

# 100% PANAMA

Transition to 100% wind, water, and solar (WWS) for all purposes  
(electricity, transportation, heating/cooling, industry)



Residential rooftop solar  
**11.3%**



Solar plant  
**25.4%**



Concentrated solar plant  
**0%**



Onshore wind  
**30%**



Offshore wind  
**5%**

## 2050

PROJECTED ENERGY MIX

Commercial/govt rooftop solar  
**10.7%**



Wave energy  
**4%**



Geothermal energy  
**0%**



Hydroelectric  
**12.8%**



Tidal turbine  
**0.8%**



### 40-Year Jobs Created

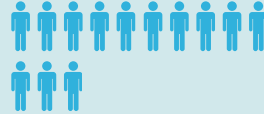
Number of jobs where a person is employed for 40 consecutive years

Operation jobs:



**15,033**

Construction jobs:



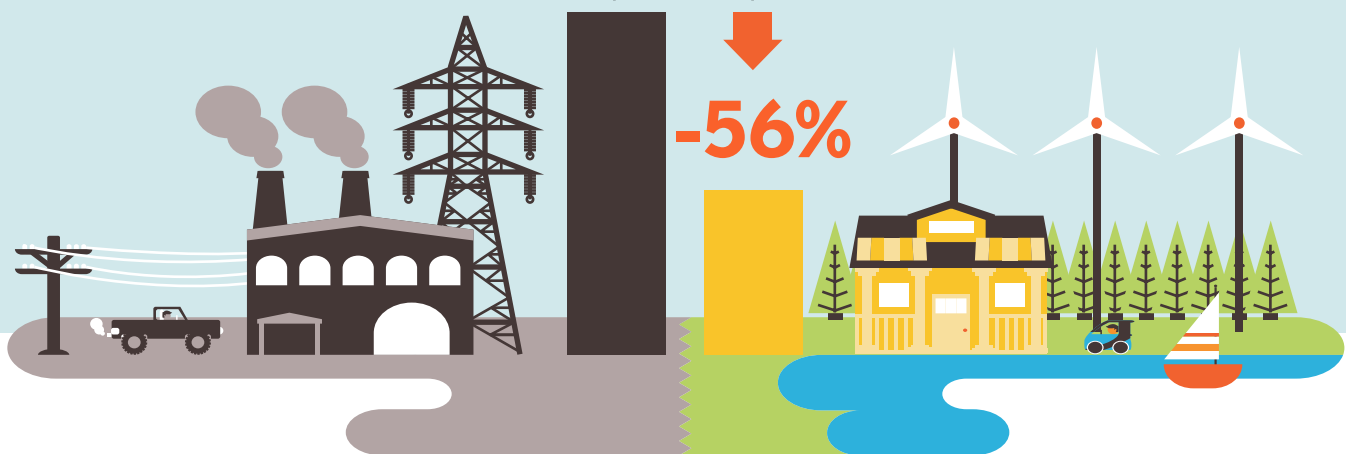
**12,720**

= 1,000

Using WWS electricity for everything, instead of burning fuel, and improving energy efficiency means you need much less energy.

2050 Demand with BAU

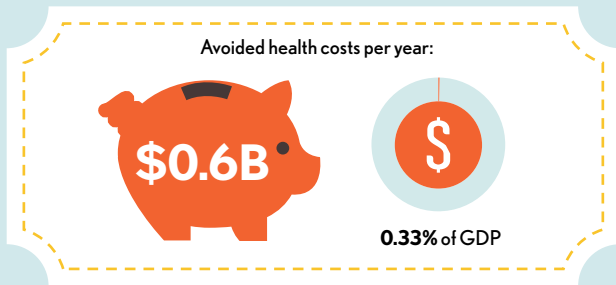
2050 Wind, Water, Solar



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## Avoided Mortality and Illness Costs



Air pollution deaths avoided every year: **73**



= 10



Plan pays for itself in as little as **3.2** years from air pollution and climate cost savings alone.

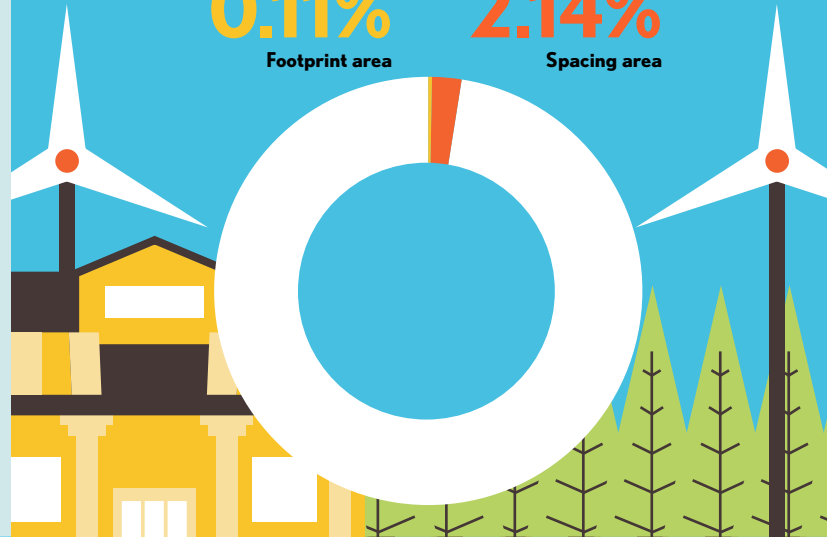
## Percentage of Land Needed for All New WWS Generators

**0.11%**

Footprint area

**2.14%**

Spacing area



## Future Energy Costs 2050

BAU (Business as usual)

WWS (Wind, water, solar)



Average fossil-fuel energy costs\*

**9.3 c/kWh**

\*Health and climate external costs of fossil fuels are another 5.7c/kWh



Average WWS electricity costs

**8.1 c/kWh**

## Money in Your Pocket

**(P) = \$100**

Annual energy, health, and climate cost savings per person in 2050: **\$1,169**



Annual energy cost savings per person in 2050: **\$74**

