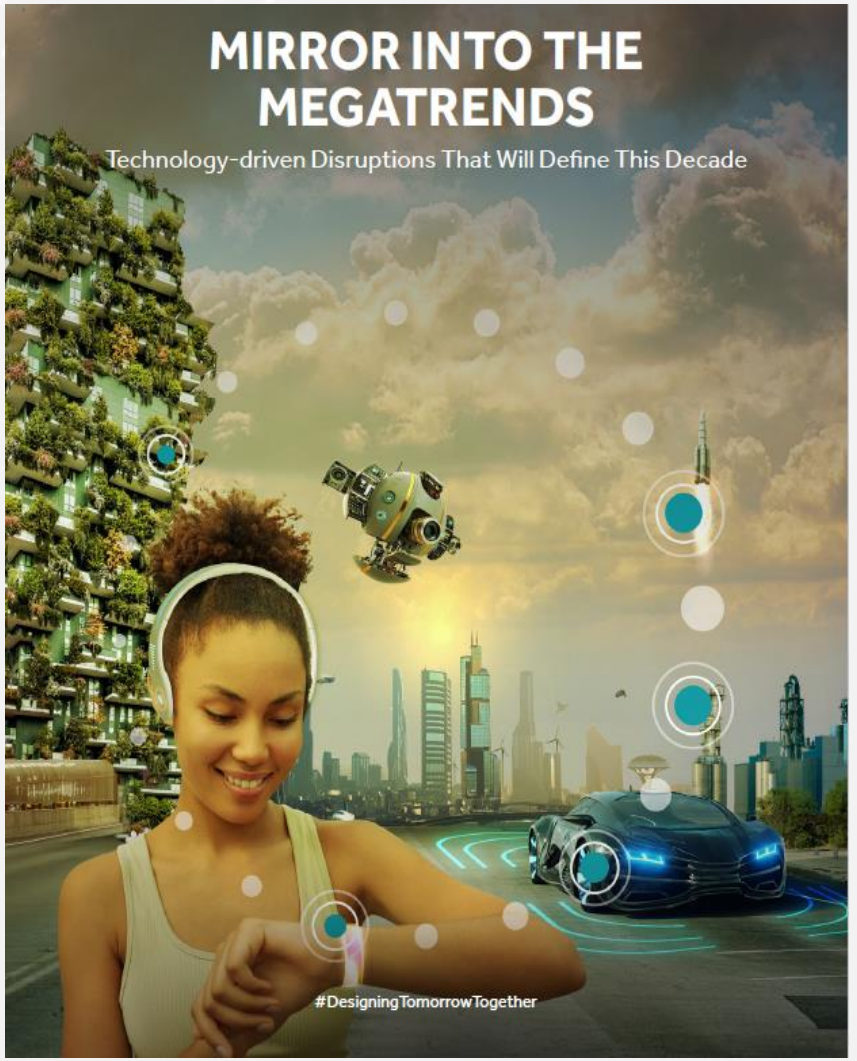
Megatrend 3: Digital Healthcare

Megatrend 4: Sustainability

Use Cases

- **Alternative energy sources**
- **Waste management**
- **Reducing carbon footprint**
  - **Sustainable Software Development Initiatives** – Use more **sustainable technology and development processes** that meets emerging regulatory requirements
- **Green manufacturing** and alternate materials

Megatrend 5: Space systems



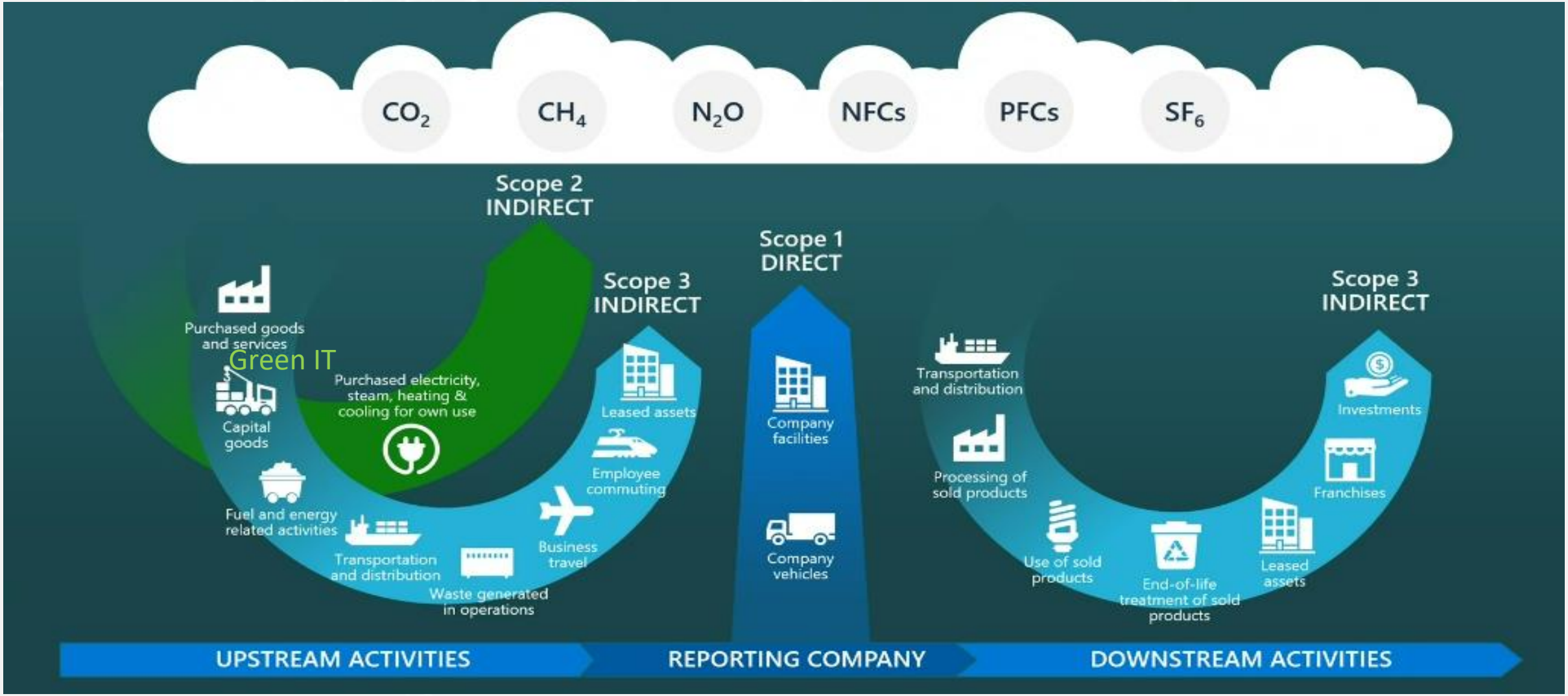
Reference : CYIENT Everest Group Mirror into the Megatrends

UN Agreements and Guidelines

Reference: https://sdgs.un.org/goals

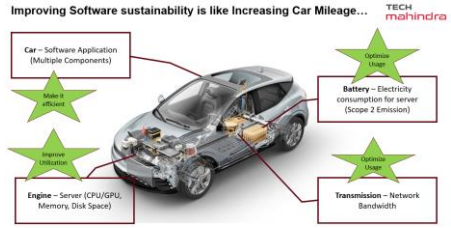
- **17** interlinked objectives defined for **People, Planet and Profit**
- By the United Nations General Assembly (**UNGA**) in 2015
- Considered as **Sustainability Commitments** for all countries – in a global partnership,

Climate Strategy and Implementation



Priorities and Research

Enabling structured approach to address Opportunities and Challenges



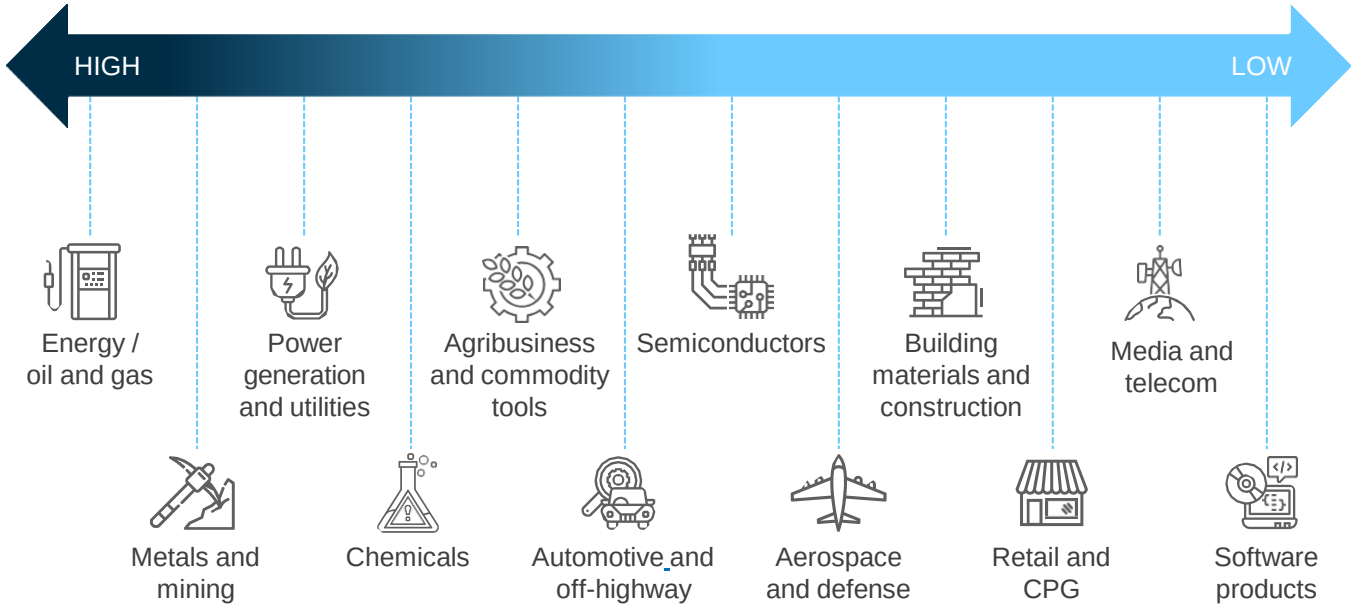
- Software-related CO2 emissions account for **4-5%** of global emissions, equivalent to all combined aviation, shipping, and rail emissions.
- Application design and development can impact **85%** of the carbon emissions generated by running enterprise software systems.*
- Every single line of code we write has its **environmental footprint**!
- Day in life, **Sustainability** becoming a new Metric in decision-making

CO2 emissions from 30 minutes of Netflix are the same as driving almost four miles

Need for Sustainable IT

Environmental risks that different industries pose

Source: Everest Group (2022)



*Please read our recent whitepaper on "**How to improve Software Sustainability**" published on the TechM Site –*
https://files.techmahindra.com/static/img/pdf/green-it-enhance-software-sustainability.pdf

Sustainability angle bringing opportunities and challenges

Priorities for CIO / CDO and Management Board at Large

Challenges / Opportunities	*Management Board Priorities*	*CIO / CDO Priorities*
Energy Consumption and Costs • Execute sustainability programs to mitigate energy consumption and cost increase	• Smart **and Efficient Resources** • Renewable Energy sources	• Utilize technologies to **optimize** Scope 2 and Scope 3 emissions
Regulatory Compliance • Implement new detailed ESG reporting standards as per European Union guidelines.	• **Net zero** carbon Pledge • Measurement, Reporting & Auditing	• Custodian of ESG data, • Data collection and Engineering • Reporting and **Analysis**
Investor Expectations • Develop a strategy to articulate and integrate ESG Opportunities.	• **Compliance** • ROI • Sustainable Business model • Management leadership	• Developing **policies** for Green IT Operations. • **Reusability and Efficient IT resource utilization**. • **Green Talent**
Growth Opportunities • Invest in sustainability	• Circular Economy, • **Reusability** • Enhanced Product Lifecycle Management	• Use of **digital technologies** for growth and experience such as AR/VR, Cloud, IoT, Edge Computing

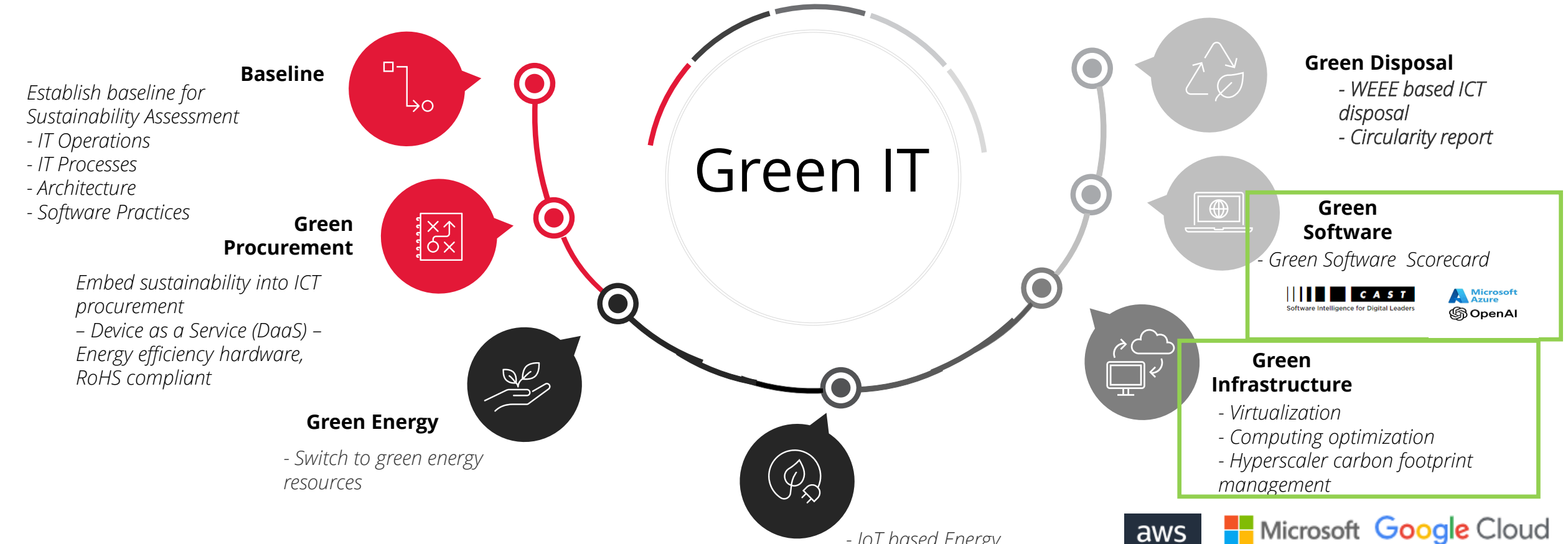
Problem Statement

Develop a custom strategy to assist clients in enhancing the sustainability of their software and infrastructure by reducing carbon emissions by 30%, thereby contributing to their environmental goals…

Ask from customer

Provide the details of measuring the greenhouse gas emission of the Platform/Applications, and the plans for reducing them, such as energy- efficient practices and emissions reporting?.

Green IT Solutions



Baseline

Establish baseline for Sustainability Assessment
- IT Operations
- IT Processes
- Architecture
- Software Practices

Green Procurement

Embed sustainability into ICT procurement
– Device as a Service (DaaS) –
Energy efficiency hardware, RoHS compliant

Green Energy

- Switch to green energy resources

Green Data Center

- IoT based Energy Management
- AI based energy reduction at server level
- AI based resource optimization

Green Disposal

- WEEE based ICT disposal
- Circularity report

Green Software

- Green Software Scorecard

CAST Software Intelligence for Digital Leaders

Microsoft Azure OpenAI

Green Infrastructure

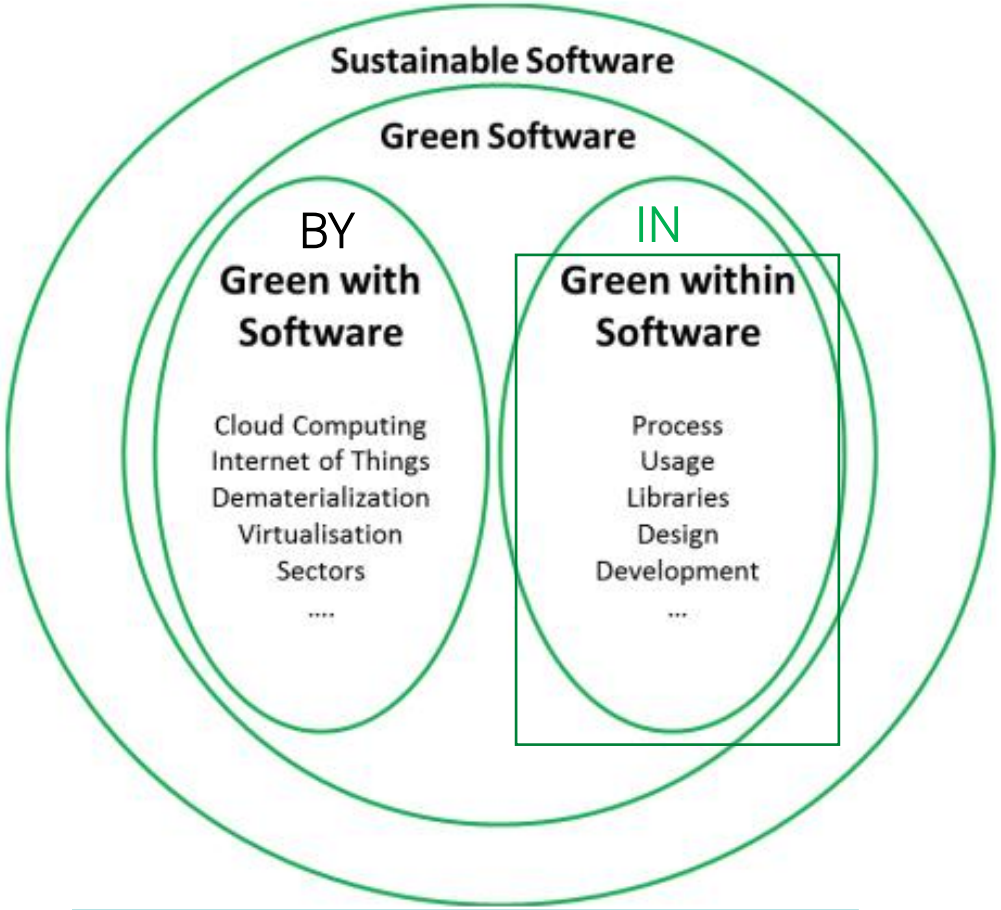
- Virtualization
- Computing optimization
- Hyperscaler carbon footprint management

aws Microsoft Google Cloud

Our Guideline

A Framework Towards IT Sustainability

People – Provide Green Skills & Mindset



Tools - Recommend

Processes – Help Define and Adopt

Reference: https://theses.hal.science/tel-01724069/document

Systematic approach and solutions for sustainable IT

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1 Gathered Context

- Launch **Carbon Awareness survey**
- **Customer On-boarding**

2 Sustainable IT Architecture

- Decide Business KPIs
- Blueprinting Assessment – **Manual and Tool Based**
- Recommendations

3 Detailed Assessment

- **Baselining** Green IT metrics
- Sustainable **Transformation** Activities
- Detailed Recommendations

4 Continuous tracking

- Continuous tracking of **Green Deficiencies** (CI/CD) through the custom dashboard

Consulting → Design for sustainability → Managed services → Monitoring and reporting

We support transformation initiatives through our range of services

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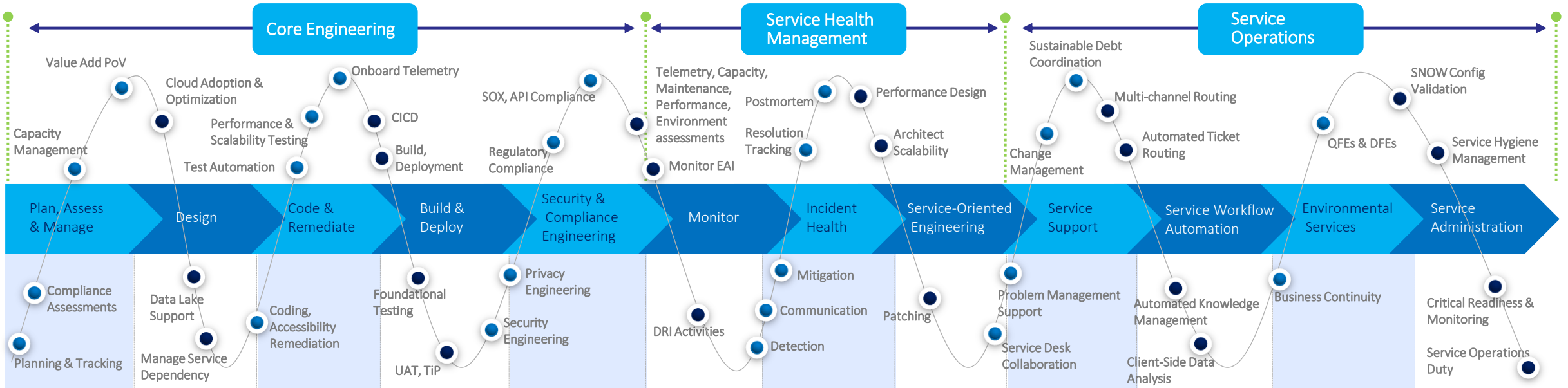
Our Value Proposition

30 days 60 days 90 days



40% time saved in planning and IT sustainability implementation	Improve Green Impact Score by 30-40%	~60% cost reduction in validating performance, scale and reliability	~30% Turn Around Time Reduction in transformations	30% cost reduction in ensuring adherence to regulatory compliance standards	30% improvement in reducing sustainability debt	Integrated carbon emission Monitoring for converged view of enterprise IT landscape health
Green IT Audit A Green IT Audit assesses an organization's IT for eco-efficiency, targeting e-waste reduction and sustainable practices	**Tool Based Co2e Emission Analysis** 15-20% reduction in Green Impact Score of source code	**Green CodeRefiner** Utility to convert existing code into more energy-efficient code through CI/CD pipeline	**Sustainable Transformation** Theme-based transformation - 30% improvement in carbon emission	**Carbon Emission Tracking CI/CD Pipeline** Identification and remediation of carbon emission vulnerabilities early in the development cycle	**Track Server Emission and running Application Emission** Continuous tracking of Co2e emissions in infra and applications	**Custom Dashboard** Track Incremental sustainability trends through dashboard and reports with real time data integration

Customized solution for each client

Providing a custom approach for each client based on their KPIs

Green CodeRefiner – A Utility to generate energy-efficient code through CI/CD pipeline

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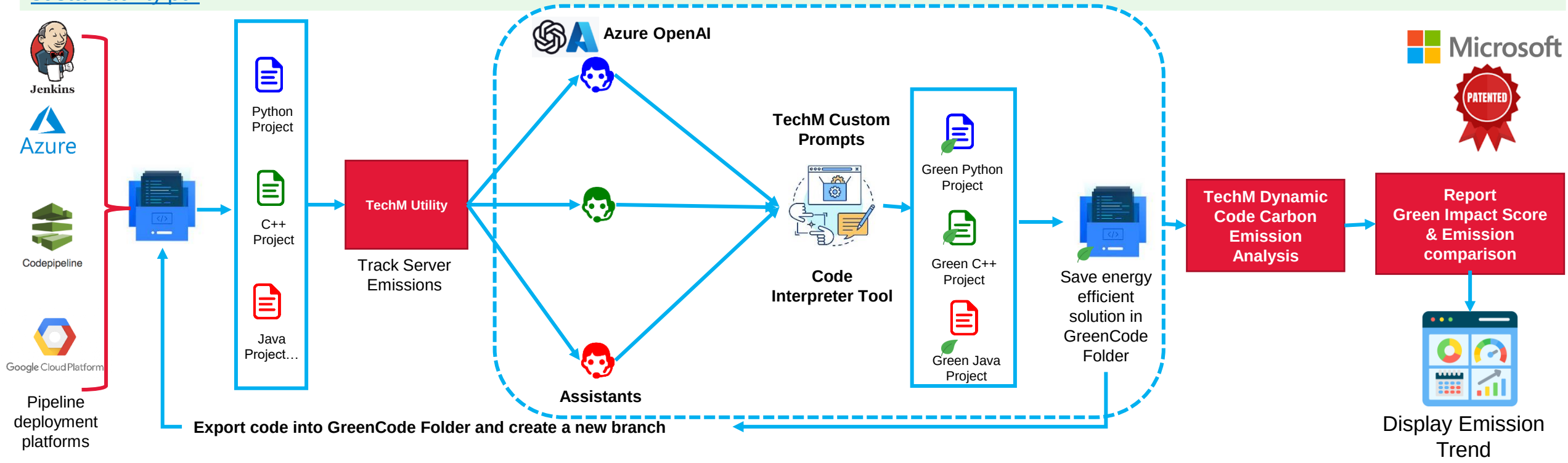
Green CodeRefiner™ is our patented in-house developed utility that integrates seamlessly into the existing CI/CD release pipeline. It applies custom green prompts to the entire source code folder and converts the entire code into an energy-efficient code in batch mode. Utilizing the Azure OpenAI service that leverages the same GPT4 LLM that GitHub Copilot uses in the backend, Green CodeRefiner™ ensures optimized performance and sustainability of the entire solution. Also, read our recent whitepaper on "How to improve Software Sustainability" published on the TechM Site – green-it-enhance-software-sustainability.pdf



Docker-based utility that integrates easily into CI/CD Release Pipeline

+

Convert existing code of **any technology** into efficient, sustainable green code

+

Report CO2e emission and see a trend of Green Impact score improvement

→

Value Delivered
30 – 40% Improved Green Impact Score
Reduced Scope – 2 GHG Emissions
Improvement in developers' productivity

Business Benefits of Green IT

~30%

Energy saving post sustainability roadmap implementation

~15-20%

Reduction in Sustainability Debt after every new release

30%

Application Portfolio reduction

20%

Improved engineering velocity

Software Sustainability Objectives

- Vendor and App consolidation
- Removal of reliance on old & expensive skillsets e.g., CICS
- Loosely coupled Architecture

- Cloudification of key Applications
- Fixing Security Vulnerability & Compliances

- Arriving at the Right Data Strategy
- Enable new revenue streams and monetize data set

- Legacy application assessment
- Enhance compliance and maintainability

- Improve the business velocity/agility
- Improve quality & performance of services

- Datacenter Consolidation
- Need of Centralized Operations
- Need to increase Automation and reduce noise

Post Sustainability Improvements

- **Cost Optimization** and minimize Multi-vendor Management Overhead
- Increased sustainability using Open-source technologies
- Facilitate Micro front end-based architecture
- Leveraged cloud-native services to support customer growth
- Single click **Energy efficient Code Deployment**
- Identified critical security threats and provided an end-to-end solution
- Segregation of Transaction vs analytical Data for online & and offline queries
- Single pane of glass view for Operations 360 view

- **Reduction of Application Portfolio by 30%** based on APR exercise
- Reduced Sustainable debt

- **Green OPS implementation** across the application portfolio
- Move to DevSecOps / SAFe & adoption of Shared IT platforms
- Introduce optimization based on profiling, DB tuning, and data decomposition. & Automation

- Greatly **improve reliability and availability** of the applications
- Enhanced Observability – Digital Operations Center
- Cost reduction and operational efficiency improvement

Case Studies on Green IT

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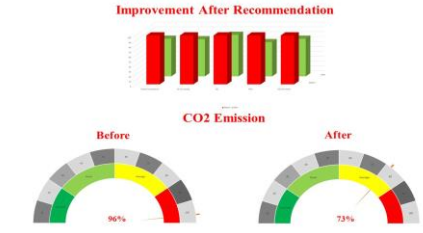
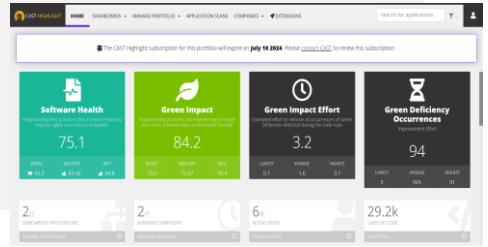
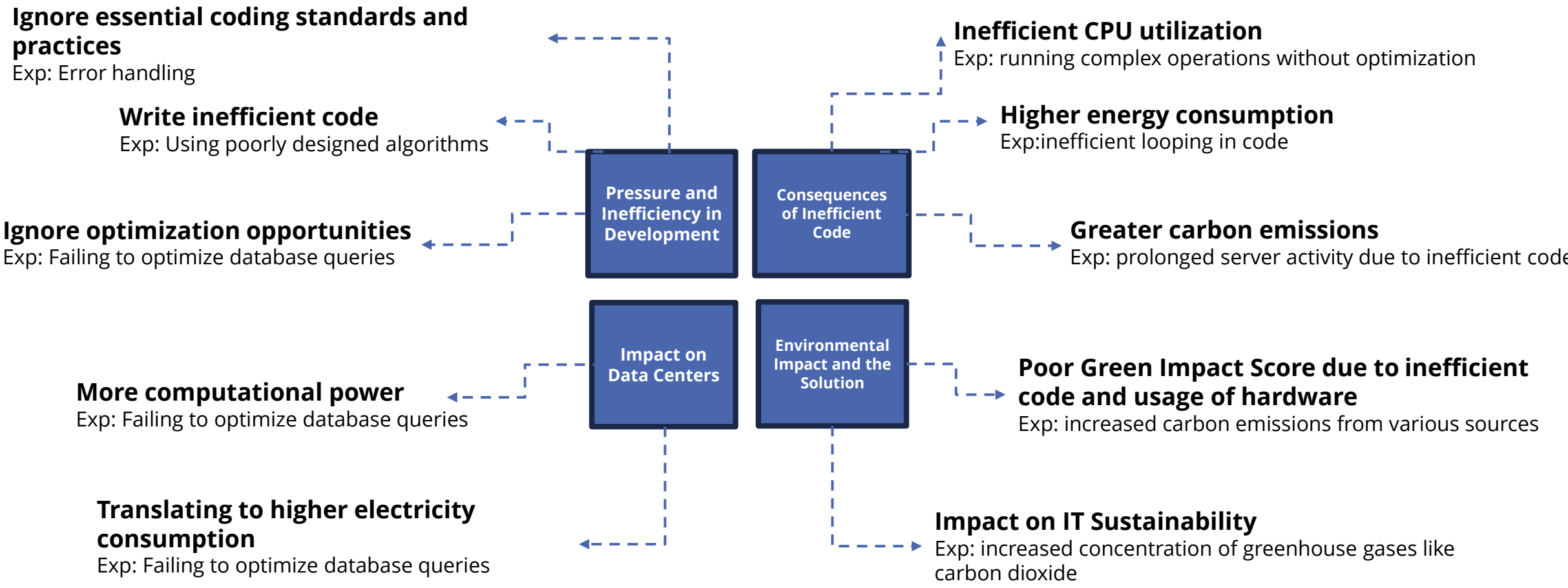
	Customer Situation	TechM Solution	Value Delivered
Green WITH Software Assessment	**Large Chemical Company USA** ▪ High energy consumption of servers due to outdated operating system. ▪ Inefficiencies in energy savings due to the absence of energy-smart features in servers. ▪ Lack of proper resource and Application data management.	▪ Upgrading OS to increase power efficiency by 10-15%. ▪ Replacing old hardware to achieve energy savings of up to 25%. ▪ Reducing VMs by 20% for additional energy savings. ▪ Categorizing data into Hot, Cold, and Archive databases for 15% energy savings.	▪ Energy savings of up to 30%. ▪ Optimization of cost variance through power consumption monitoring. 
Green WITHIN Software Assessment	**Large Mobile and Spatial Technology Solutions Company in Australia** ▪ Absence of mechanisms to monitor and report carbon emissions during software development and deployment process. ▪ No adoption of green IT principles, no tracking of carbon emissions in source code ▪ Development teams lacked training in green coding, leading to high green impact score and green deficiencies.	▪ Conducted CAST tool-based source code analysis of key applications to determine Green impact score ▪ Proposed to integrate TechM's Carbon emissions CI/CD pipeline in the release process to continuously monitor and report carbon emissions for every software release. ▪ Utilized Cloud Carbon Footprint tool to measure and reduce carbon emissions and optimize cloud resource usage and cost.	▪ Green Impact score improvement from 84 to 93%. 
Green WITH Software Assessment	**Large Mining and Renewable Energy Company** ▪ A large number of ticket triggered per month. ▪ More down time of network. ▪ Ticket management services are not implemented properly. ▪ No fallback mechanism in case of power failure ▪ High Carbon Emission due to operations activities.	▪ Improved ticket management process to reduce ticket volume up to 67%. ▪ Implement strategy for backup and load Balancing of resources to improve resource utilization increase efficiency of network and up to 71%. ▪ Make network operations sustainable and reduce carbon emission up to 80%. ▪ Enhancing team collaboration to reduce SLA breach up to 70%.	▪ Energy savings and reduce carbon emission of up to 80%. 

DEMO –
CI/CD Pipeline Integration of Green CodeRefiner
(Offering is available in Azure Marketplace)

The current areas responsible for IT Carbon Emissions



Areas for Scope -1 , 2 & 3 for Client

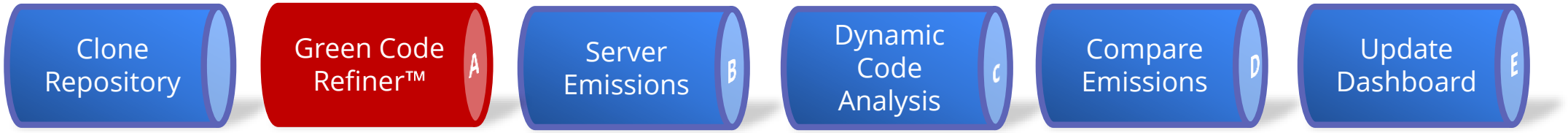
Green IT Intervention

GHG Emissions	Key data points	Calculation Method	
Scope -1 Emissions (Direct)	• Owned data centres • On-premises	Green Data Center Assessment, Audit and Ekkosense	Monitoring of of DG efficiency Cooling system HFCs emissions
Scope – 2 Emissions (Indirect)	Electricity used in • Data centres • IT hardware like Laptops, Servers, Network, Printer, Monitor, Storage devices, Racks, Computer etc.	Green Data Center Assessment, Audit and Ekkosense **Sustainable IT – Green Code**	Purchased electricity and water optimization Energy consumption optimization
Scope – 3 Emissions (Indirect)	• Leased data centers • Purchased IT hardware, software, and other h/w	Sustainable IT Circular Economy	Energy consumption of leased assets

Our Method to track Scope 2 & 3

Carbon Emissions pipeline

Baselining and automated tracking and reporting for Scope 2-3 IT emissions before every new release



Scope 2 (Source Code)

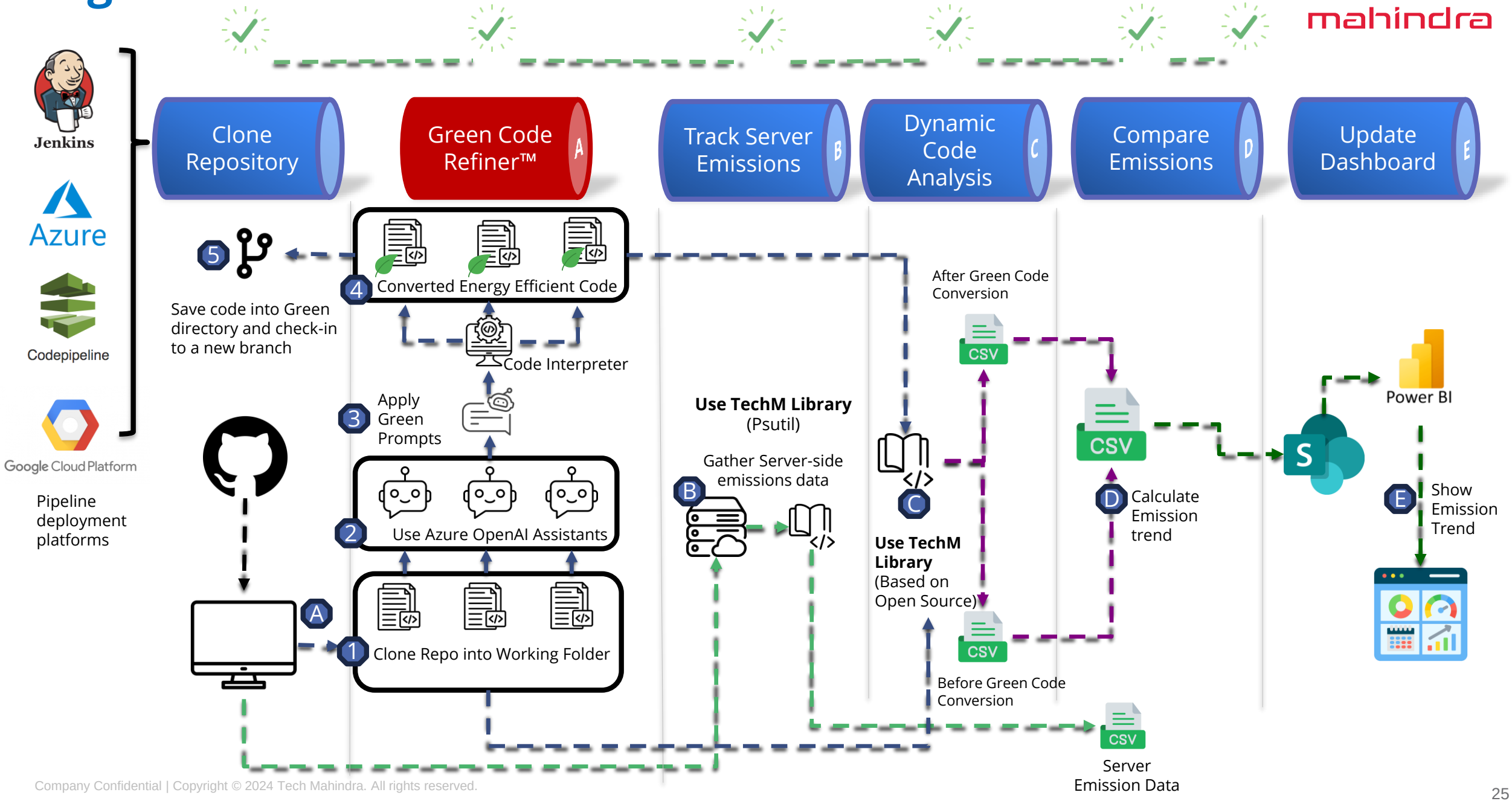
Scope 2, 3 (Infra, Device Type, Make and Model, Location)

Scope 2 (Source Code)

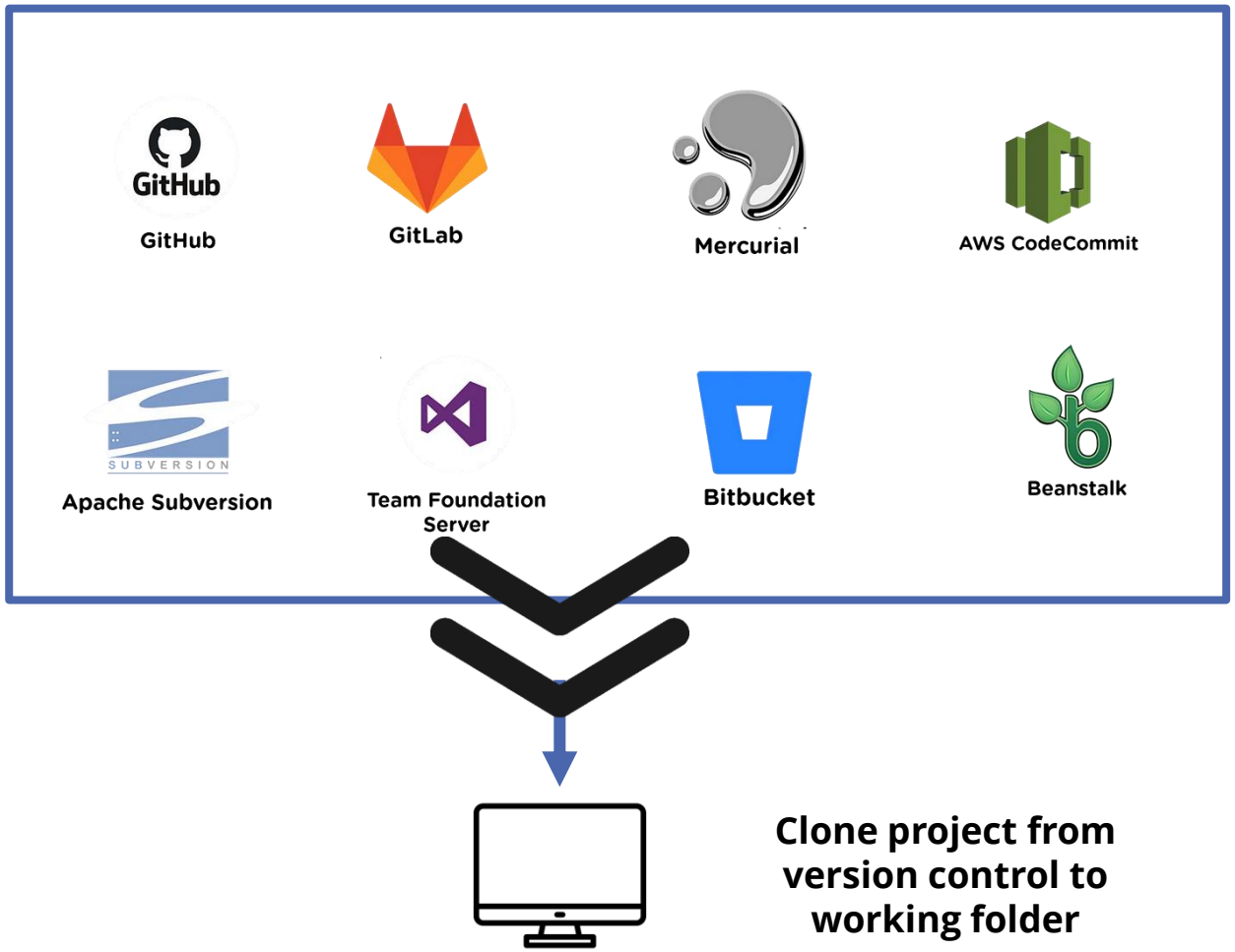
Scope 2 (Source Code)

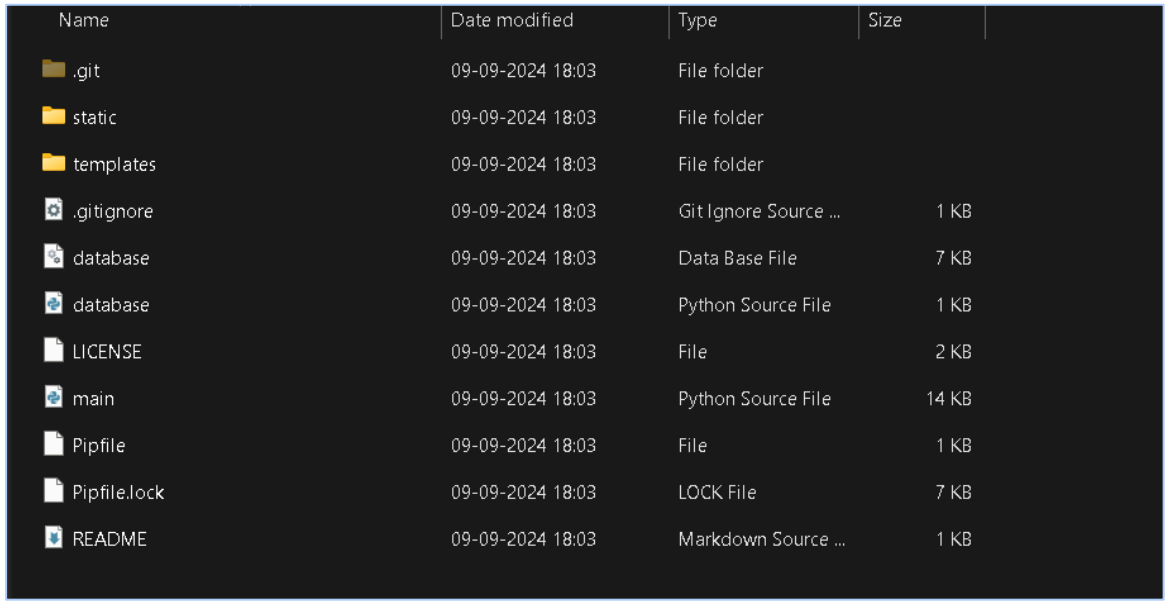
Reporting

High Level Method Architecture



Cloning Repository – To change





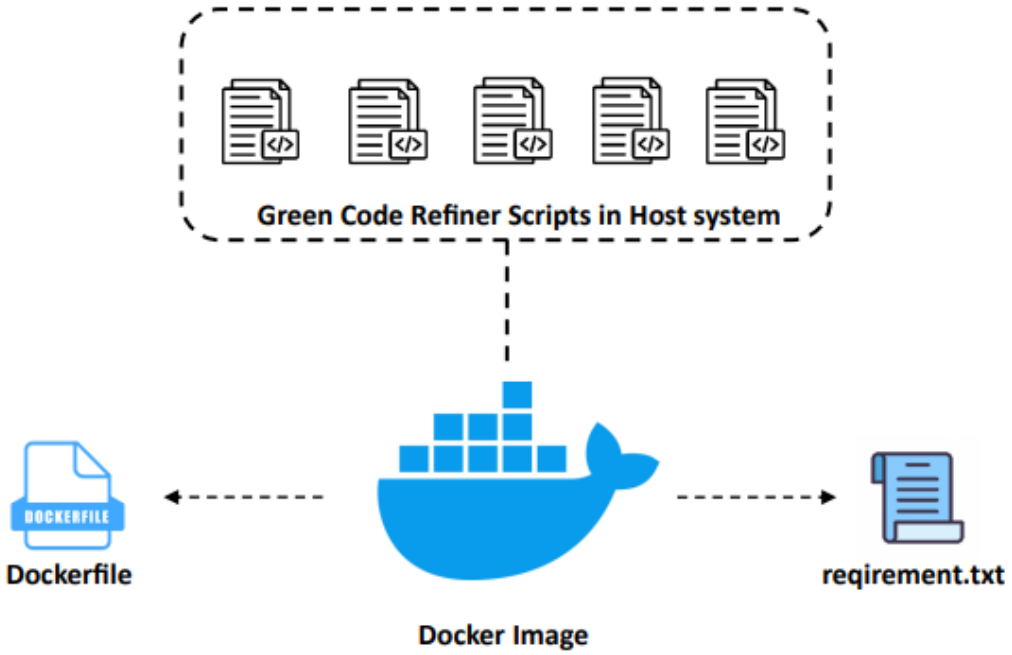
Cloned Application

Clone project from version control to working folder

GreenCodeRefiner™ workflow

- **Pull the GreenTechNavigator docker image form docker hub to the working folder –**
  Run the Docker command :

  docker pull green_tech_navigator:tag



.git	09-09-2024 18:07	File folder	
static	09-09-2024 18:03	File folder	
templates	09-09-2024 18:03	File folder	
.env	29-08-2024 12:42	ENV File	1 KB
.gitignore	09-09-2024 18:03	Git Ignore Source ...	1 KB
compare_emissions	29-08-2024 12:32	Python Source File	2 KB
database	09-09-2024 18:03	Data Base File	7 KB
database	09-09-2024 18:03	Python Source File	1 KB
GreenCodeRefiner	09-09-2024 16:53	Python Source File	13 KB
LICENSE	09-09-2024 18:03	File	2 KB
main	09-09-2024 18:03	Python Source File	14 KB
Pipfile	09-09-2024 18:03	File	1 KB
Pipfile.lock	09-09-2024 18:03	LOCK File	7 KB
README	09-09-2024 18:03	Markdown Source ...	1 KB
RunScripts	09-09-2024 18:07	Windows Batch File	0 KB
server_emissions	03-09-2024 09:30	Python Source File	5 KB
track_emissions	09-09-2024 09:34	Python Source File	7 KB

GreenCodeRefiner ™ workflow

- Scan the current directory and convert existing code into energy-efficient code.
  Command:

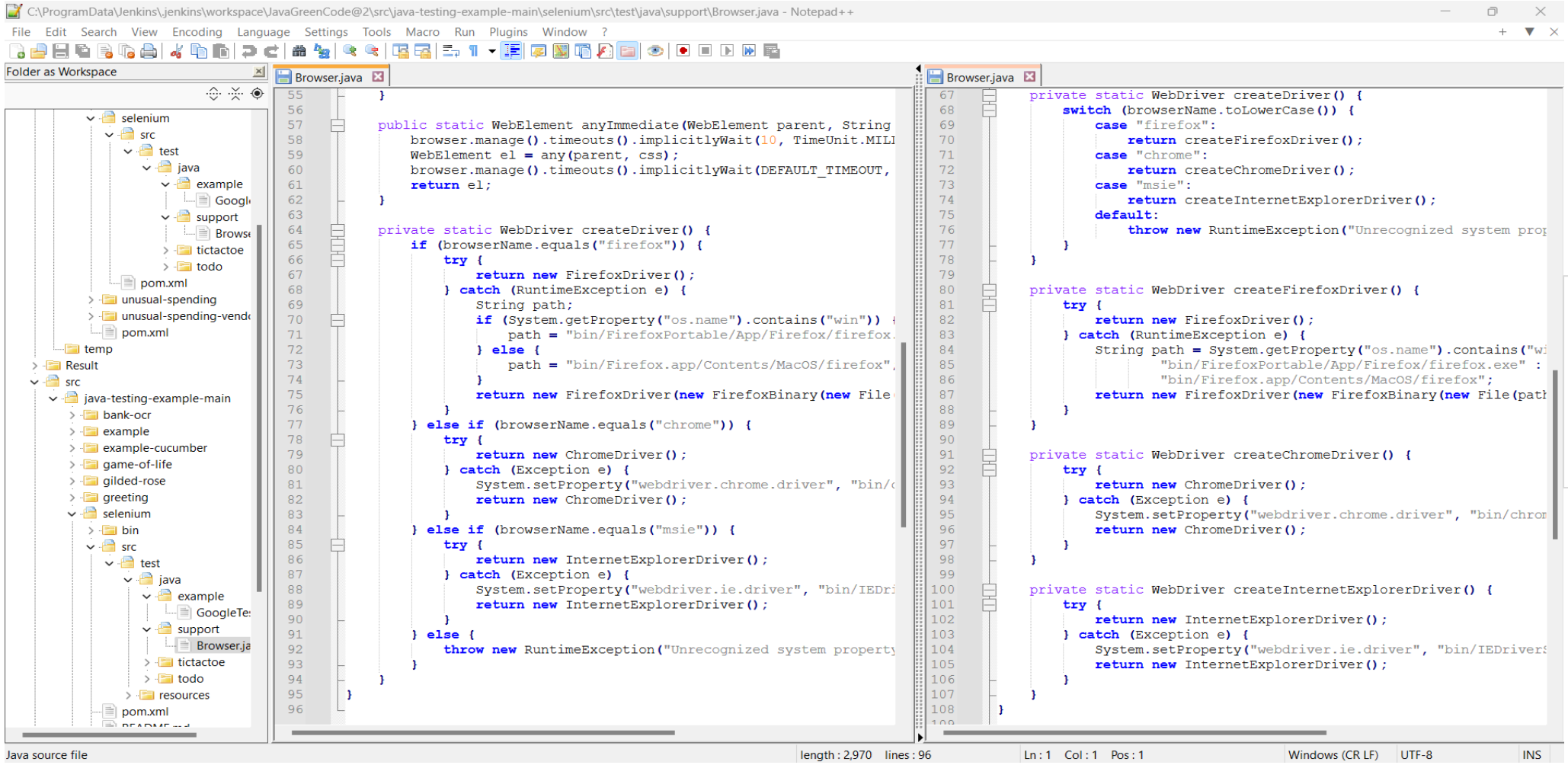
  Docker run –it green_tech_navigator PASSWORD=your_secret_password

- By applying different **TechM custom green prompts**, we convert the existing code to Green code (More energy efficiency code)
- Supported technologies **.c, .cpp, .csv, .html, .java, .json, .md, .php, .py, .rb, .tex, .txt, .css, .js, .tar, .ts, .xml**
- **GreenCode:** Store the Green Refined files, emissions result as well as refined test cases
- **TestCase:** Generate unit test cases if they are not already written by developers

GreenCodeRefiner ™ (Root-Folder View)

Applying Green Code Refiner on Java Project

Before Applying GreenCodeRefiner™ → **Applying Green Prompts** → **After Applying GreenCodeRefiner™**



GreenCode folder contains improved code which has reduced emissions of entire project.

Before : 3.42 grams of CO2e emissions

After : 1.72 grams of CO2e emissions

GreenCodeRefiner™ Dashboard

Energy Consumption – Before and After Conversion

Green Code Emissions Report

View Detailed Report

80% Improvement in Energy Consumption post-conversion

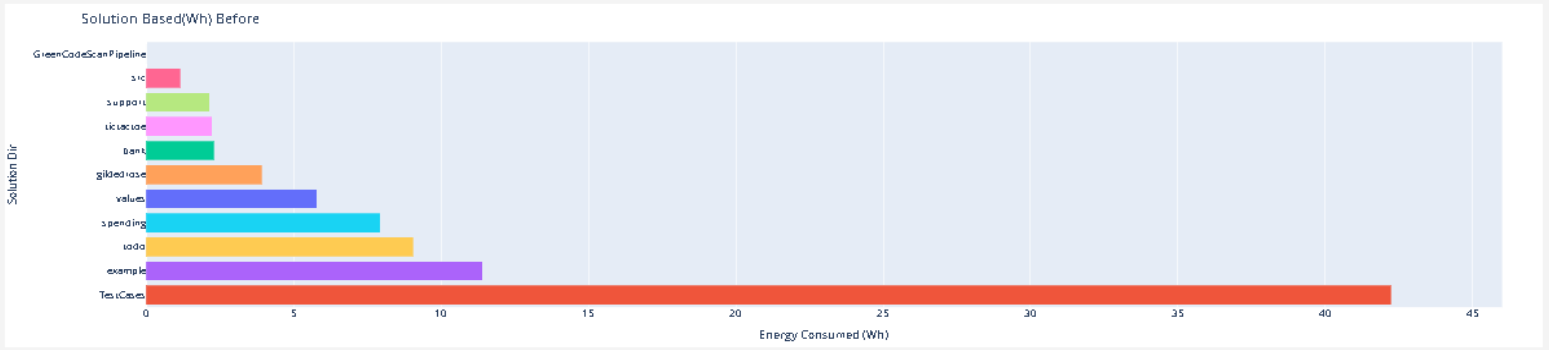
Energy Consumption

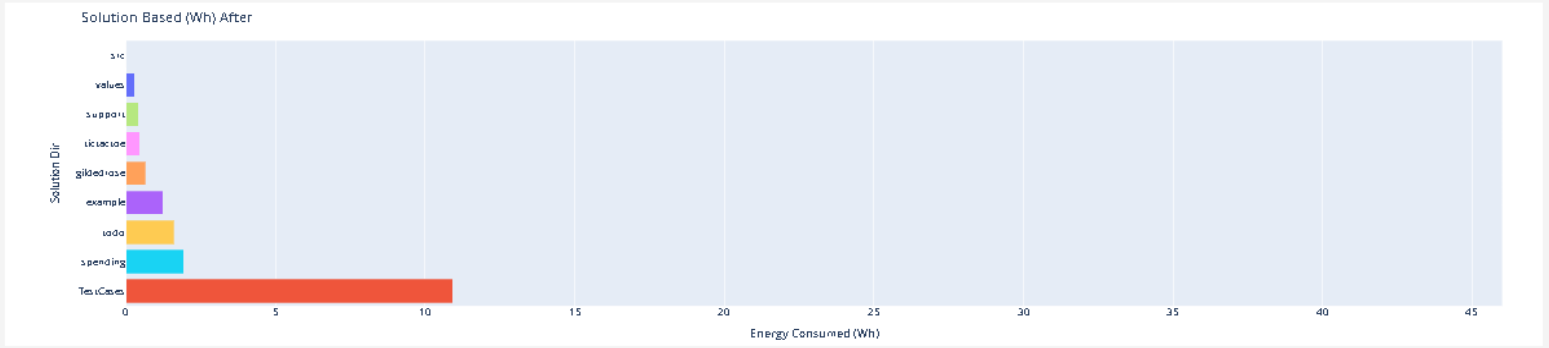
Before Refinement (Wh)
88.1794062763048
Last Run: 2024-10-03 19:15:17

After Refinement (Wh)
17.486332960353476
Last Run: 2024-10-03 19:15:17

Most Energy Consumption (Wh)

File Name	Energy Consumed (Wh)
algorithmsTest.cpp	0.836669
algorithmsTest.cpp	0.836438
WalrusTest.java	0.836083
WalrusFoodTest.java	0.823962
algorithmsTest.cpp	0.819049





Reduce the energy consumption by ~80%

This section of the GreenCodeRefiner™ report dashboard provides a comprehensive overview of the scope – 2 energy consumption for the entire project

GreenCodeRefiner™ Dashboard

CO2e Emissions - – Before and After Conversion

Emissions

12% Improvement in Emission post-conversion

Before Refinement (gCO2eq)

56.21483069092059

Last Run: 2024-10-03 19:15:17

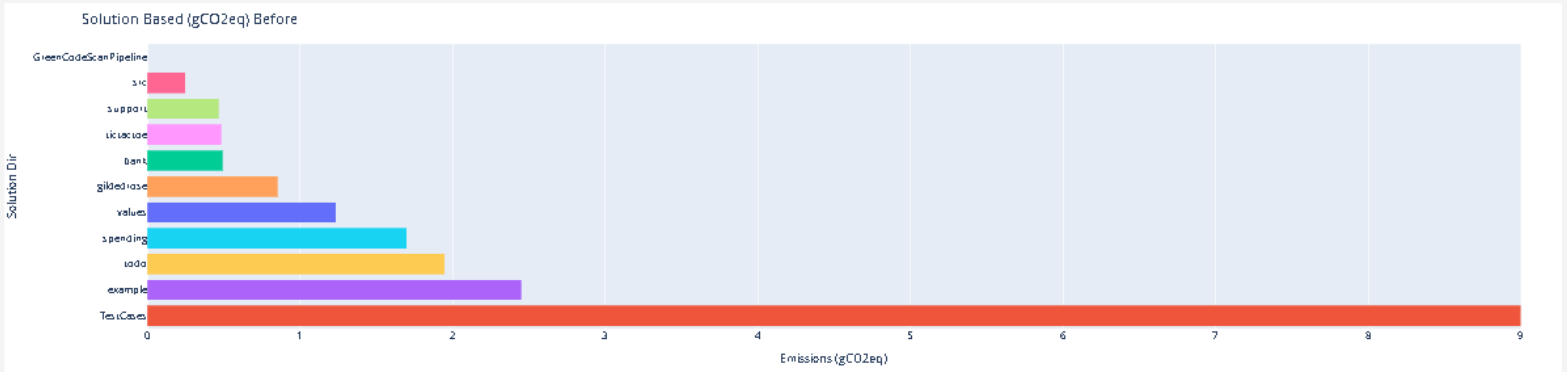
After Refinement (gCO2eq)

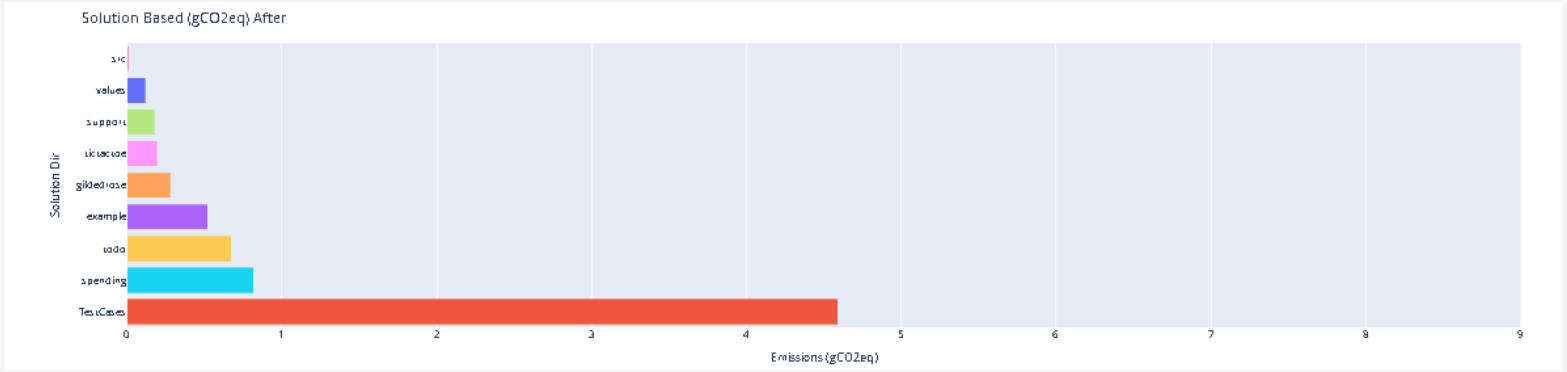
49.82990684394892

Last Run: 2024-10-03 19:15:17

Most Emissions (gCO2eq)

File Name	Emissions (gCO2eq)
algorithmsTest.cpp	0.521883
algorithmsTest.cpp	0.521736
WalrusTest.java	0.521286
WalrusFoodTest.java	0.512948
TriggersUnusualSpendingEmailTest.java	0.505674





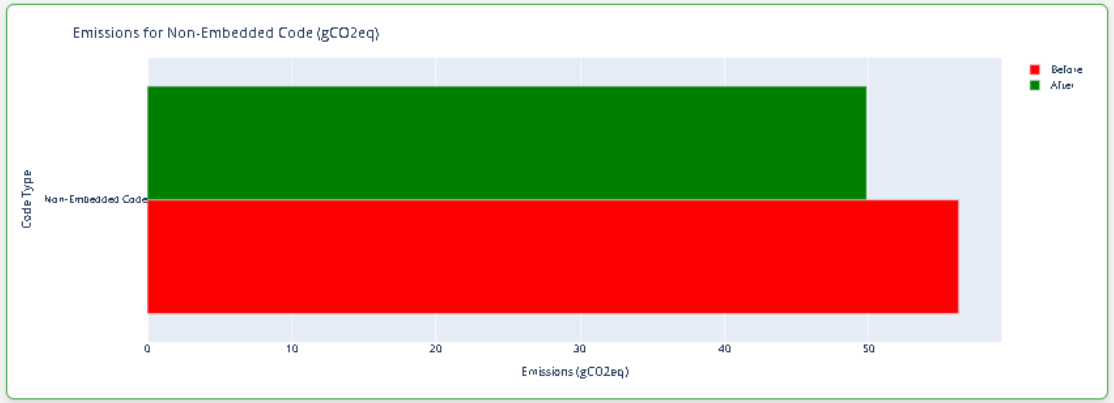
Reduced CO2 emission by ~30%

This section of the GreenCodeRefiner™ report dashboard delivers a comprehensive analysis of the project's total CO2e emissions.

GreenCodeRefiner™ Dashboard

Embedded or Non-Embedded

No embedded code files found for generating the Embedded Code Emissions graph.



Reduce the CO2 emission by ~30%

Overall Emission
Before: 55gCo2eq
After: 48gCo2eq

This section of the GreenCodeRefiner™ Report dashboard provides a detailed overview of the embedded or non-embedded CO2e emissions of the overall solution.

GreenCodeRefiner™ Dashboard

Solution Based (Details File Based)

Solution Based Detailed Emissions Report

Back to Main Report

Select Solution Directory: TestCases

e.g. File level emission reduction for StepdefTest.java
Before: 0.2029 gCo2eq
After: 0.20010 gCo2eq

Before Refinement

Application Name	File Type	Duration (s)	Emissions (gCO2eq)	Energy Consumed (Wh)
GreenCodeRefiner_AzureOpenAIAPI_BypassedTest.py	.py	0.5759427547454834	0.0020147377587054	0.0031619502099956
indexTest.py	.py	0.5034990310668945	0.0035836392323741	0.005624200357785
GreenCodeRefiner_AzureOpenAIAPI_BypassedTest.py	.py	0.5728588104248047	0.0056931948942237	0.0089349587625259
indexTest.py	.py	0.4646444320678711	0.007162191083269	0.0112404165266267
CannedWalrusFoodTest.java	.java	2.395338296890259	0.1586855904102	0.2490428016018
EmailsUserTest.java	.java	2.369689702987671	0.1658592392582	0.2603012000624999
FeedsWalrusTest.java	.java	2.4955549240112305	0.1734231061508	0.2721720107455
ItemTest.java	.java	2.380844831466675	0.1806675156191	0.2835414616532
OpensCanTest.java	.java	2.450029134750366	0.1881239018069	0.2952435910099
product_detailsTest.java	.java	2.4076061248779297	0.1954287362751	0.3067078735355
StepdefsTest.java	.java	2.4384679794311523	0.2028465563892	0.3183494768985

After Refinement

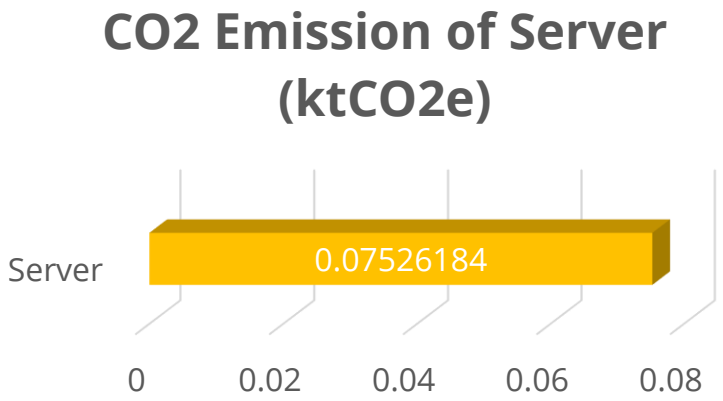
Application Name	File Type	Duration (s)	Emissions (gCO2eq)	Energy Consumed (Wh)
GreenCodeRefiner_AzureOpenAIAPI_BypassedTest.py	.py	0.5510566234588623	0.0017745860745945	0.0027850536810432
indexTest.py	.py	0.4369564056396484	0.0031874521813278	0.0050024203152754
CannedWalrusFoodTest.java	.java	2.321086406707764	0.1550451382613	0.2433294384671
EmailsUserTest.java	.java	2.3963303565979004	0.1623039069230999	0.2547214248411
FeedsWalrusTest.java	.java	2.3744938373565674	0.1695385177233999	0.2660754976182999
ItemTest.java	.java	2.4416582584381104	0.1769524126872	0.27771094081
OpensCanTest.java	.java	2.521903276443481	0.1846199922339	0.2897445192016
product_detailsTest.java	.java	2.7336325645446777	0.192907877366	0.3027516115742
StepdefsTest.java	.java	2.3740880489349365	0.2001093621812	0.3140536960887
TodoStepsTest.java	.java	2.4990499019622803	0.2076972019621	0.3259621300698
TriggersUnusualSpendingEmailTest.java	.java	2.4090404510498047	0.2149869309011	0.337402705822
WalrusFoodTest.java	.java	2.4660537242889404	0.2224757217365	0.3491556913667999

This section of the GreenCodeRefiner™ Report dashboard provides a detailed overview of the solution based CO2e emissions.

GreenCodeRefiner™ Report Link :

GreenCodeRefiner™ Dashboard

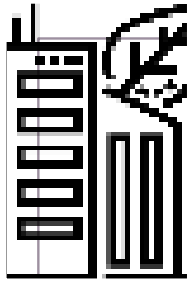
Server Emission where code is running...



Continuously monitor the CO2e emissions the server.

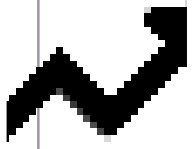
This section of the GreenCodeRefiner™ Report dashboard provides a CO2e emissions the server.

Key Benefits & Value Delivered



Strengthened adoption of Green IT practices.

Seamless integration with existing GitHub and DevOps workflows



Improved energy efficiency of application source code

Key Benefits

Value Delivered

- 20 – 40% Improved green impact score ↑
- Reduced Scope 2 GHG emissions ↓
- Improvement in developers' productivity ↑

Addressing the skill gap - Training and Advanced Courses

Course on Software Sustainability

Training is live in LMS

E-learning: LMS course available for TechM's associates. Approx. **8 hrs** course with multiple choice exam pattern.

Instructor-led: Instructor led course comprises of all 8 modules. **72 hrs** detailed course along with real-time problem statement and tech implementations to implement hands-on experience.

Course comprises of 8 modules

- Module 1: Establishing Climate Empathy
- Module 2: Energy Consumption & Carbon Footprint
- Module 3: Handling Resource Scarcity via Waste Management
- Module 4: Role of Technology to Achieve Sustainability Goals
- Module 5: Green Software Architecture
- Module 6: Leveraging AI/ML and Cloud for Sustainability
- Module 7: Going Green with Edge Computing
- Module 8: Core Networks

Training on ESG Data Management

Instructor-led: Instructor-led training for IT professionals and data engineers comprises of all 5 modules. **8 hrs** detailed course along with real-time quizzes, assignments, tasks for hands-on experience.

Course comprises of 8 modules

- Module 1: ESG Foundation
- Module 2: Establishing Climate Empathy
- Module 3: ESG Data Ecosystems
- Module 4: ESG Case Studies
- Module 5: Sustainable Finance & ESG data in BFSI Sector

Video - Training on ESG Data Management Module 1 | Tech Mahindra

Video - Training on ESG Data Management Module 2 | Tech Mahindra

Thought leadership and media

Whitepapers

How to Improve Software Sustainability?

Green IT: Enhance Software sustainability and facilitate sustainable transformation

Innovative Eco-design

Take up the challenge of mitigating climate risk and achieving sustainability

KNOW MORE

Press Release

Tech Mahindra Collaborates with Microsoft to Modernize Workplace Experiences with Generative AI

https://www.techmahindra.com/insights/press-releases/tech-mahindra-collaborates-microsoft-modernize-workplace-experiences/

Eco-sustainable, and zero emission mobility

https://www.prnewswire.co.uk/news-releases/battery-manufacturer-britishvolt-announces-collaboration-with-iconic-design-firm-pininfarina-to-create-uk-s-first-gigaplant-869382437.html

Blog/ Articles

Strategic Sourcing and Procurement

Tapping into new-in-kind technology services for sourcing and procurement.

Green IT

Embed green strategy in day to day business that creates positive impacts

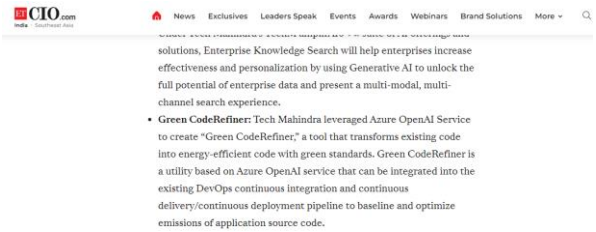
KNOW MORE

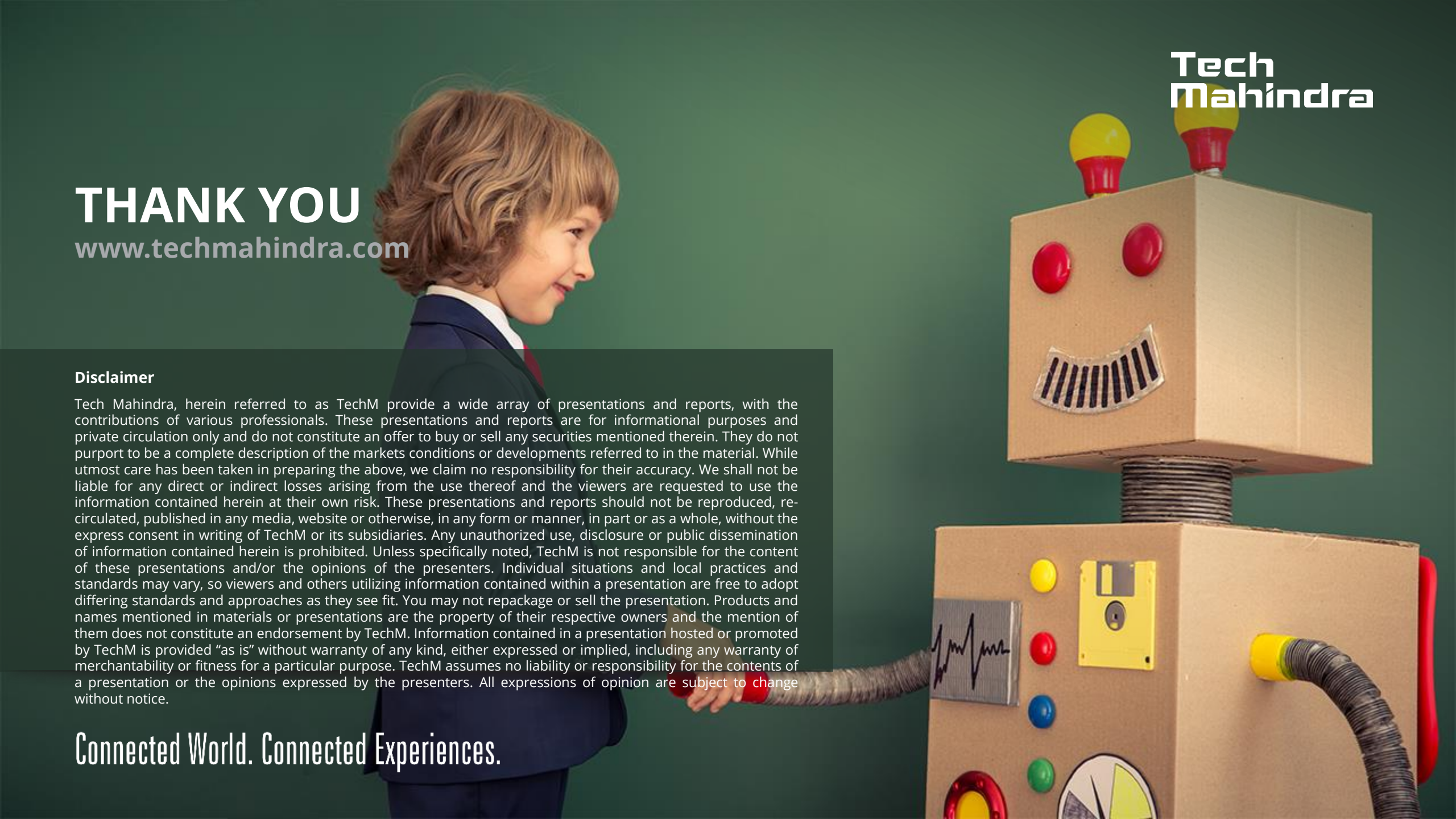
Green Data Centers: Powering the Digital Transformation Responsibly

Green data center challenges and implementations methods for sustainable and efficient operations

Raising Sustainability in Construction

Construction industry is estimated to be responsible for more than 35% of global carbon emissions





THANK YOU

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