

# SUSTAINABLE INFRASTRUCTURE TOOLS : A PROPOSITION FOR ENSURING SUSTAINABILITY OF THE INFRASTRUCTURE

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Ecobuild  
2014

- The VISION 2020
- The Government Transformation Programme
- The Economic Transformation Plan
- Sustainability development of the nation

- By the year 2020, Malaysia can be a united nation, with a confident Malaysian society, infused by strong moral and ethical values, living in a society that is democratic, liberal and tolerant, caring, economically just and equitable, progressive and prosperous, and in full possession of an economy that is competitive, dynamic, robust and resilient.

# GOVERNMENT TRANSFORMATION PROGRAMME (GTP)



# Economic Transformation Programme (ETP)

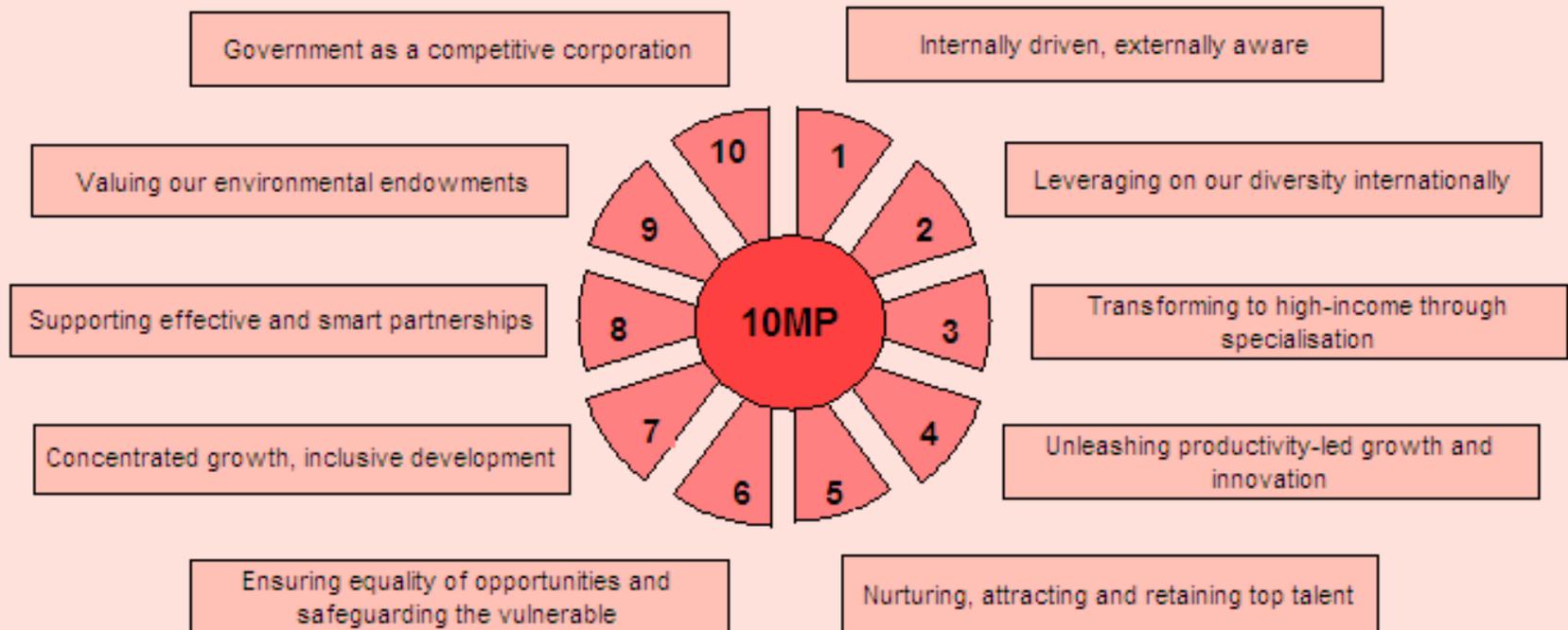
11 industry sectors were prioritised in addition to Greater KL/KV



# 10<sup>th</sup> Malaysia Plan

Graph 1

## 10TH MALAYSIA PLAN: 10 BIG IDEAS



# COMMON ENABLER

## Vision 2020



INFRASTRUCTURE THAT IS SUSTAINABLE AND SUPPORTS SUSTAINABILITY

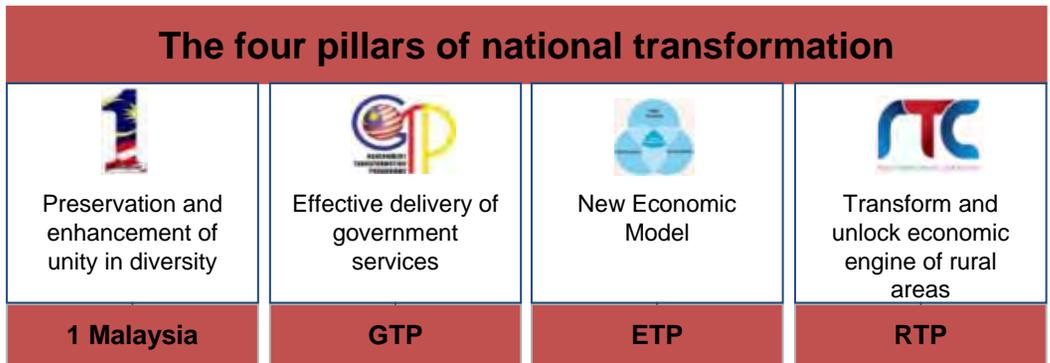
# Infrastructure is important for Malaysia and fundamentally supports our national transformation agenda

**Construction as a sector is a key contributor to our economy**

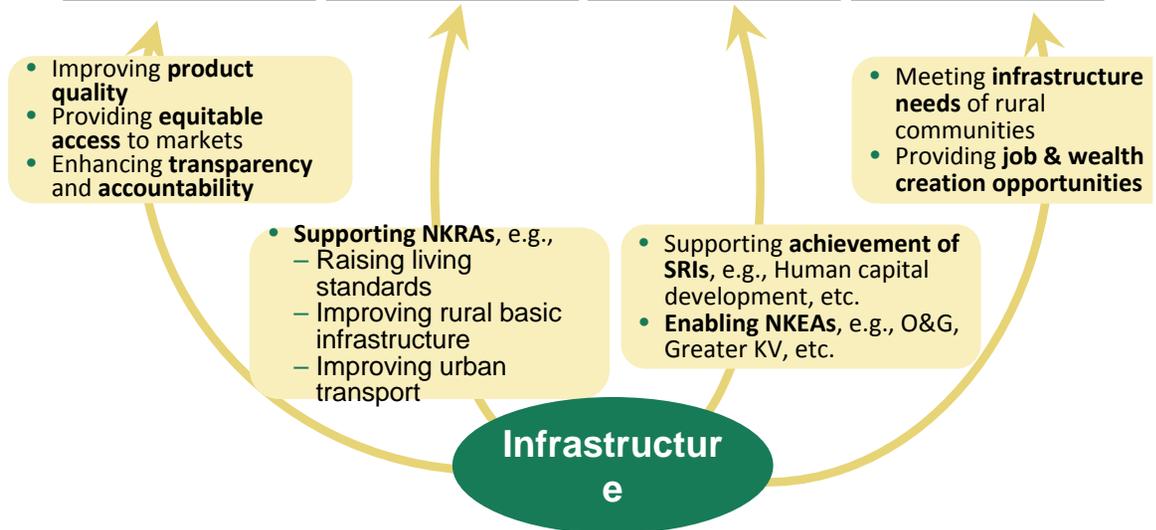
**More importantly, construction plays a key role in our national transformation agenda**



**Important contributor to GDP**  
Construction contributes **3.7%** of Malaysia's GDP



**Enabler to critical economic sectors**  
Multiplier effect of construction sector is estimated to be **6.8x**



**Important contributor to GDP**  
Creates employment of up to **1 million**, or **approx. 9%** of total workforce in Malaysia

- TWO QUESTIONS
  - Are we developing infrastructures that we really need?
    - Sustainable infrastructure
  - Is our infrastructure serving us well?
    - Infrastructure sustainability

## **SUSTAINABLE INFRASTRUCTURE**

- Infrastructure development that will serve its functions without compromising the needs and functions of others
- The best infrastructure choice for any intended purpose, in terms of sustainability aspirations and needs.
- Demand driven

## **INFRASTRUCTURE SUSTAINABILITY**

- Infrastructure that meets the equilibrium between time, costs and quality requirements
- Infrastructure that will surpass its intended design years and continue to provide the same expected (or even better) level of service
- Infrastructure that will continue to provide the competitive advantage to the nations and its people to meet and exceed future expectations





Findings from the AKADEMI SAINS MEGA SCIENCE PROJECT  
Sustainable Infrastructure

# BACKGROUND

## GENERAL FINDINGS

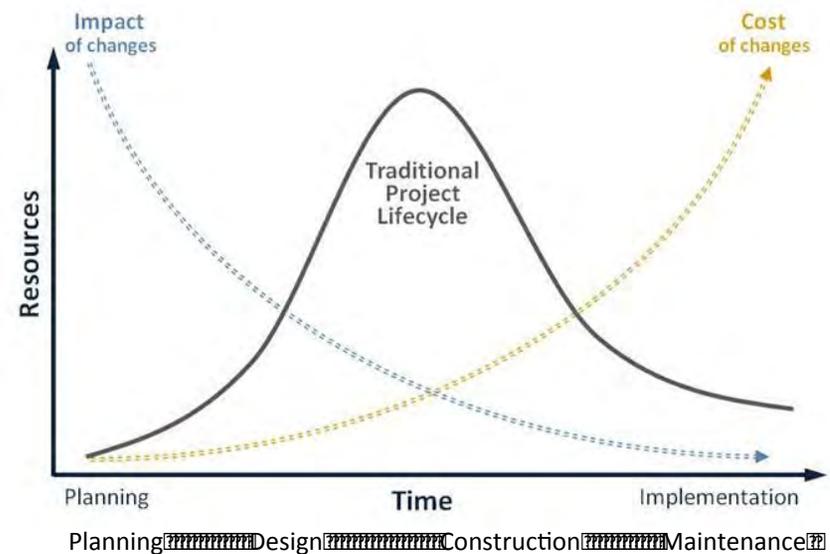
- There are similar issues across various infrastructure sector
- These similar issues will influence almost the entire life-cycle of any infrastructure
- There are however issues that are peculiar to certain infrastructure sector
- The problems are generally not confined to science and technology domain only, but also includes other influencing factors.

## COMMON FEATURES

- Poor and fragmented planning – No common and integrated tool to ensure planning is done for sustainability of infrastructure within and across all sectors
- Our cost escalates as we are generally poor implementers, and the sustainability features are often compromised along the way – we do not embrace many of the sustainability requirements in infrastructure development
- Inadequate capacity and capability to bring the present practices to a higher level that will ensure better chances for sustainability – for all sectors and across
- The “Haste” attitude – We are a nation that is driven by output and not really by outcome. The cost, time and quality relationship for sustainability is often compromised

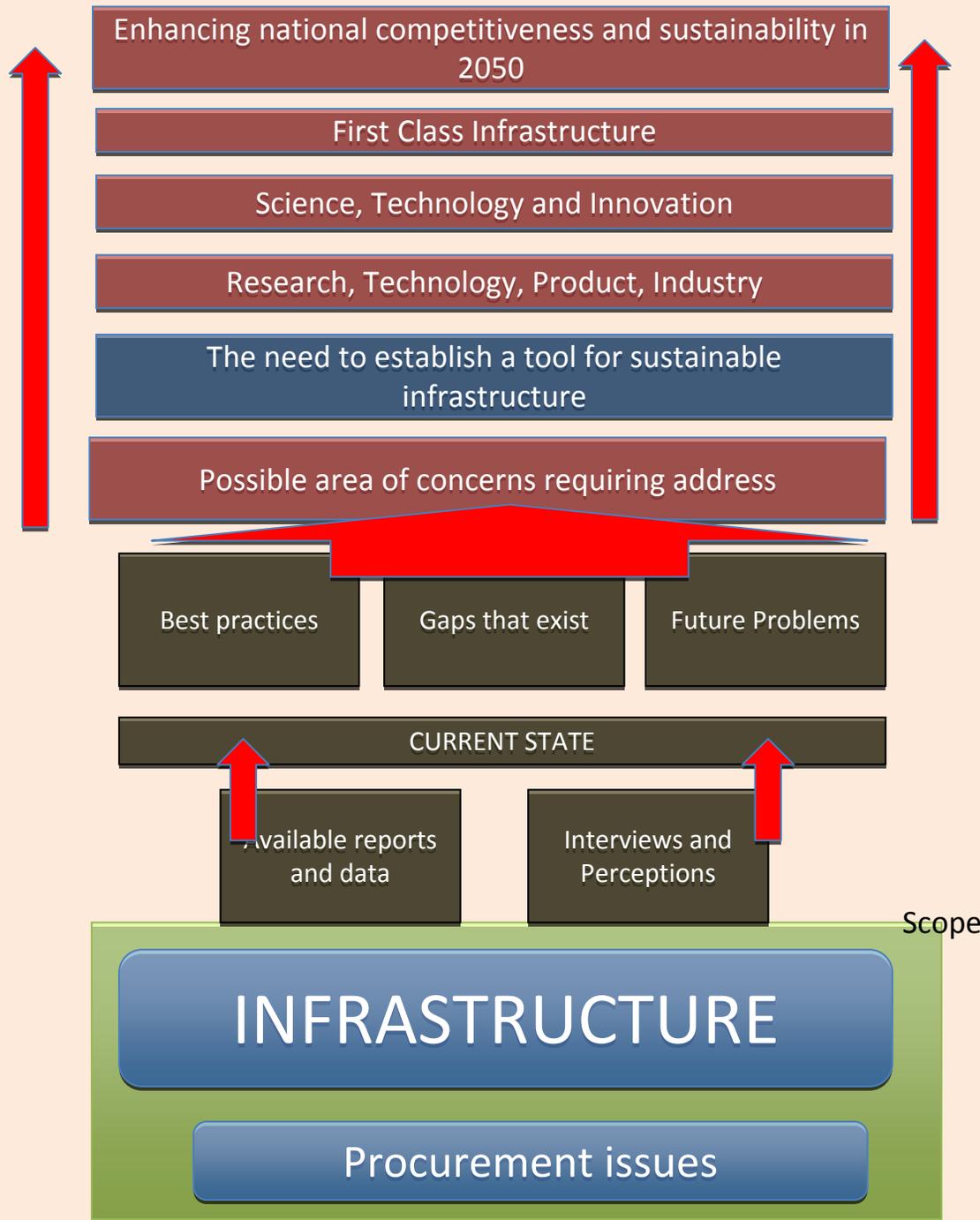
# Sustainable Infrastructure & Infrastructure Sustainability

- We need to have a more integrated planning
- As we have various responsible bodies for different infrastructure sector, we need to have a common “TOOL” to help us better plan our infrastructure, to integrate the activities , to communicate the shared objectives and to collaborate on common efforts to ensure its sustainability



THE CHANCE OF SUCCESS IN SUSTAINABILITY OF INFRASTRUCTURE WILL BE BEST ASSURED AT THE PLANNING STAGE

- GOALS
  - To ensure that the nation's competitiveness and productivity are enabled by both sustainable infrastructure and infrastructure sustainability.



- OBJECTIVES
  - To establish global best practices in ensuring sustainable infrastructure and infrastructure sustainability
  - To establish critical and influencing fundamental facts on related behaviour and attributes of items, players and stakeholders.
  - To establish an enabling planning tool to facilitate decisions on sustainable infrastructure and ensuring infrastructure sustainability.
  - To ensure effective utilization of the planning tool towards the attainment of the prescribed goal

*"Infrastructure that is in itself sustainable and will promote the sustainability of the nation and the people"*



# 1. OUTCOMES

1. A tool for sustainability
2. A rating system sustainability
3. A sustainable screening process
4. Established sustainable culture
5. Sustainable Infrastructure delivered

# 2. FRAMEWORK

# DEVELOPMENT OF INFRA SUSTAINABLE TOOL

# 3. IMPLEMENTATION STRATEGY

1. The WILL
2. Governance
3. Capacity/capability
4. Training and certification
5. Advocacy and engagement

a. Components supporting the environment

b. Components supporting the Socio-economical needs

1. Adopting from established tools
2. Adapting to the Malaysian situation
3. R&D needs
4. S&T needs

c. Components for the self sustainability of the infrastructure

Different infrastructure

1. Planning	4. Design
2. Project delivery	5. Construction
3. Procurement	6. Maintenance

1. Selection of appropriate performance indicators(PI) for future and existing infrastructure
2. Current state of PI in Malaysian infrastructure
3. Setting targets (KPI)
4. Establish gaps for R&D and S&T initiatives (fundamental and applied)
  - Short term
  - Middle term
  - Long term

# 4. OUTPUTS/CQI/Enhancement

1. Establishment of a data base/portal
2. Identification of outputs and results
3. Further gap analysis
4. Establishment of new problem statement for R&D
5. Establishment of more S&T initiatives
6. Provide feedbacks for further enhancements (CQI)

- A planning tool that can be used as
  1. A tool for sustainability
  2. A rating system sustainability
  3. A sustainable screening process
- Established sustainable culture
- Sustainable Infrastructure delivered
- Enhanced nation's productivity and competitiveness

# Thank you

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LET US LOOK INTO MORE  
OPPORTUNITIES TO CONTRIBUTE  
AND PROVIDE MORE IMPACT  
TOWARDS SUSTAINABILITY AS WE  
ENTER the 11<sup>th</sup> Malaysia Plan