

A ROADMAP FOR 100% RE FOR COSTA RICA'S DECARBONIZATION

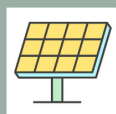
IN FEBRUARY 2019, COSTA RICA LAUNCHED ONE OF THE MOST AMBITIOUS DECARBONIZATION PLANS IN THE WORLD: AIMING TO REACH NET-ZERO EMISSIONS BY MID-CENTURY AND RUN ON 100% RENEWABLE ELECTRICITY BY 2030. WHILE THE LATIN AMERICAN COUNTRY IS ALREADY A PIONEER IN RENEWABLE ELECTRICITY, A NEW STUDY BY LA RUTA DEL CLIMA, THE WORLD FUTURE COUNCIL AND THE UNIVERSITY OF TECHNOLOGY SYDNEY DEMONSTRATES HOW IT CAN ALSO CUT ITS DEPENDENCY FROM OIL AND GAS IN THE OTHER SECTORS. THE STUDY PROVES THAT LEVERAGING COSTA RICA'S MASSIVE UNTAPPED RENEWABLE ENERGY POTENTIAL CAN HELP TO ACHIEVE ITS GOALS AND BE AN EXAMPLE FOR OTHER COUNTRIES TO FOLLOW.

COSTA RICA'S UNTAPPED POTENTIAL*

*excluding housing areas, protected areas, slopes higher than 30 degrees, excluding rooftop potential



More than **15 GW**
of on-shore wind
potential



more than **196 GW**
potential for utility-
scale solar

HIGHEST concentration of solar and
wind potential in north-western region of
Guanacaste

SAN JOSÉ has significant potential for
roof-top and utility-scale solar PV

100%RE with high penetration of e-transport and electrification of industrial heating can
be realised by utilising only 6% of the utility-scale solar power potential by 2050



Costa Rica has abundant renewable energy resources, which
can supply, all required energy across all sectors, including the
increased electricity demand for electric vehicles.

CO-BENEFITS OF 100% RENEWABLE ENERGY IN COSTA RICA



Ambitious RE targets in the power and industry sector will
reduce energy-related CO2 emissions by 38 million tons of CO2
between 2020 and 2030.



Electrification of the transport sector can save up
to **15 million tons CO2 emissions** by 2030.

100%RE can save **US\$0,01/kWh** in power generation costs, as well as

25Mln barrels of oil which can save up to **US\$5.9Bln**

by 2050, financing **more than 70%** of additional investments

needed for higher RE integration.

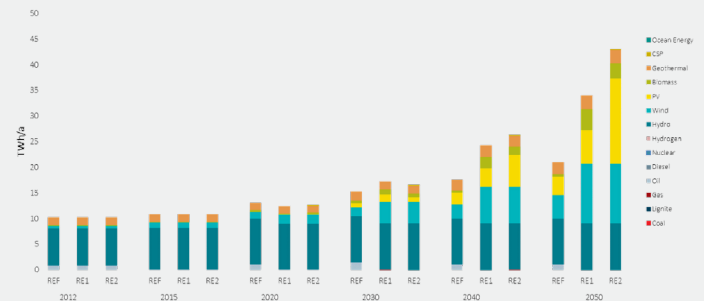
To find out more, visit www.worldfuturecouncil.org/100-renewable-energy-costa-rica/

COSTA RICA - DEVELOPMENT OF TOTAL ELECTRICITY SUPPLY COSTS AND SPECIFIC ELECTRICITY GENERATION COSTS IN THE SCENARIOS*—WITH NO CARBON COSTS

*the study compares three different scenarios: BAU, RE1 and RE2



COSTA RICA BREAKDOWN OF ELECTRICITY GENERATION BY TECHNOLOGY



CRUCIAL EFFORTS IN ORDER TO ACHIEVE 100%RE & FULL DECARBONIZATION

PRIORITIZE DEPLOYMENT OF RENEWABLE ENERGIES ACROSS ALL SECTORS AS PART OF THE DECARBONISATION PLAN

INCREASE TRANSMISSION AND DISTRIBUTION NETWORKS BETWEEN LOAD CENTRES AND RE GENERATION HUBS, SUCH AS GUANACASTE (WHICH WILL SERVE AS THE PRIMARY LOCATION FOR ONSHORE WIND)

INSTALL THE REQUIRED STORAGE CAPACITIES OF AROUND 719GWH/A (UP TO 3.5% OF TOTAL VARIABLE GENERATION IN 2050)

KEEP STORAGE NEEDS TO 30% BY 2030 IN ALL REGIONS EXCEPT GUANACASTE (80%)

PRIORITIZE ENERGY EFFICIENCY, PARTICULARLY IN THE HEATING/ COOLING SECTOR

INTRODUCE DEDICATED SUPPORT INSTRUMENTS ARE REQUIRED TO ENSURE THE DYNAMIC DEVELOPMENT OF RENEWABLES, PARTICULARLY FOR THE TRANSPORT SECTOR AND RENEWABLE PROCESS HEAT PRODUCTION IN THE INDUSTRY SECTOR.