

8 EXECUTIVE SUMMARY

CLEAN, SAFE AND EFFICIENT ENERGY

Topic Coordinators José Manuel Serra Alfaro (ITQ, CSIC-UPV)
and Domingo Pérez Coll (ICV, CSIC)

15 CHALLENGE 1

RENEWABLE ENERGY PRODUCTION

Challenge Coordinator Hernán Míguez (ICMS, CSIC-US)

45 CHALLENGE 2

EFFICIENT ENERGY STORAGE

Challenge Coordinator M. Rosa Palacín (ICMAB, CSIC)

73 CHALLENGE 3

ENERGY EFFICIENCY AND HARVESTING

Challenge Coordinator Marisol Martín González (IMN-CNM, CSIC)

97 CHALLENGE 4

INDUSTRY ELECTRIFICATION AND GRID MANAGEMENT

Challenge Coordinator Xavier Jordà (IMB-CNM, CSIC)

121 CHALLENGE 5

VALORIZATION OF BIOMASS AS ENERGY SOURCE

Challenge Coordinator José C. del Río (IRNAS, CSIC)

149 CHALLENGE 6

**DECARBONIZING ENERGY SECTORS ADDICTED
TO CARBON: CCS AND CCU**

Challenge Coordinator Juan Carlos Abanades (INCAR, CSIC)

175 CHALLENGE 7

**CATALYSIS FOR INDUSTRIAL PRODUCTION
AND OF ENERGY RESOURCES**

Challenge Coordinator José Carlos Conesa (ICP, CSIC)

207 CHALLENGE 8

HYDROGEN TECHNOLOGIES

Challenge Coordinator Antonio Chica (ITQ, CSIC-UPV)

237 CHALLENGE 9

**SOCIAL AND ENVIRONMENTAL ASPECTS
OF THE ENERGY TRANSITION**

Challenge Coordinators Mario Díaz (MNCN, CSIC)
and Ana Romero de Pablos (IFS, CSIC)