

Introduction of 『Clinker Road』

~ Sustainable city/town development using coal ash ~



What's this?



What is coal (fly) ash?



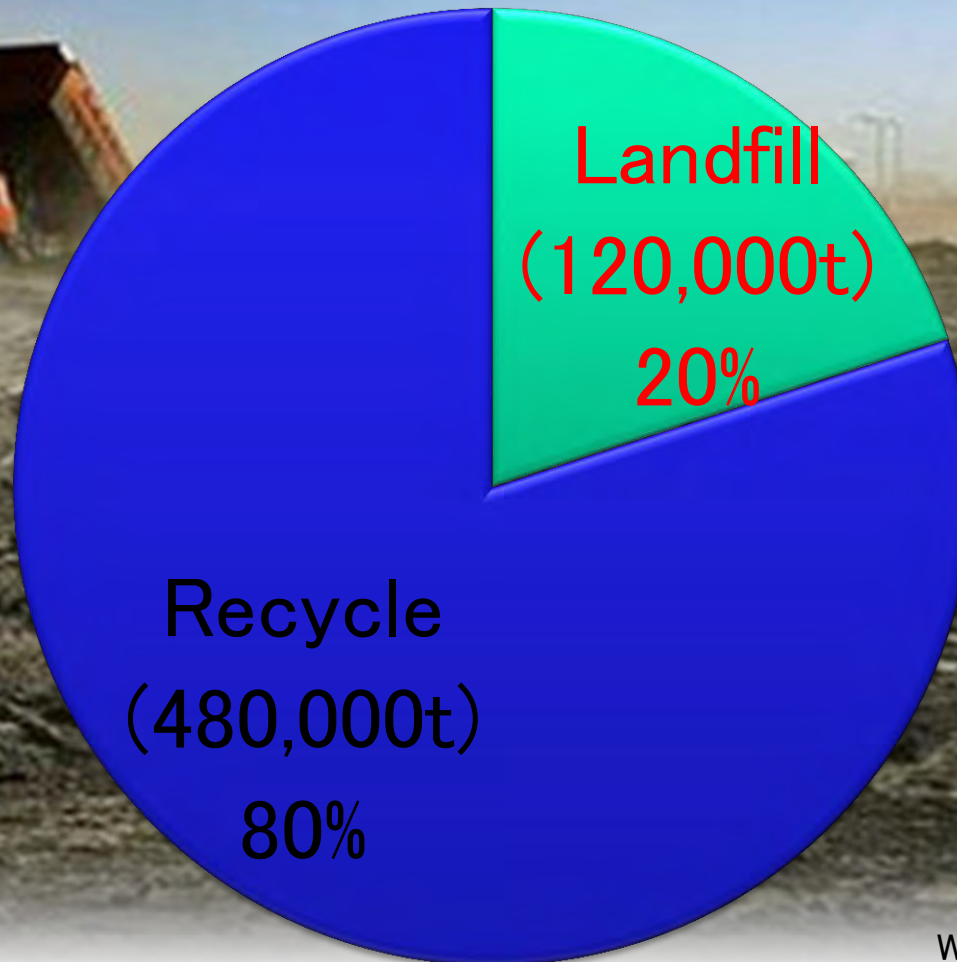
web: J-Power

Environment and Greening Conservation Consultant Co.,Ltd

What is Coal (fly) ash?

Generation rate/amount of coal ash

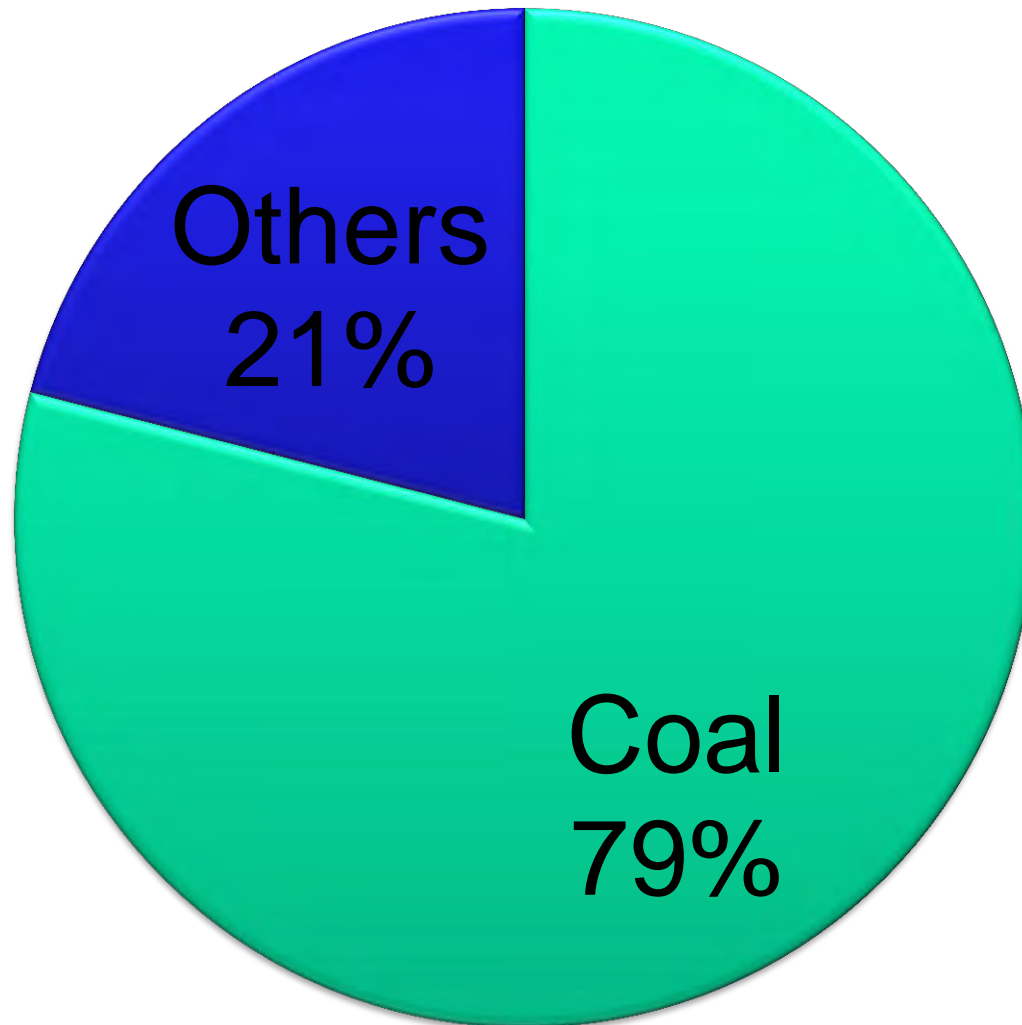
(Kyushu Electric Power Company)



Web: Kyushu Electric power Co.

What is Coal (fly) ash?

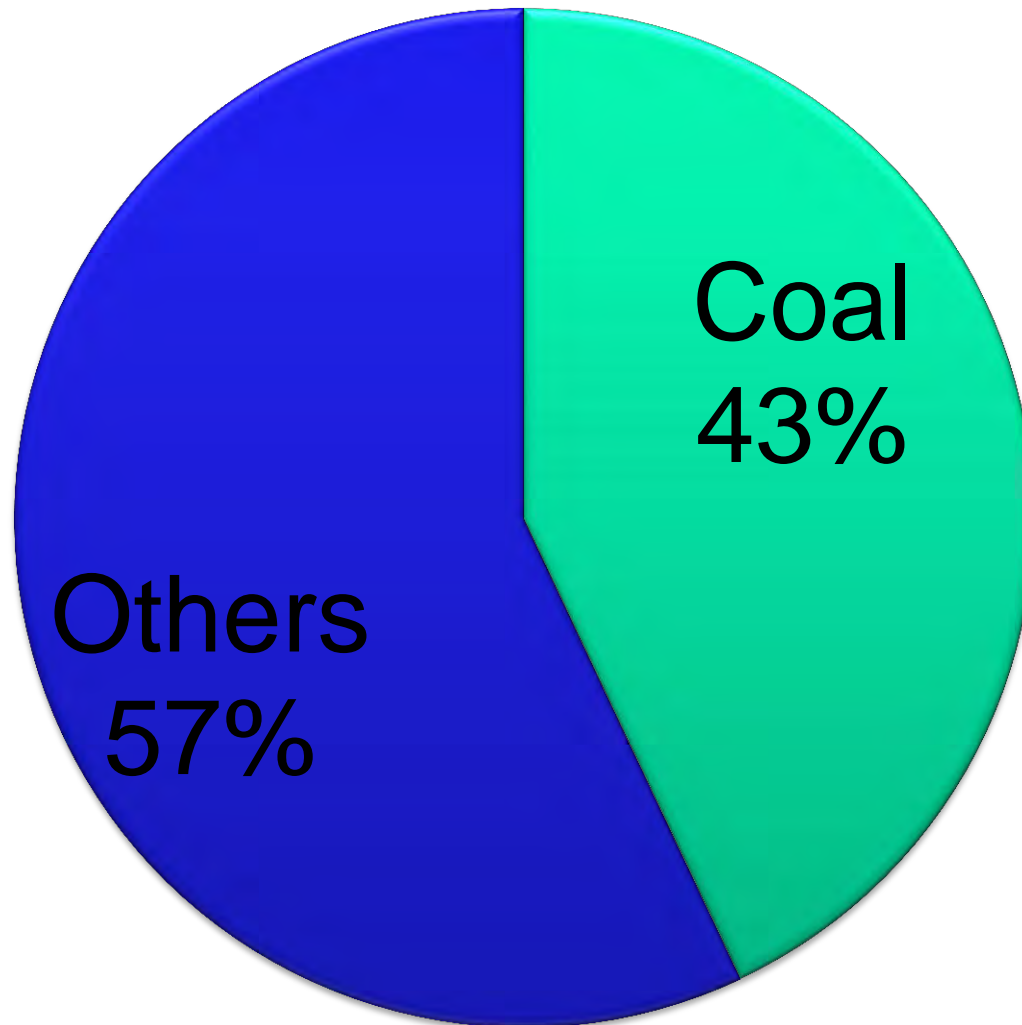
Power generation rate in China



web: J-Power

What is Coal (fly) ash?

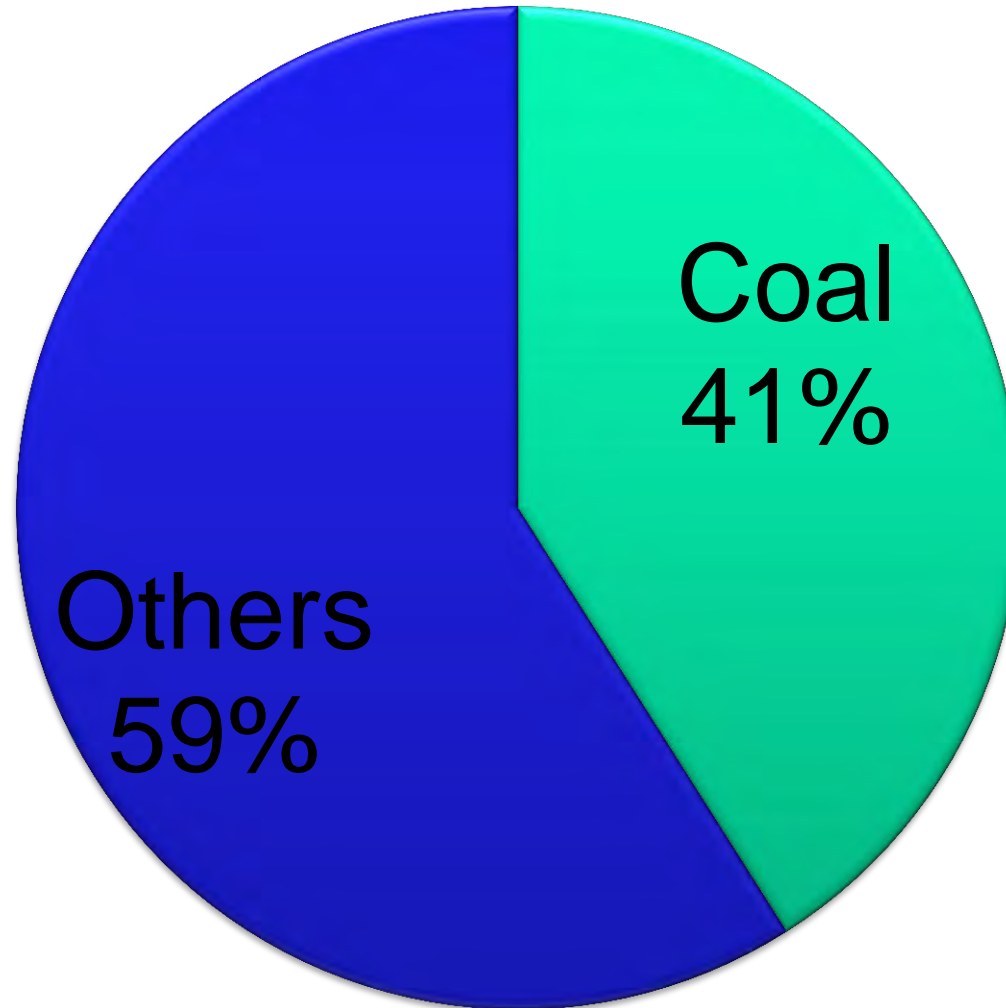
Power generation rate in U.S. A.



web: J-Power

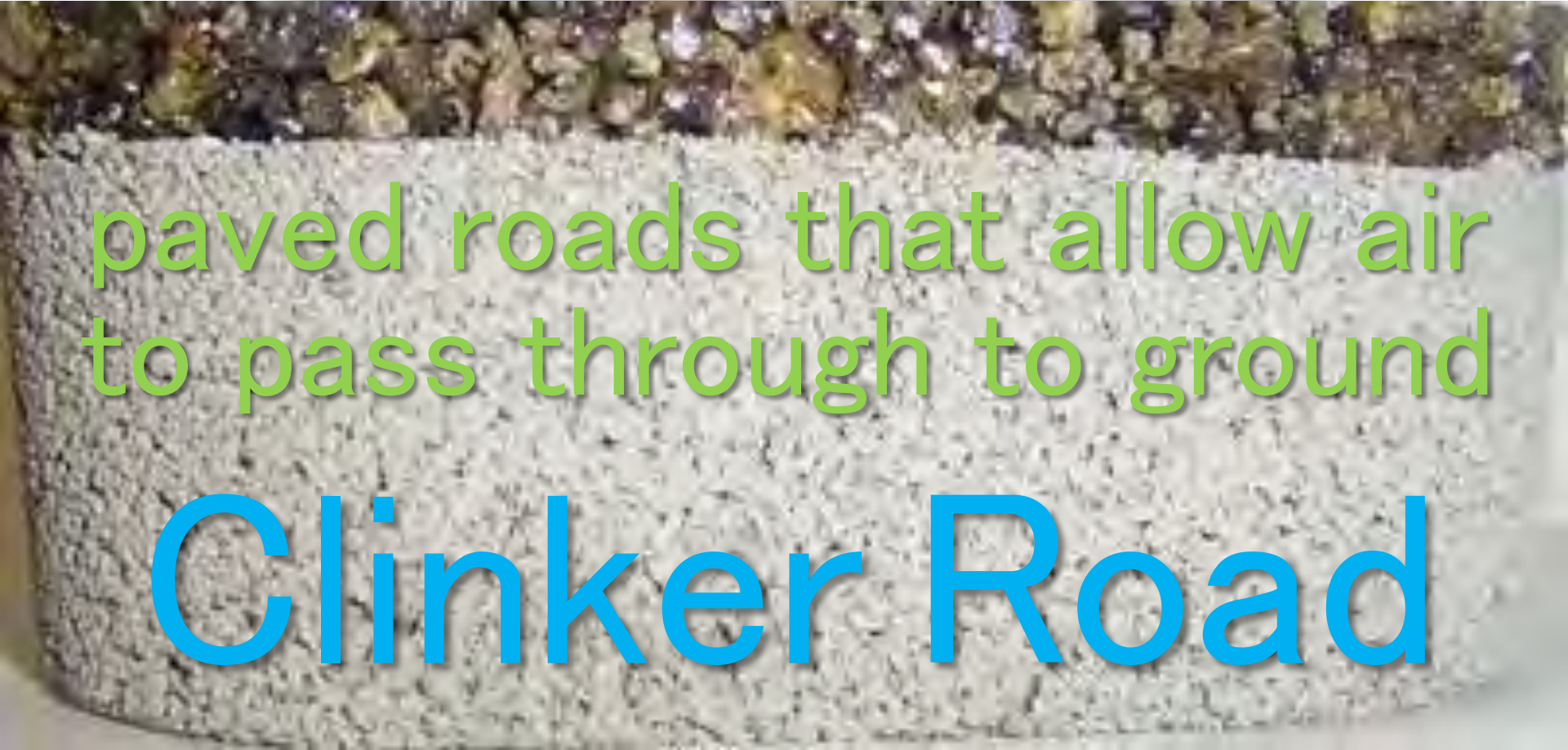
What is Coal (fly) ash?

Power generation rate in the world



web: J-Power

People hate coal ash?



paved roads that allow air
to pass through to ground

Clinker Road

Industrial waste: reborn to environmentally friendly pavement!



Effect of global warming - guerrilla thunderstorm



Effect of global warming - guerrilla thunderstorm



Effect of global warming - guerrilla thunderstorm



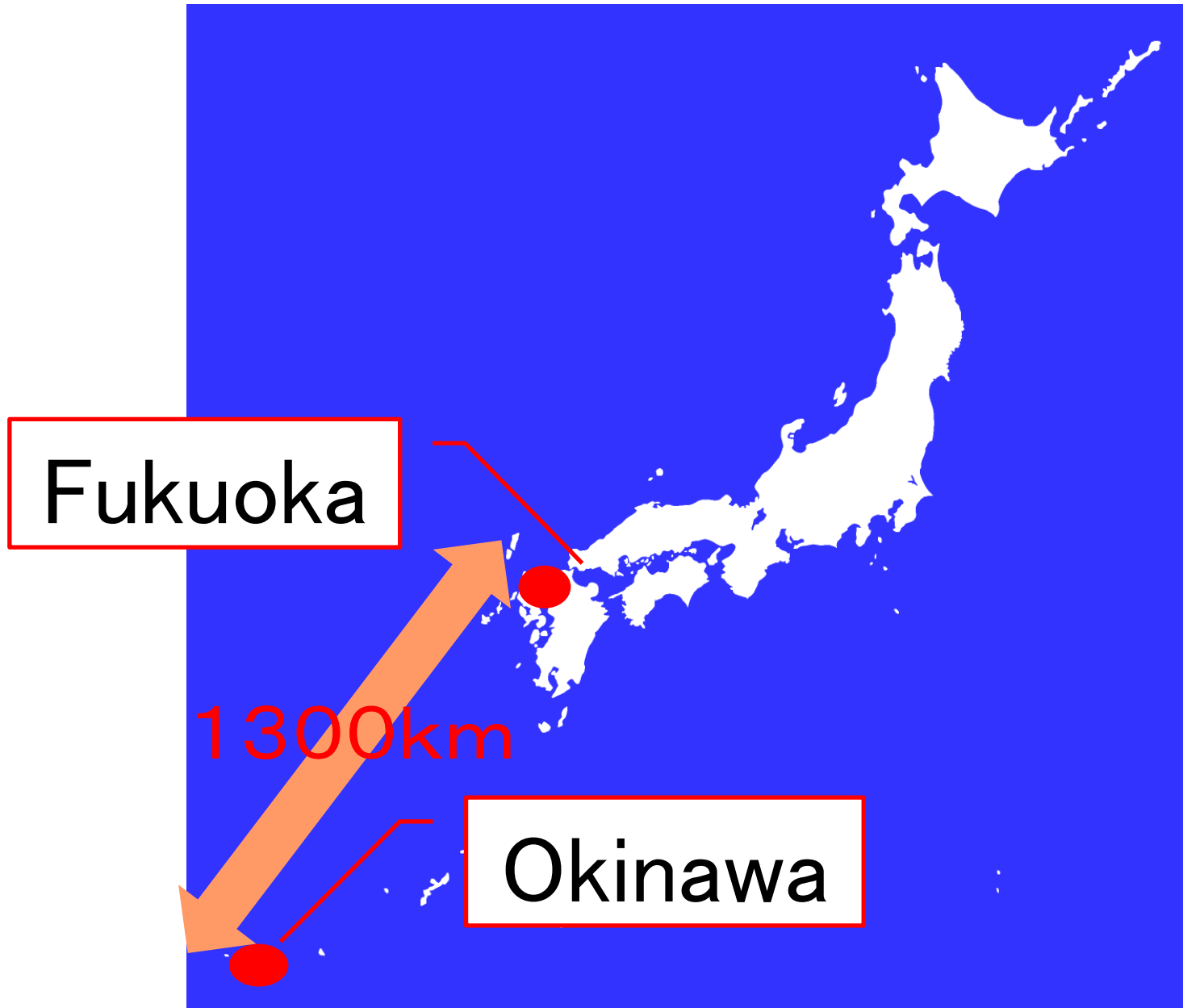
Effect of global warming - guerrilla thunderstorm



Effect of global warming – increased no of extremely hot days

Order	Observation point	Average temperature
1	Fukuoka city (Chuo-ku)	30. 0°C
2	Kitahara, Kubejima-cyo, Okinawa	29. 6°C
3	Ishigaki city, Okinawa	29. 5°C
	Itoshima city, Fukuoka	29. 5°C
4	Kagoshima city	29. 4°C
	Naha city, Okinawa	29. 4°C
	Kumejima, Kubejima-cyo, Okinawa	29. 4°C
	Aguni village, Okinawa	29. 4°C
5	Amami city, Kagoshima	29. 2°C
	Yoron-cyo, Kagoshima	29. 2°C

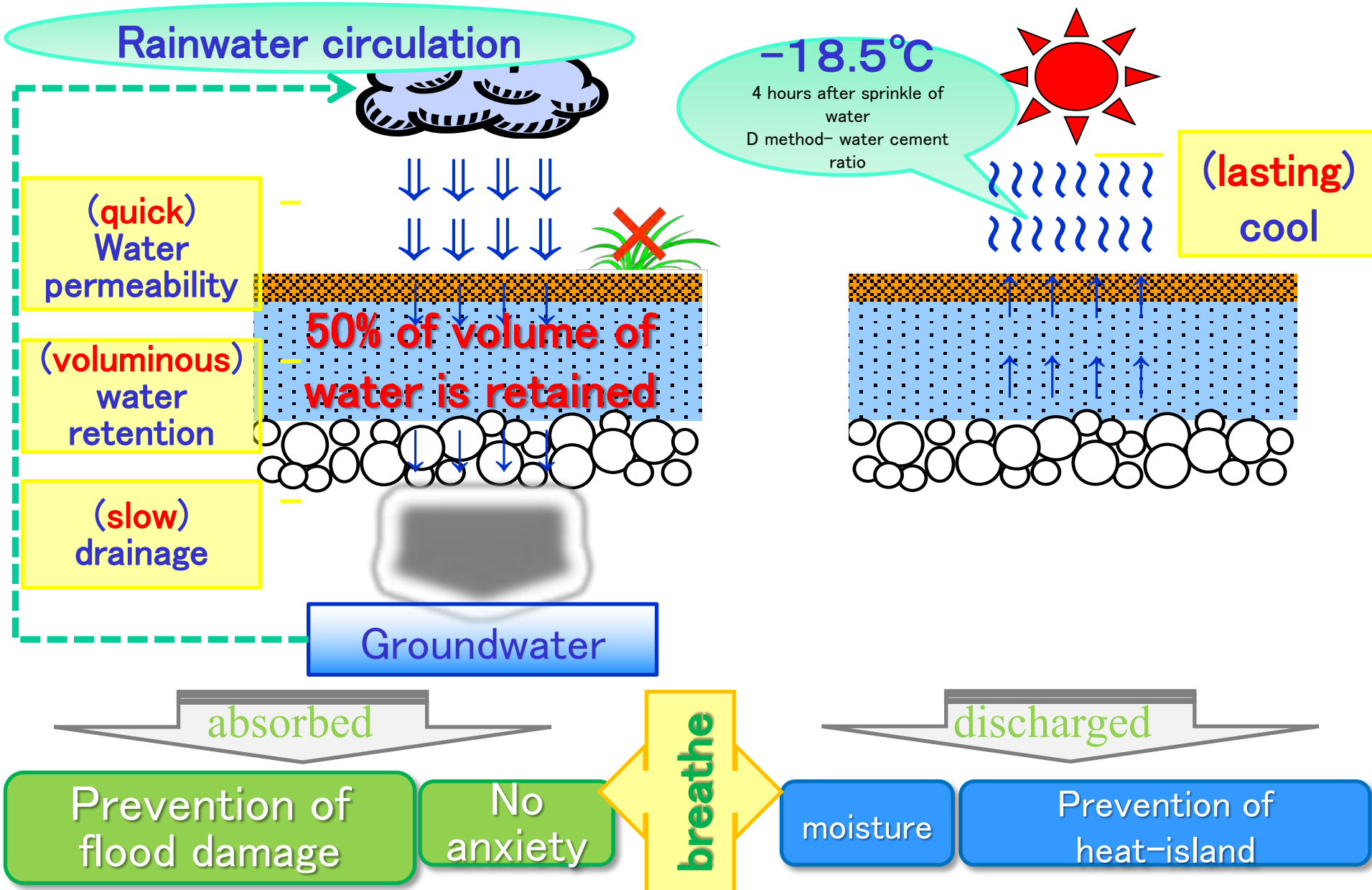
Effect of global warming – increased no of extremely hot days



Essential item to create future cities & towns



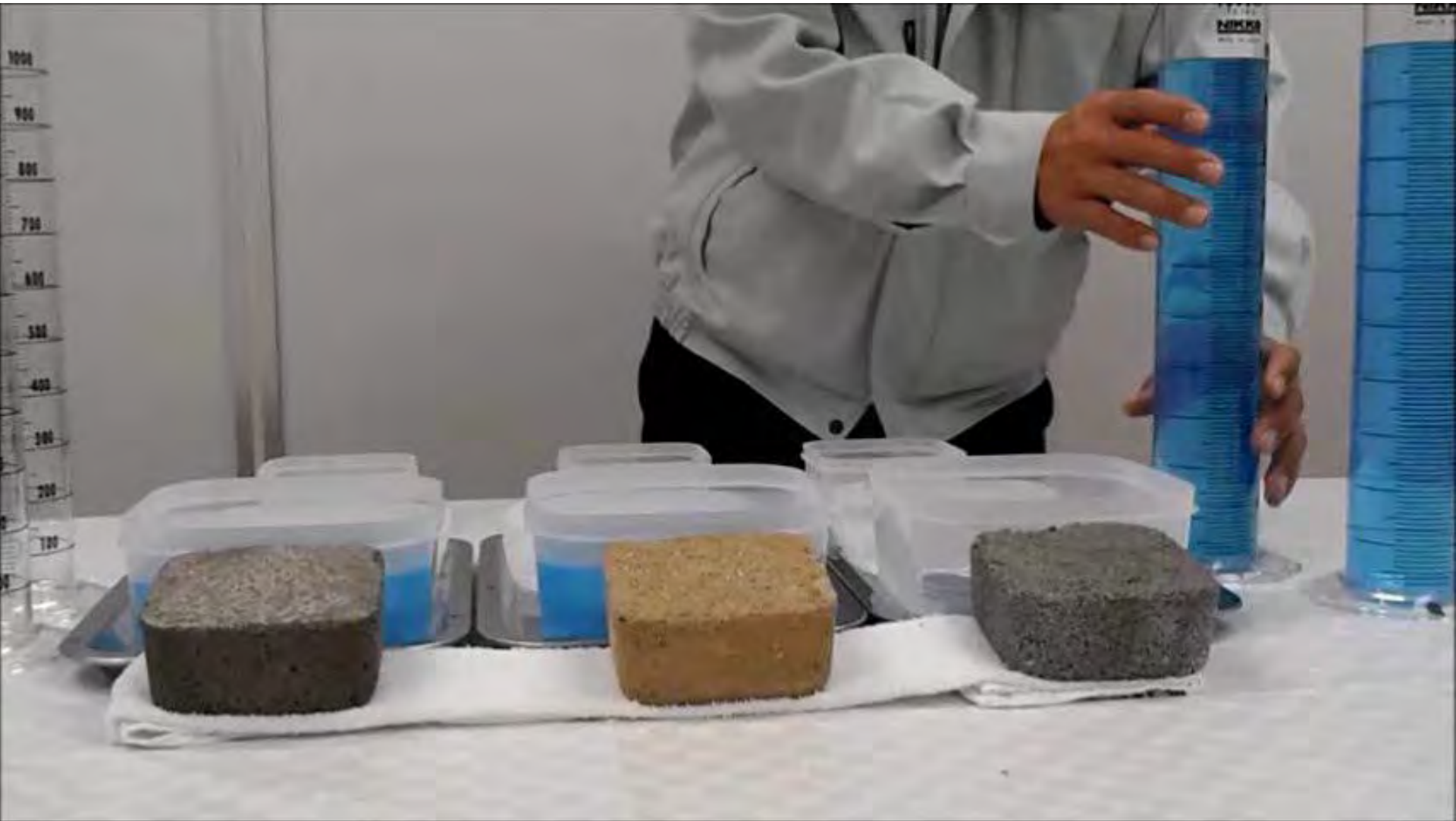
“Breathing model” of Clinker Road



Power of “Clinker road”



Power of “Clinker road”



Water
retention

Concrete
20cc

Product of a
competing company
70cc

Clinker Road
250cc

Ideal places of using Clinker Road

private gardens



historical parks



theme parks



slopes



roadside trees



median strips



transmission line towers



mobile phone base stations



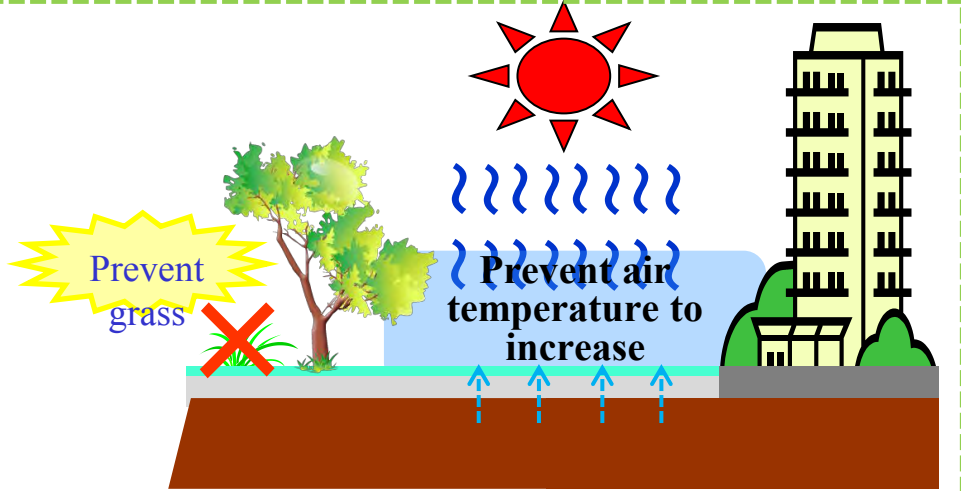
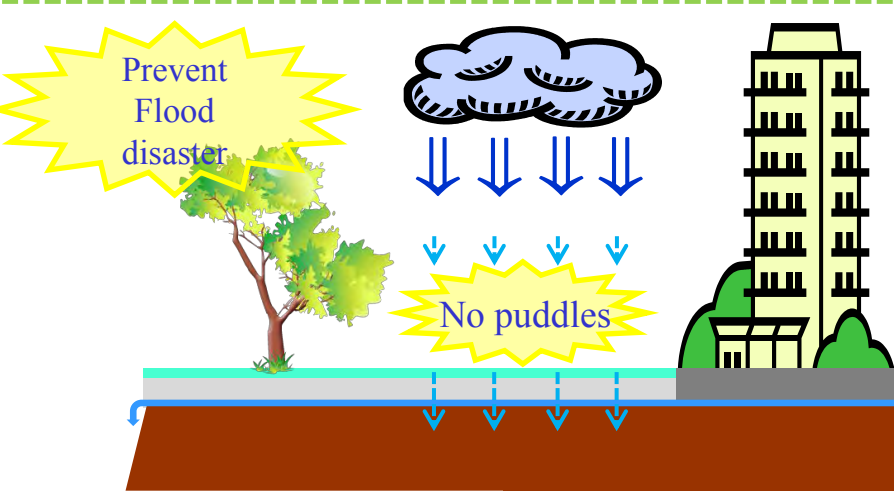
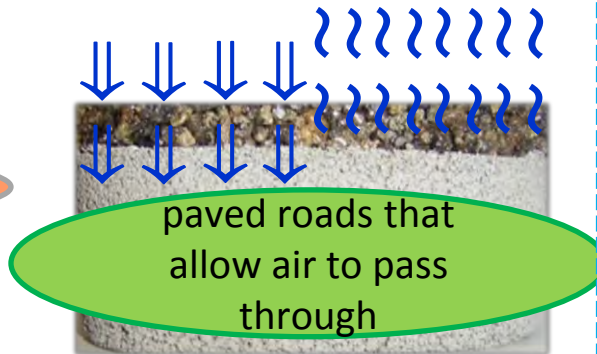
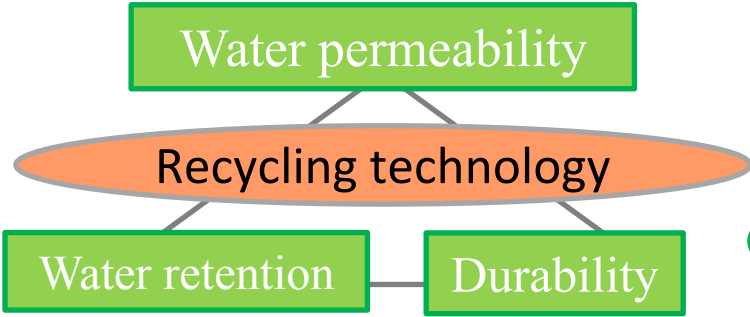
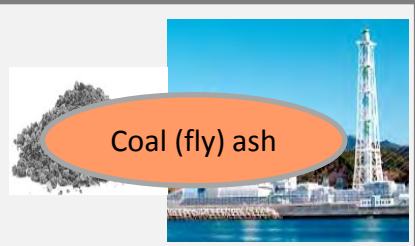
mega solar power plants



Sustainable city/town development using coal ash

【prevention of global warming/ urbanisation】

【Environmentally friendly】



Experience of construction

Year	Construction area (m ²)	Used amount of coal ash (t)
2009	7,800	390
2010	9,600	480
2011	15,500	770
2012	6,300	320
2013	7,000	350
2014	10,000	700
<u>Total</u>	<u>56,200</u>	<u>3,010</u>



Thank you,