

TABLE OF CONTENTS

FOREWORD	6
EXECUTIVE SUMMARY: 10 FINDINGS, 20 RECOMMENDATIONS	9
INTRODUCTION: THE EUROPEAN ENERGY TRANSITION	14
1. The governance of the Energy Union: a new relationship between European citizens and decision makers	17
1.1. Four guiding principles to articulate and cross-fertilise the several levels of energy governance	24
1.1.1. Democracy and sovereignty: the citizen at the centre of the energy transition	24
1.1.2. Subsidiarity: deciding at the relevant level of governance	25
1.1.3. A more holistic approach to the energy transition	27
1.1.4. From decision by a few to action by all	30
1.2. Building trust and consensus on a best way to achieve the energy transition	31
1.2.1. Planning for the medium term - horizon 2030	32
1.2.2. Planning for the long term - horizon carbon neutrality	36
1.2.3. Adopting a "Clean Energy Union Deal"	39
1.2.4. Preparing for implementation	42
1.3. Delivering concrete and visible projects	49
1.3.1. Rolling-out charging points for electric vehicles with the Juncker Plan	49
1.3.2. A Green Erasmus Pro Programme	51
1.3.3. Making European islands the figureheads of the energy transition	51
1.3.4. Develop an EU-Africa clean energy partnership	52
1.3.5. Protecting Europeans from unwelcomed foreign interference	53
1.3.6. Identifying more concrete projects	54

2. Innovating to drive an energy transition for all Europeans	57
2.1. Public sector support is key to drive a swift and competitive energy transition	58
2.1.1. Businesses must innovate to survive the energy transition	59
2.1.2. Europe should become the global provider of clean energy solutions to boost its economy	62
2.1.3. Research and innovation is Europe's best tool to trigger a global energy transition to fight climate change	64
2.1.4. Public support for research and innovation fosters private sector competitiveness	66
2.2. Europe has the assets to lead the global clean energy race	68
2.2.1. Europe has the academia and businesses ecosystem to lead the global clean energy race	68
2.2.2. Existing EU R&I instruments for energy are relevant but need to be optimised	75
2.2.3. Europe should create its own energy innovation path to outperform the US	79
2.3. Innovation to drive the clean energy transition	82
2.3.1. Three shortcomings need to be fixed faster	82
2.3.2. An end-user centric approach to energy innovation: from NIMBYs to PIMBYs	84
2.3.3. A citizen-based platform for an efficient and democratic way to foster breakthrough innovation	90
2.3.4. Transforming incumbents into energy transition tigers: corporate venturing and intrapreneurship	95
3. Financing the Energy Transition in Europe: Towards a More Holistic and Integrated Approach	100
3.1. Estimating investments needs and costs	102
3.2. The low-carbon investment challenge	106
3.3. The need to secure an appropriate distribution of costs	110
3.4. Setting an effective carbon price: an essential (but not sufficient) pre-condition	113
3.5. Improve measures in support to low-carbon energy investment	116
3.5.1. Reforming market support schemes for renewables and promote a more optimal distribution of renewables across Europe.	119
3.5.2. Support interconnection	121
3.5.3. Optimize direct financial support to renewables	124
3.5.4. A more coordinated approach to boost energy efficiency investment	127

3.5.5. Support citizens' empowerment	134
3.5.6. Unlock the potential of the green bond market for the energy transition	137
3.6. Incorporate climate considerations in all public and private investment decisions	139
3.6.1. Towards a "Green" Capital Market Union	140
3.6.2. Improve climate mainstreaming practices in public promotional banks	142
3.6.3. Extend the use of green public procurement	145
4. A Social Pact for the Energy Transition	148
4.1. A just transition for workers: reducing insecurity and maximising opportunities	150
4.1.1. The impact of the energy transition on employment in Europe	150
4.1.2. Turning a challenge into an opportunity: how to anticipate and organise the adjustment in sectors/regions at risk from job losses	160
4.1.3. Supporting those "left behind" by the transition and ensuring an equitable sharing of the inevitable costs	165
4.1.4. Maximising the job creation potential of the energy transition	167
4.1.5. Guaranteeing the quality of new and redefined jobs	172
4.2. An inclusive transition for citizens and consumers: making sure everyone benefits	173
4.2.1. The energy transition as a public health issue	174
4.2.2. "Consumactors" and "prosumers" - ensuring that citizens benefit fully from the advantages of the energy transition	182
4.2.3. For an energy transition that aims to eradicate energy poverty	190
LIST OF BOXES, GRAPHS AND TABLES	212
BIBLIOGRAPHY	216
AUTHORS	224
ON THE SAME THEMES...	226