

Eco-Shift

Tools for environmental sustainability

2017 was the year of delivery **2018 is the year of success**



99% public water supply
70% public sewerage facilities



TNB the second biggest
corporate tax payer, 2017



22.4% RE in energy mix
(higher than S'pore, Japan,
Korea, Australia)



M'sia the third world
largest PV producer



M'sia - RM1.25b the first
world's Green Sukuk, 2017



M'sia 76% carbon emission
from energy sector



SAIDI in M'sia better than
USA, UK and Australia



PANTAI2 among the
largest underground
sewage treatment plant



New Policy Framework

Green Technology Master Plan 2017-2030

	2017	2030*
RE in Energy Mix	22.4%	30%
EEV (energy efficient vehicle)	32.6%	-
EEV + EV (electric vehicle)	-	100%
CO2 emission (metric ton/capita.year)	7.6	6
Energy Efficiency	<2%	15%
Treated Wastewater Recycling	<1%	35%
Freshwater extraction rate	2%	15%
Water consumption (liter/day.capita)	>220	180
% Green Manufacturing SME	10%	50%
Green Buildings	244	1750
Sanitary Landfill/Non-Sanitary Landfill	14/147	50%
Solid Waste Recycling Rate	17.5%	50%

How to shift?

From poor to good? From good to great?

From high-carbon to low-carbon?

From not-so-green to green culture?



How to shift?



60%
10%



30%
30%

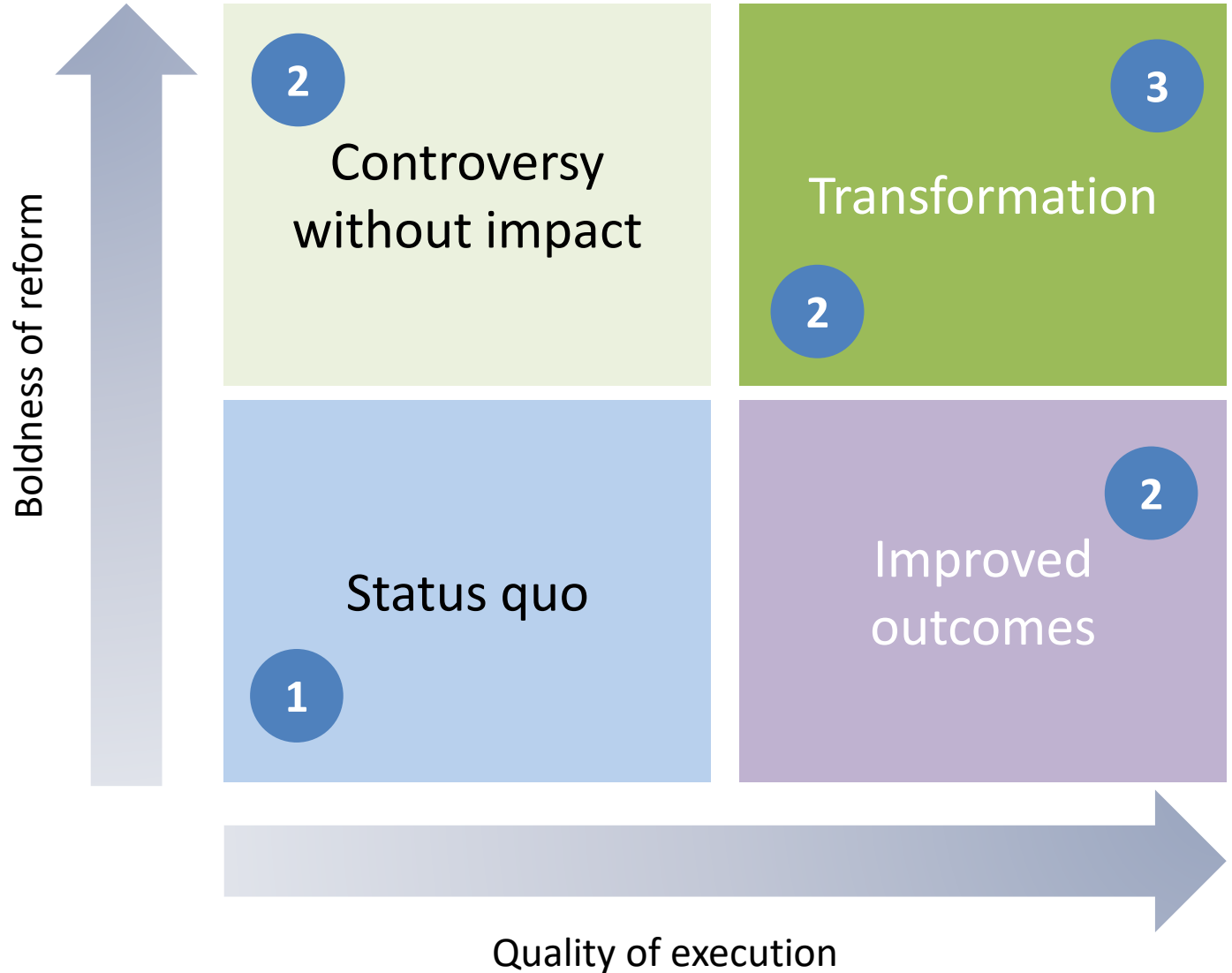
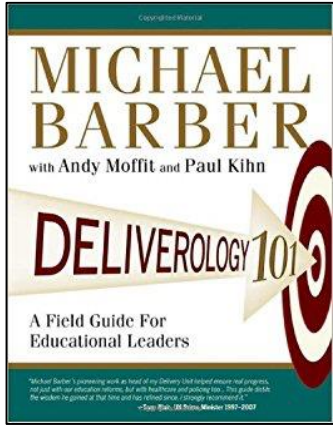


10%
60%

- Education, awareness
- Religious, cultural
- Rule of law
- Know-how, technical resources
- Excellent in implementation
- Financial resources and incentives, etc.

Between reformation and delivery capability

Barber M. et al. (2011)



From Planning to DNA

PLAN what?

IMPLEMENT how?

STRATEGY how?

IMPROVE how?

HABIT

CULTURE

Artifacts, thinking, systems, SOP, ritual,
teamwork, life style, endowment, etc

DNA

From Planning to Outcomes

PLAN

+

EVENT

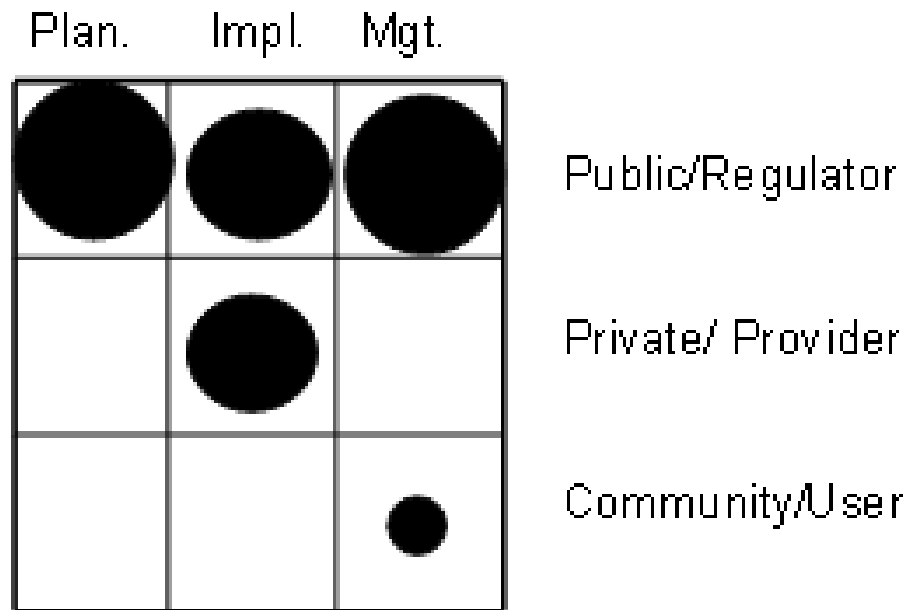
+

PERCEPTION

=

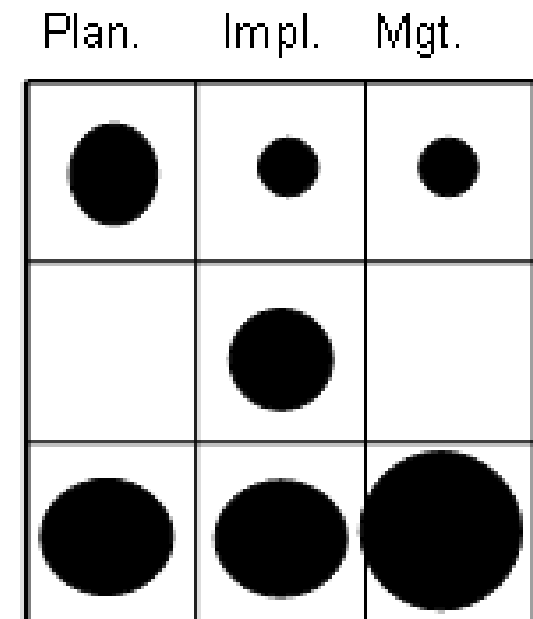
OUTCOME

Public participation in sustainable development



Central administrative system

Eco-Culture



local autonomous system

Environmental Sustainability Project Selection Grid

HIGH Value	High-tech, capital-intensive <ul style="list-style-type: none">○ Technology-focus○ Capital-intensive○ Cleaner production	Green-Growth <ul style="list-style-type: none">○ Eco-culture○ Education-focus○ Local expertise-niche○ Low carbon footprint○ Public well-being
LOW Value	Regulatory, Enforcement <ul style="list-style-type: none">○ Compliance-focus○ Pollution control○ Public health	Low-tech, people-centered <ul style="list-style-type: none">○ Pollution prevention○ Employment-focus○ Local-expertise
	LOW Sustainability	HIGH Sustainability



Practice and promote water conservation, energy efficiency

	Linear	Circular
Wuduk	10 liter/wuduk	1 liter/wuduk
Regular washing	20 liter/wash	10 liter/wash
Toilet flushing	9 liter/flush	6 liter/flush
Water usage	230 liter/day	180 liter/day
Energy usage	Supply-driven	Demand management
Carbon footprint	10 ton/year.cap	6 ton/year.cap
Motivation	Wealth, status	Sustainability, carbon

Knowledge is not power.

The implementation of
knowledge is power!