ROADMAP 2050

TECHNICAL AND ECONOMIC ASSESSMENT

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80% DECARBONIZATION OVERALL MEANS NEARLY FULL DECARBONIZATION IN POWER, ROAD TRANSPORT AND BUILDINGS



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POWER DEMAND WILL GO DOWN DUE TO HIGHER EFFICIENCY AND UP DUE TO ADDITIONAL DEMAND FROM TRANSPORT AND BUILDING



A COMBINATION OF SOLAR & WIND IS BENEFICIAL FOR BALANCING PURPOSES

Energy production mix over the year, TWh per week



GRID CAPACITY REDUCES VARIABILITY IN BOTH DAILY & SEASONAL DEMAND FLUCTUATIONS







AN EU APPROACH REQUIRES ABOUT 40% LESS RESERVE CAPACITY

Maximal reserve requirement¹, GW



CURTAILMENT IS KEPT LOW THROUGH GRID EXPANSION AND BACK-UP CAPACITY

2050, GW



DEMAND RESPONSE CAN REDUCE GRID AND BACK UP INVESTMENTS BY 20–30%

Optimized, DR assumptions: Baseline - 0%, 40, 60 & 80% RES - 0% to 20%



LOW CARBON TECHNOLOGY COSTS DECREASE WHILE GAS PLANT COSTS INCREASE

Cost of conventional gas versus low carbon technologies, € per MWh



THE COST OF THE DECARBONIZED PATHWAYS AND THE BASELINE ARE LIKELY TO DIFFER LESS THAN € 250 PER YEAR PER HOUSEHOLD



CAPITAL FOR POWER GENERATION WOULD MORE THAN DOUBLE IN THE NEXT 15 YEARS



EFFICIENCY AND FUEL SHIFT COULD RESULT IN A LOWER ENERGY BILL LONG TERM



NOTE: Energy prices are a weighted average of prices faced by consumers weighted by the shares of consumption of different fuels

SOURCE: Roadmap 2050 Technical Analysis

ABOUT 400,000 JOBS ARE CREATED IN CLEAN TECH, VERSUS POTENTIALLY 250,000 JOB LOSSES IN FOSSIL FUEL SUPPLY CHAINS



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