

# LOCAL LABOR MARKET EFFECTS OF THE GREEN TRANSITION

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EMPLEO, CRECIMIENTO Y CAPITAL HUMANO

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## ECOLOGÍA

## Por qué crece el fenómeno NIMBY: progreso ecológico sí, pero que no me lo pongan en el jardín

- Ganan peso los movimientos ecologistas contra grandes infraestructuras y equipaciones, aunque sean de energías renovables



La 'España Vacía' frente a las renovables: pros y contras de la transición energética en el entorno natural. Invertia

OBSERVATORIO DE LA ENERGÍA

### La 'España Vacía' frente a las renovables: por qué llevar la transición energética al mundo rural es tan polémico

La fiebre renovable ha provocado encontronazos entre los promotores renovables y el mundo rural por cómo se usa el territorio.

## La Licencia Social de las renovables: del NIMBY al NIMTO

Aunque España está más familiarizada con la frase “Renovables sí, pero no así” estos acrónimos están haciendo caer tantos proyectos como los precios del mercado o la tramitación administrativa.

AGOSTO 8, 2024 **LUCAS MONSALVE, SOCIO-FUNDADOR DE MEDIACIÓN VERDE**



## El Gobierno aprueba la actualización del Plan Nacional Integrado de Energía y Clima 2023-2030, eje de la oportunidad económica, social y ambiental de España, por su contribución a la modernización y transformación del modelo productivo

Hoy, en Consejo de Ministros

El objetivo de consumo final de energía renovable sube al 48% –con un 81% de la generación eléctrica–, y el de eficiencia energética al 43%

Con una inversión prevista de 308.000 millones durante el período, el PIB se incrementa un 3,2% y se crean hasta 560.000 empleos en 2030

**Phasing in Renewables:**

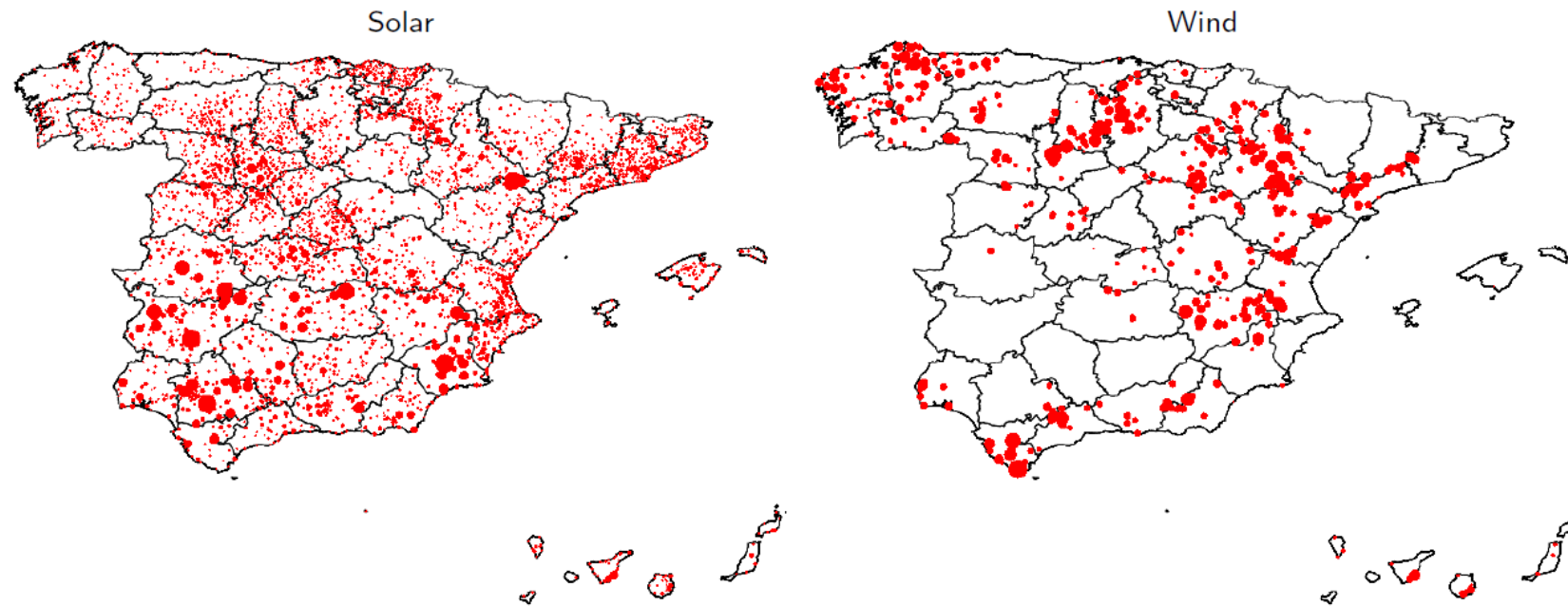
Fabra, N., Gutiérrez E., Lacuesta A., and Ramos, R. (2024) “Do Renewable Energy Investments Create Local Jobs?,” Journal of Public Economics.

**Phasing out Coal:**

Fabra, N., Gutiérrez E., and Ramos, R. (2024) “The End of Coal: Assessing Labor Market Transitions in Coal-Dependent Regions,” work in progress.







For each plant, we know:  
Technology, capacity, municipality, start-up date

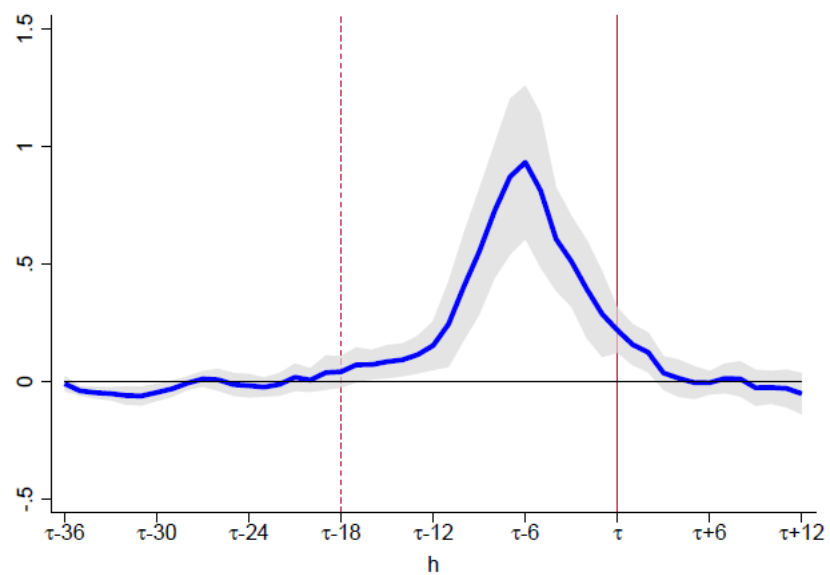
- Following Dubé et al (2023), we run 48 regressions in horizons  $h \in [-36, 12]$ :

$$y_{i,t+h} = \beta_{\tau+h}^s \Delta k_{i,t}^s + \beta_{\tau+h}^w \Delta k_{i,t}^w + \gamma_h X_{i,t} + \alpha_{h,i} + \lambda_{h,t} + \epsilon_{i,t+h}$$

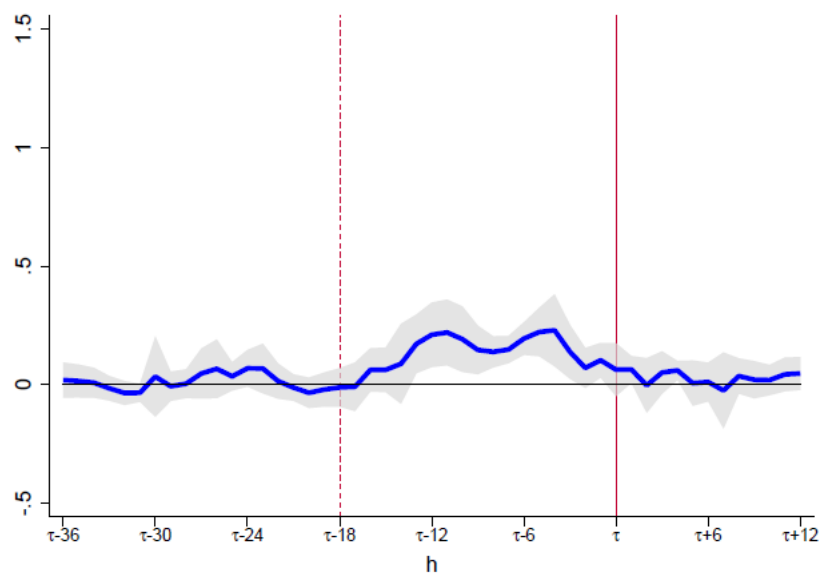
where:

- $\tau$  start up date
- $y_{i,t+h}$ : employment or unemployment in municipality  $i$  in month  $t + h$
- $k_{i,t}^e$ : capacity of plant(s)  $e = s, w$  at time  $t$  in municipality  $i$
- $y_{i,t+h}$  and  $k_{i,t}^e$  normalized by population at the municipality in  $t - 36$   
 $\Rightarrow \beta_{\tau+h}^e$  is the **job multiplier** in  $\tau + h$  of a 1 MW opened at  $\tau$
- $X_{i,t}$ : lags of  $y_{i,t+h}$  and lags and forwards of  $\Delta k_{i,t}^s$  and  $\Delta k_{i,t}^w$

A: Solar Employment



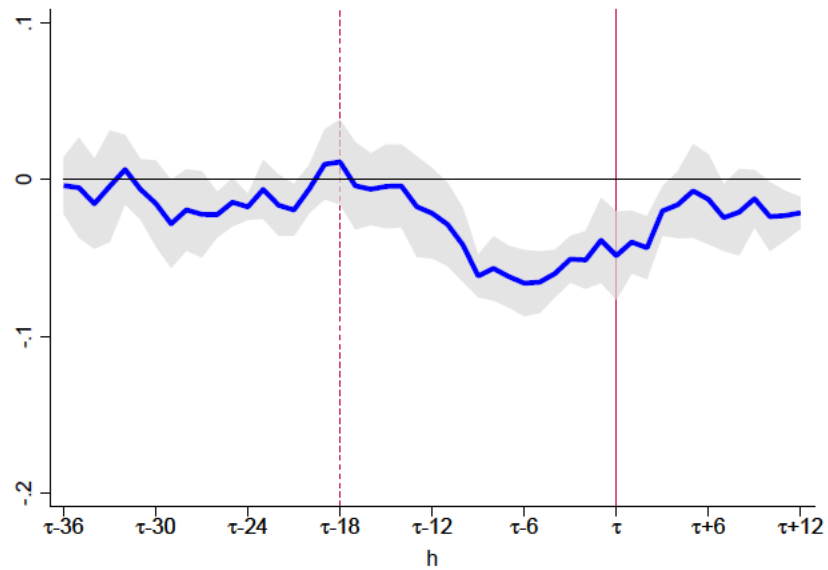
B: Wind Employment



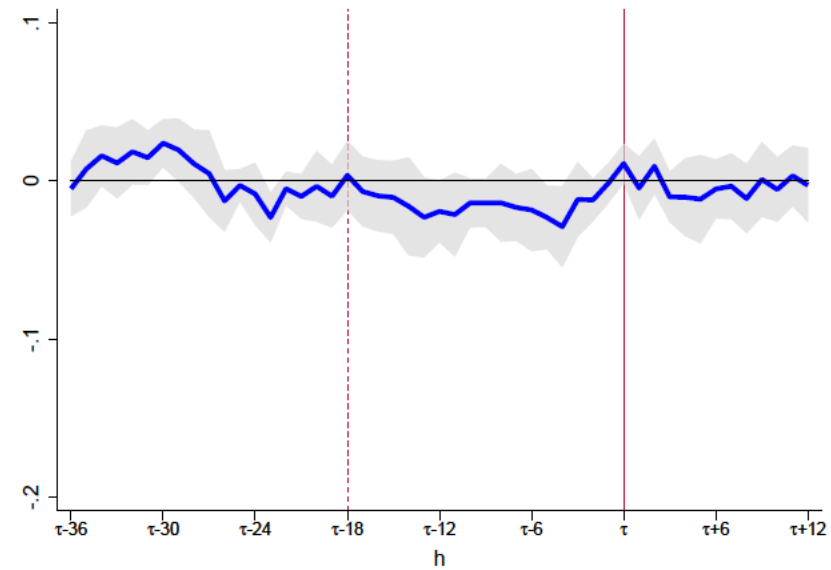




A: Solar Unemployment



B: Wind Unemployment



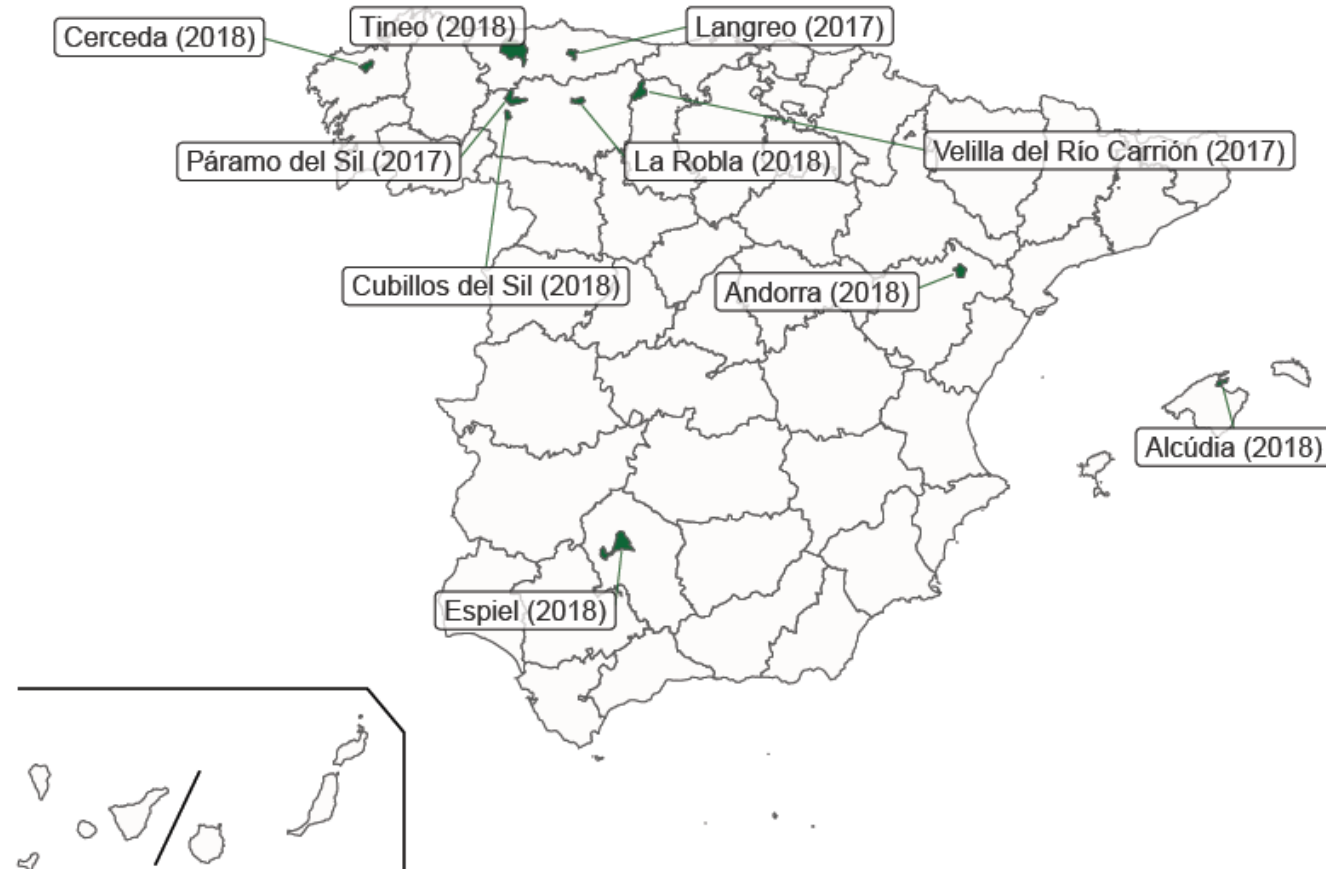
**Phasing in Renewables:**

Limited impact in employment during the construction for wind and during the operation maintenance regardless the technology.

Mainly, jobs related to specialized construction and civil engineering. Some indirect employment in food and beverage services in wind.

A significant portion of hiring is done in other municipalities.







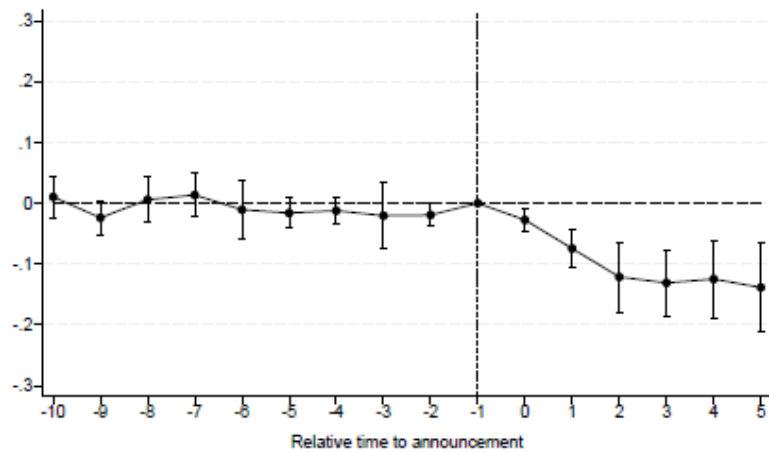
- We consider an event study specification *à la* Callaway and Sant'Anna (2021):

$$y_{it} = \alpha_i + \lambda_t + \sum_{\ell=-10}^{-2} \beta_{\ell} D_{it}^{\ell} + \sum_{\ell=0}^5 \beta_{\ell} D_{it}^{\ell} + \epsilon_{i,t}$$

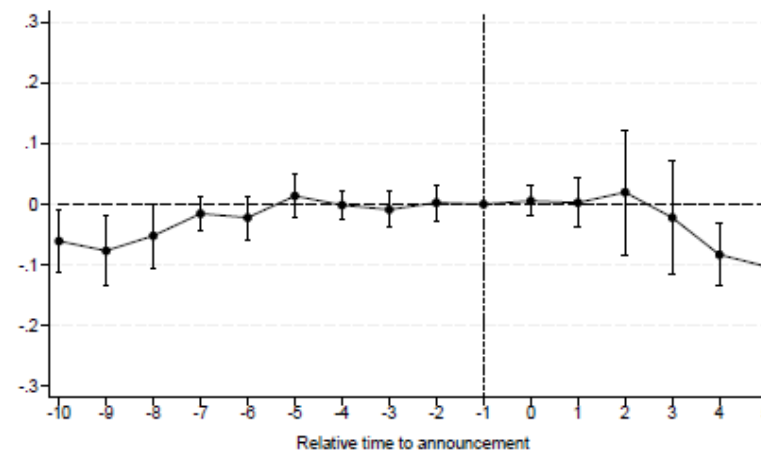
where:

- $y_{it}$ : log of employment, unemployment or population in region  $i$  at year  $t$
- $\alpha_i, \lambda_t$ : region and year fixed effects
- $D_{it} := \mathbb{1}\{t - E_i = \ell\}$ , with  $E_i$ : announcement of plant closure in year  $t$

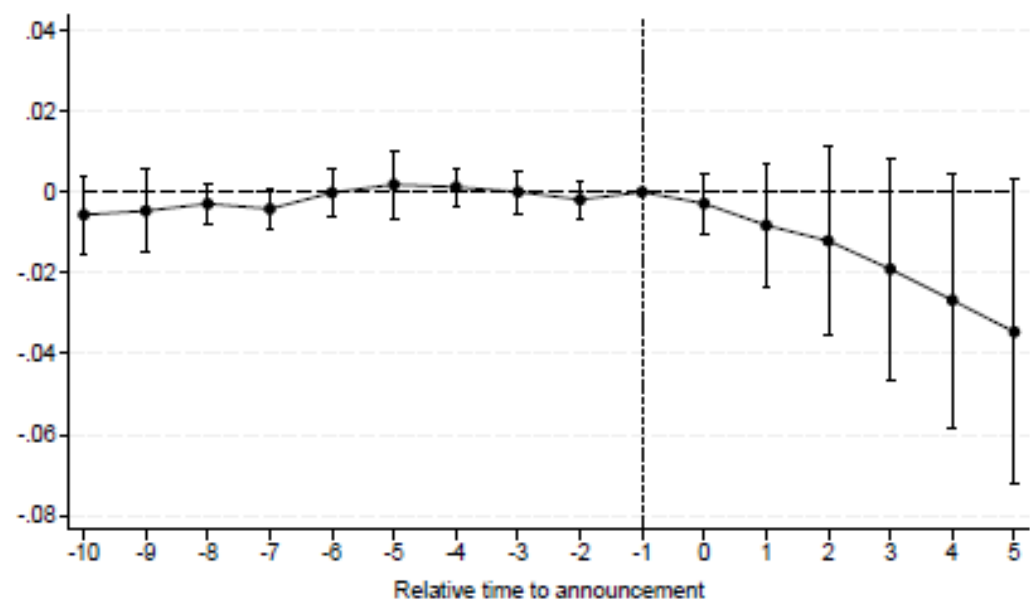
A: Log of Employment



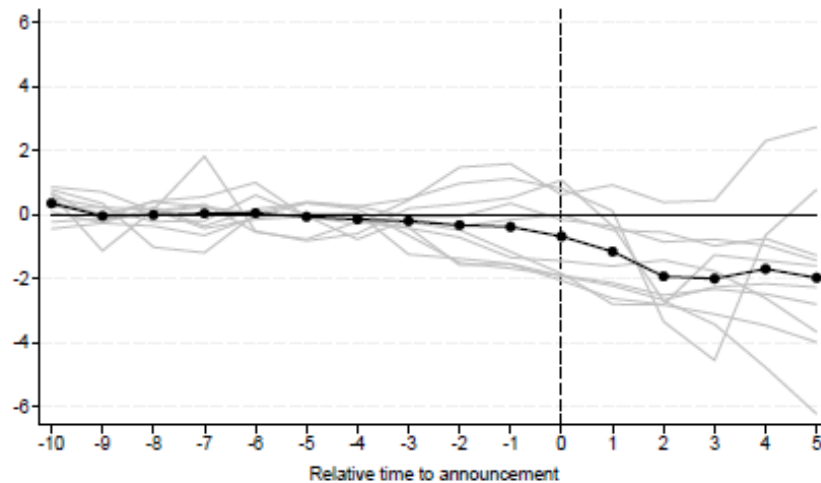
B: Log of Unemployment



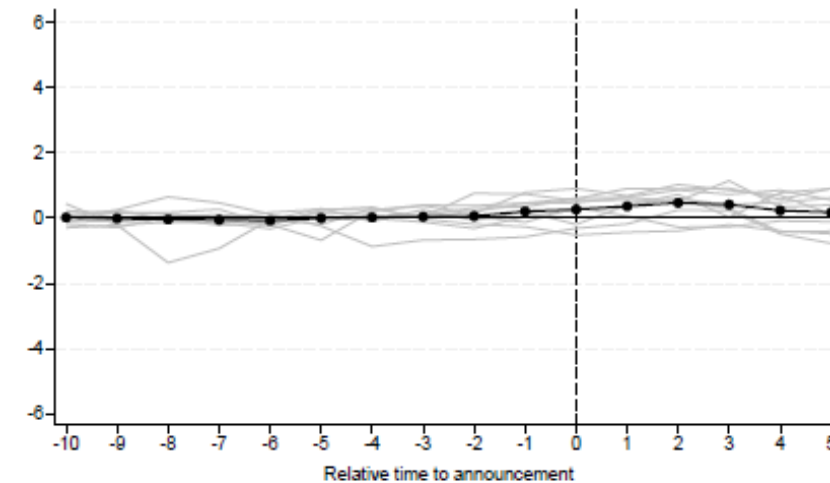
C: Log of Population



A: Employment



B: Unemployment



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**Phasing out Coal:**

Drop in employment following the closure of coal plants.

Smaller increase in unemployment due to a decrease in population.

The aggregate impact masks considerable heterogeneity between municipalities.



THANK YOU!

