

Greening the Philippine Employment Projections Model

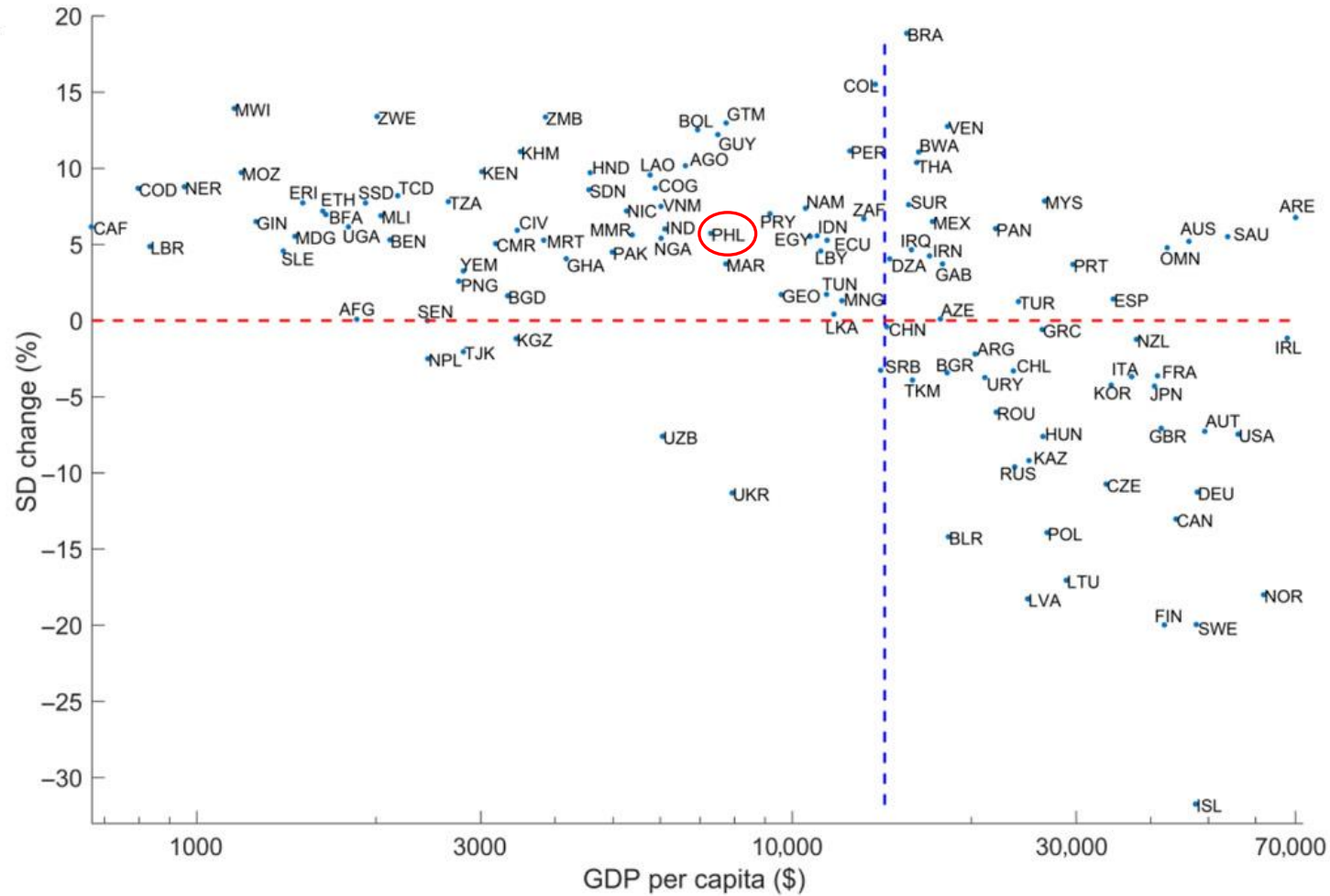
Results, Implications, and Extensions

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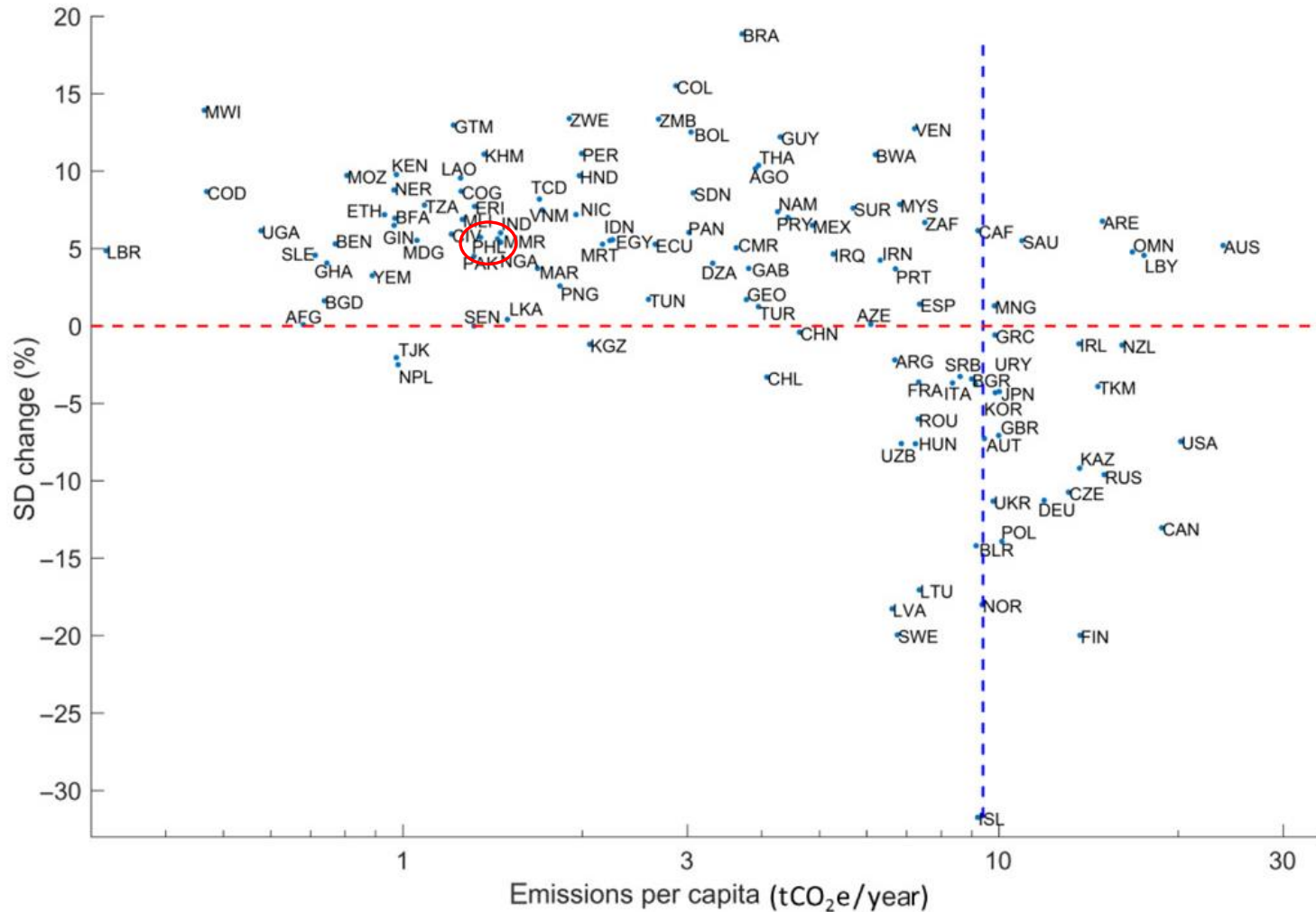
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Climate change has profound
impacts on society

A



B



Despite poorer nations contributing less GHG emissions per capita

Source: Bathiany, et. al., Science Advances 2018

Philippines and Climate Change Risks

- Ranked 3rd of 67 countries as most vulnerable to climate change (Paun et al 2018)
- Ranked 5th of 181 countries as most affected by extreme weather events between 1998 to 2017 (Eckstein et al 2019)



Is there a potential for multiple
dividends from greening the
economy?

Philippine Greening Policies

Sets environmental quality standards and prohibited acts with corresponding penalties for violations

Promotes continuous upgrading of skills through research and training, including the mainstreaming and transferring of technology

Establishes system of compensation and/or incentives to specific sectors

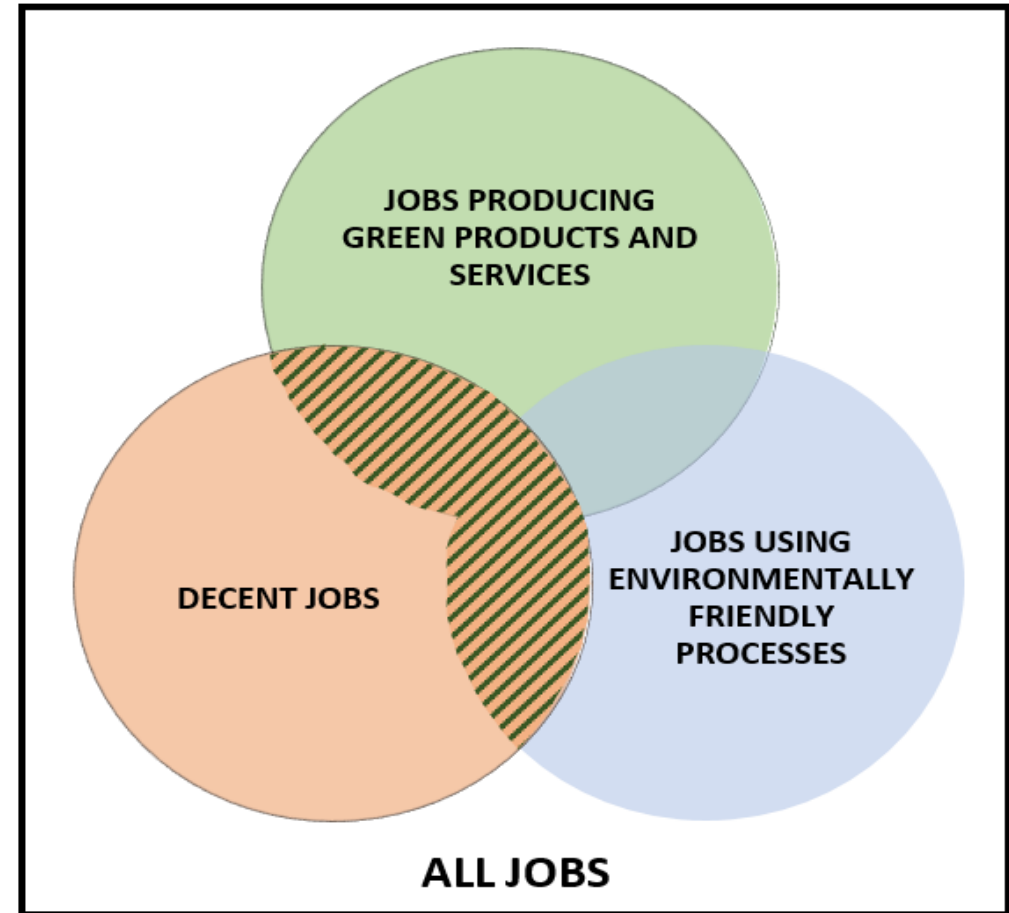
Green Jobs Act of 2016

The Green Jobs Act complements earlier laws by sharpening the country's policy focus to promote green jobs, collecting policy ideas from various sectors

- Promotes continuous training and upskilling
- Provides incentives to businesses
- Mandates creation of a *National Green Jobs Human Resource Development Plan* (Green Jobs HRD Plan)
- Tasks various departments to integrate and mainstream the promotion of green products and processes in sectoral development plans

Green Jobs Act of 2016 (RA 10771)

Green jobs are employment that contributes to preserving or restoring the quality of the environment. Green jobs are decent jobs.



 Green jobs

Greening the Philippine Employment Projections Model Initiative

Philippine EPM

- ❖ First developed in 2010 by ILO Philippine Country Office
- ❖ Currently maintained by DOLE-Institute for Labor Studies
- ❖ Provides inputs to National Human Resource Strategic Planning Initiative



It takes an economy for Juan to enjoy his favorite halo-halo

Philippine EPM

- ❖ Projects labor market imbalances: Supply v. Demand
- ❖ Provides subnational disaggregation
 - ❖ Employment demand in region(17)-sector(72), and – occupation (10)
 - ❖ Workers supply by region-education (4)
- ❖ No disaggregation for green and brown industries

Green Philippine EPM

- ❖ Expands Philippine EPM by introducing a green sector into the PEPM framework
- ❖ Provides inputs to National Green Jobs Human Resource Development Plan

Green Philippine EPM

Key features

- ✓ Incorporates economy-wide inter-linkages
- ✓ Designed for limited data and resource environment
- ✓ User friendly interface: current use and future expansion
- ✓ Projects demand for workers in 30 parent sectors

Current limitation

- ✗ Identification of green subsector are based on second-best measures
- ✗ Projects employment *in* green sectors, not *of* green jobs

Some Applications of Green Philippine EPM

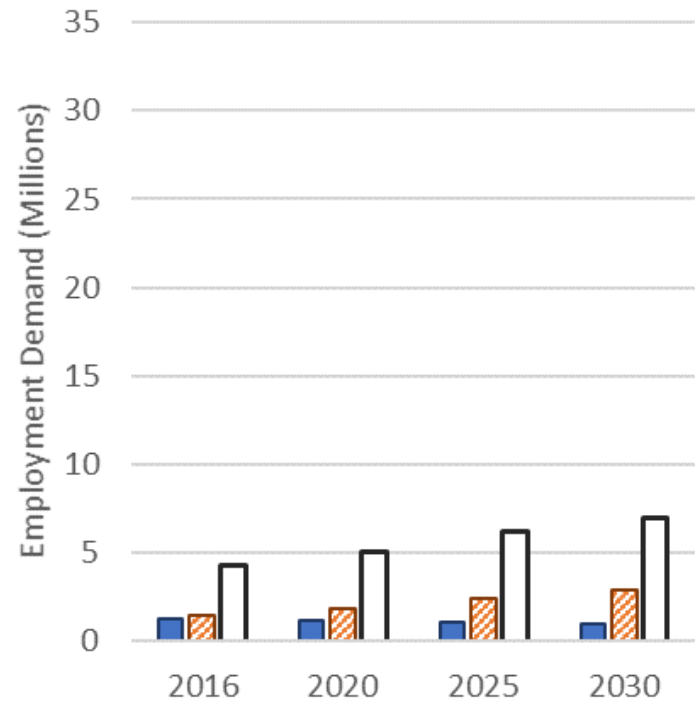
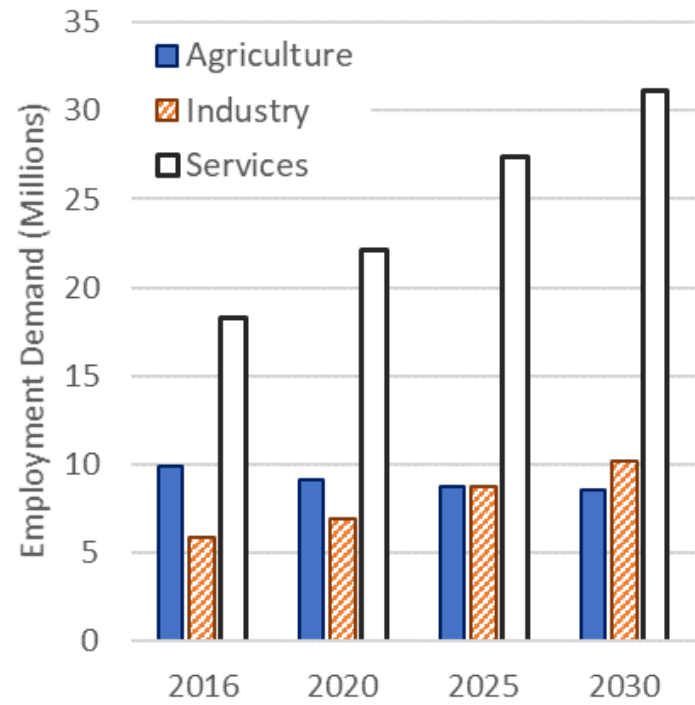
How large is the Philippines' green sector?

	Green	Conventional	All Sectors
A. Gross Value-Added (Current PhP Trillions)			
Agriculture	0.1	1.4	1.5
Industry	0.7	4.0	4.6
Services	2.0	6.4	8.4
Total	2.7	11.8	14.5
B. Gross Output (Current PhP Trillions)			
Agriculture	0.1	2.6	2.7
Industry	1.2	12.9	14.1
Services	3.3	8.7	12.0
Total	4.7	24.1	28.8
C. Employed (Millions)			
Agriculture	1.3	9.9	11.2
Industry	1.4	5.9	7.3
Services	4.3	18.2	22.5
Total	6.9	34.0	41.0
D. Output per Worker (Current PhP Thousands)			
Agriculture	107.8	257.9	240.8
Industry	869.2	2,194.4	1,938.7
Services	775.5	475.9	532.7
Total	672.9	709.3	703.1

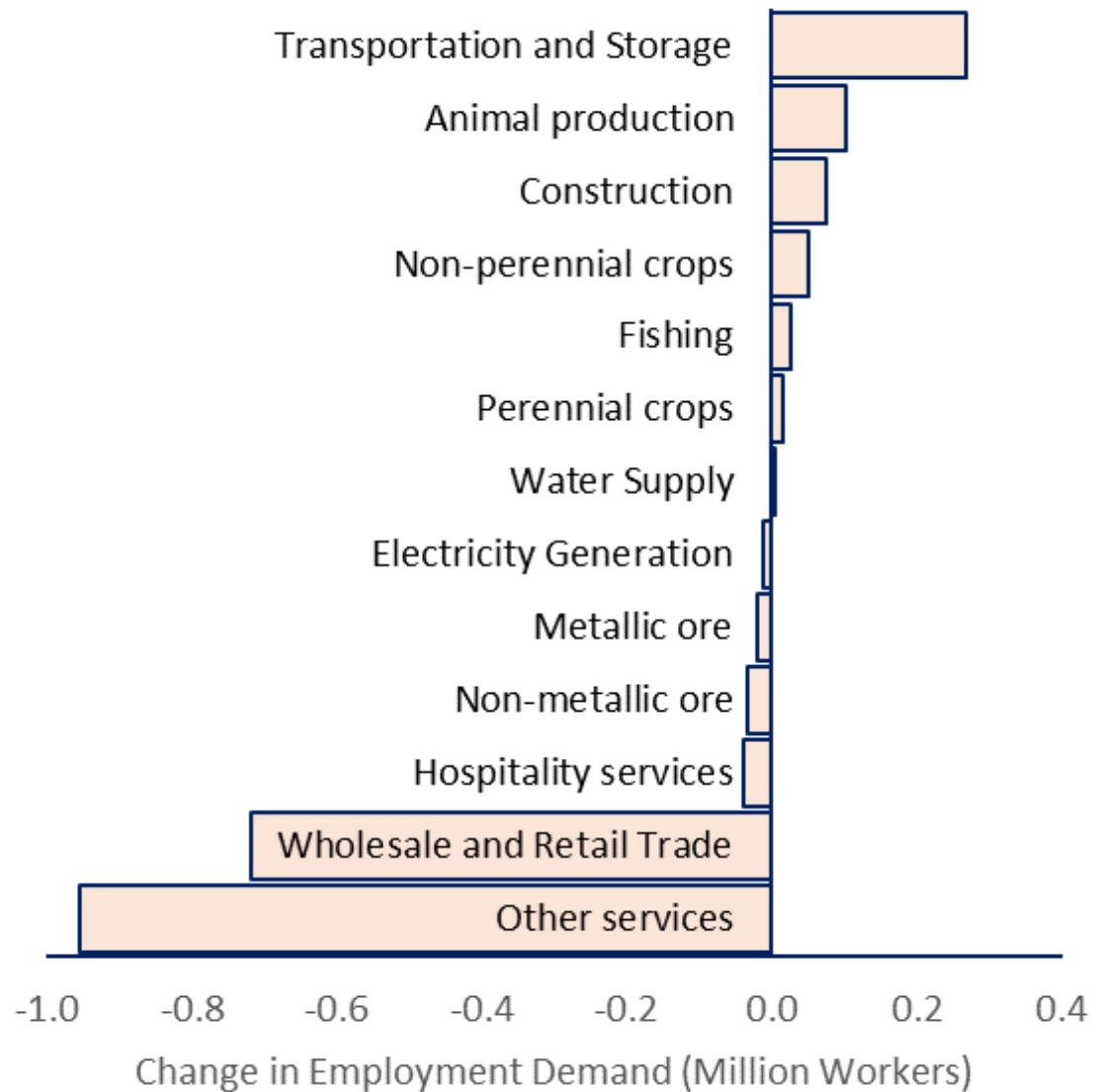
a – less than 0.05.

Source: Authors' estimates. See Abrigo, e.t al. (2018) for estimation details.

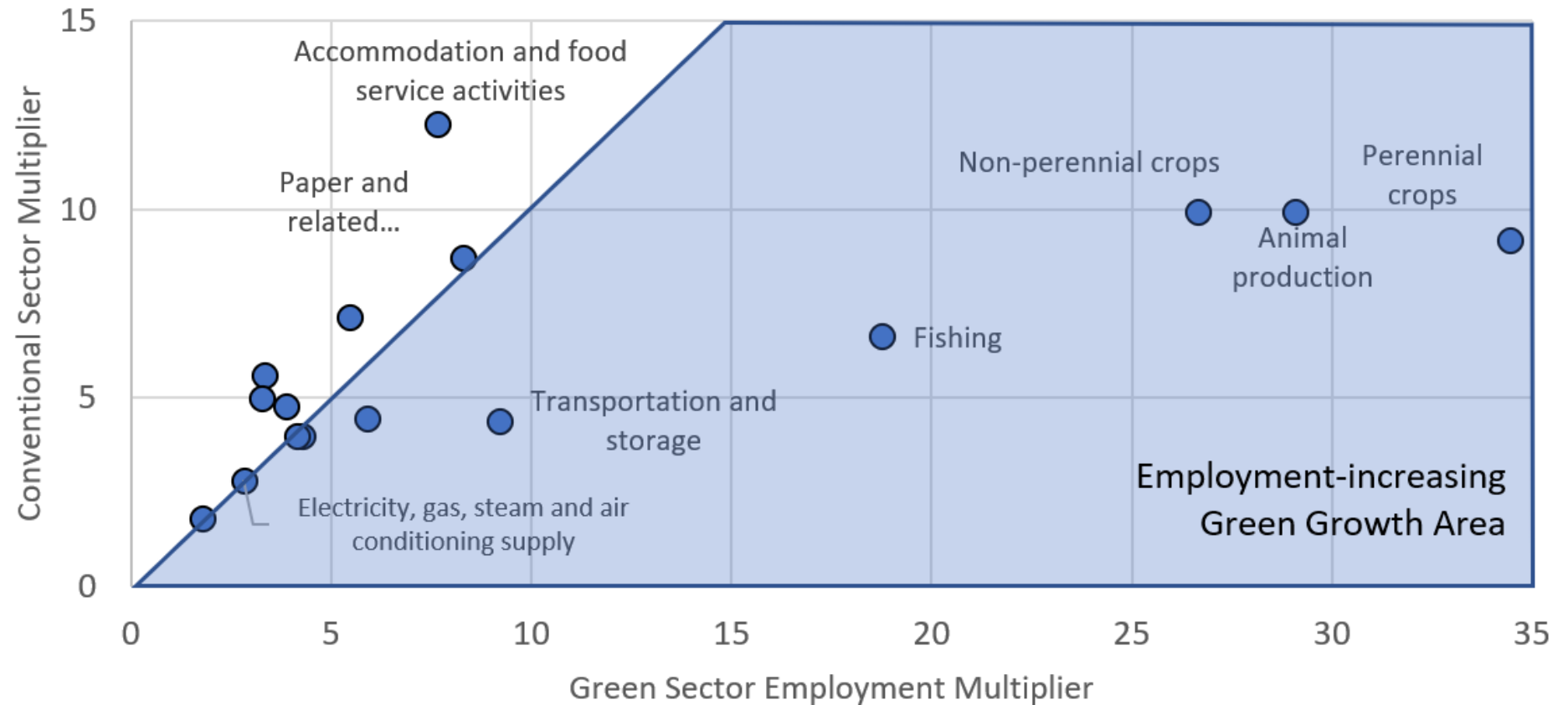
How much workers are needed in the Philippine Development Plan?



Who wins (loses) in *greening* the Philippine Development Plan?



Which sectors will benefit from greening?



Policy Implications

- ✓ Strengthen social safety net programs
- ✓ Re-orient education and training
- ✓ Explore alternative financing schemes
- ✓ Shift tax burden through green tax reform

Potential Model Extensions

Low-hanging Fruits

- Disaggregation and further refinements
- Projection of carbon emissions

More advanced extensions

- Analysis of optimal (“least-cost”) pathways
- General equilibrium models



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