

# ***THE HIDDEN WINNERS OF RENEWABLE ENERGY PROMOTION. INSIGHTS INTO SECTOR-SPECIFIC WAGE DIFFERENTIALS***

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## **Overview**

In light of Germany's transition approaches towards a sustainable energy system, this paper examines differences in employment structures and wage differentials between renewable energy establishments and their sector peers. To do so, we have developed a novel data set by linking company-level information from the German Renewable Energy Federation with establishment-level data from the Establishment History Panel of the Institute for Employment Research. Our descriptive evidence shows significant differences in wages and several other characteristics. Our estimates using the top four renewable energy sectors show that human capital and other establishment-level characteristics mostly explain the wage differential among manufacturers and energy providers. However, we find a persistent 'renewable energy wage premium' of more than ten percent in construction/installation activities and architectural/engineering services. We interpret this premium as a positive indirect effect of the promotion of renewable energies for the benefit of employees in renewable energy establishments within these two sectors.

## **Methods**

Econometric Analysis

- Oaxaca-Blinder Decompositions
- Establishment Fixed Effects Regressions
- Propensity Score Matching

## **Results**

In our analyses, we focus on the following top four RE sectors: manufacture of electronic components and boards; electric power generation, transmission and distribution; electrical, plumbing and other construction installation activities; and architectural and engineering activities and related technical consultancy. We find significant differences in human capital and other observed characteristics between RE and non-RE establishments. Furthermore, RE establishments pay considerably more than non-RE establishments within three of four sectors. However, in the sector of electric power generation, transmission and distribution, the situation is different: RE establishments pay about three log percent less. Differences in human capital and other establishment-level characteristics explain most of the wage differential among manufacturers. In two sectors (Construction installation activities and Architectural and engineering services), however, endowment differences between RE establishments and non-RE establishment explain a distinctly lower share of the raw wage gap. In both sectors, an unexplained gap of on average more than ten log percent remains, which we denote as 'renewable energy wage premium.' We take this as an indication that workers in RE-establishments in the construction installation activities and architectural and engineering services sectors benefit indirectly from the promotion of RE sources.

## **Conclusions**

Our results, which are corroborated by comprehensive sensitivity analyses, suggest that employees in the construction installation activities and architectural and engineering services are the 'hidden winners' of the RE promotion. As the most likely interpretation for this development, we consider the explanation of the wage premium as a positive indirect effect of the public RE promotion, e.g., by the German feed-in tariff system.

We identify the following policy implications in terms of promotion activities, such as the case of the RE development in Germany: first, there can be hidden stakeholders indirectly affected by the introduction, changing or ending of RE promotion activities, even if they do not directly profit from those promotion measures. Second, one should keep in mind the dimensions of the quality of work, e.g., in terms of wages, when evaluating the economic impacts of RE promotion activities.

## References

A full discussion paper of this project has been published in 2014:

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