

A Science-Policy Framework to Design a Post-Pandemic Economic Recovery

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Steps to Propose & Assess Green Economic Recovery Measures in Cyprus



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Steps to Propose & Assess Green Economic Recovery Measures in Cyprus

- First screening of candidate measures in April-May 2020
- Interaction with government & business associations (OEB) – final list of measures
- Quantitative simulations of energy/environmental/ growth/job impacts with energy & economic models
- Design of multi-criteria assessment process & engagement of stakeholders for qualitative input
- Combination of quantitative & qualitative input for ranking of candidate measures
- Use of methodological framework to assess measures to be submitted by Finance Ministry to European Commission as the national Recovery & Resilience Plan



13 Green Recovery Measures Being Considered

- Immediate launch of grants for energy renovations of buildings from unused budget of 2020-21
- 2. New grant scheme for energy renovations of existing buildings, 2021-27
- 3. Grants for energy renovations of buildings under construction for upgrade to Near-Zero Energy Buildings
- 4. Installation of smart electricity meters
- 5. Virtual net billing for encouragement of photovoltaic installations by enterprises
- 6. Subsidy to loans of businesses certified with an environmental management system
- 7. Business4Climate scheme grants to enterprises with a verified low-carbon action plan up to 2030
- 8. Implementation of existing Sustainable Urban Mobility Plans (SUMP)
- 9. Construction of tram in the capital city of Nicosia
- 10. Scrappage scheme for old cars to be replaced with battery electric vehicles
- 11. Replacement of streetlights in municipalities and villages with energy efficient lighting
- 12. Tree planting along urban and intercity roads
- 13. Fiscally neutral carbon taxation for economic sectors out of the EU Emissions Trading System



Sustainability Criteria for Assessment of Recovery Measures (adapted from the <u>World Bank</u>)

Short term criteria (up to 2022)	Long term criteria (up to 2030)		
Energy savings per MEuro invested	Energy savings per MEuro invested		
CO ₂ emission savings per MEuro invested	CO ₂ emission savings per MEuro invested		
Other Environmental Impact (on air quality,	Promotion of low-carbon technologies /		
water, nature etc.)	strategies and climate neutrality by 2050		
	Other Environmental Impact (on air quality,		
	water, nature etc.)		
Economic multiplier	Economic multiplier		
Net jobs created per MEuro invested	Net jobs created per MEuro invested		
Demand generation in COVID- affected sectors	Infrastructure & Productivity		
Time to Implement R&D and innovation			
Improvement of Infrastructure & Productivity	Promotion of energy security		
Technical feasibility	Ability to address market failures		
Affordability	Economic / Climate Resilience		
Social acceptance	Contribution to effective implementation of NDCs		



Growth vs. Environmental Impact by Measure





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Assessment with State-of-the-Art Multi-Criteria Decision Analysis Methods

> Evaluation carried out with two MCDA methods:

- Analytic Hierarchy Process (AHP)
- Preference Ranking Organization Method for Enrichment of Evaluations (PROMETHEE)
- Scores for each measure and each criterion was provided, and criteria were weighted for their importance
- Input from ten stakeholders (from government, private sector, NGOs) was sought in a dedicated workshop in October 2020, to improve representativeness of assessments



Ranking of Green Recovery Measures based on Stakeholder Input

Action no.	Action name	Global preference net flow	
M13	Fiscally neutral carbon tax reform for sectors out of the EU Emissions Trading System	0.510	
M5	Virtual net billing for encouragement of photovoltaic installations	0.320	
M2	New grants for energy renovations of existing buildings, 2021-27	0.112	
M7	Grants to enterprises with verified low-carbon action plan up to 2030	0.107	
M1	Immediate launch of grants for energy renovations of buildings from unused budget of 2020-21	0.061	
M8	Sustainable Urban Mobility Plans	-0.002	
M6	Subsidy to loans of green businesses	-0.082	
M9	Construction of tram in the capital city of Nicosia	-0.097	
M12	Tree planting	-0.111	
M3	Grants for energy renovations of buildings under construction	-0.115	
M4	Installation of smart electricity meters	-0.183	
M11	Replacement of streetlights with energy efficient lighting	-0.240	
M10	Scrappage of old cars to be replaced with battery electric vehicles	-0.280	



Conclusions

- 'Return-to-normal' economic stimulus environmentally unsustainable and economically mediocre
- Trade-offs between the short term (2022), the long term (2030) and the climate neutrality (2050) targets
 - Some attractive immediate measures have short-lived benefits
 - Institutional changes may have long-term impacts with low cost
 - Modernising infrastructure & nature-based solutions are very promising though not always captured by our models
 - Combination of simple methods and more sophisticated models is needed for an assessment meaningful to policymakers
- Open-source models, transparent methods & stakeholder participation are crucial for support of green stimulus measures by governments & society vs. other investments



Part 1 of this work is available on World Bank's climate blog: <u>https://blogs.worldbank.org/climatechange/integrating-climate-policies-</u> <u>covid-19-economic-recovery-packages-example-cyprus</u>

→ Part 2 with results will follow later in 2020

Thank you

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