



The Green Economy : an economic driver

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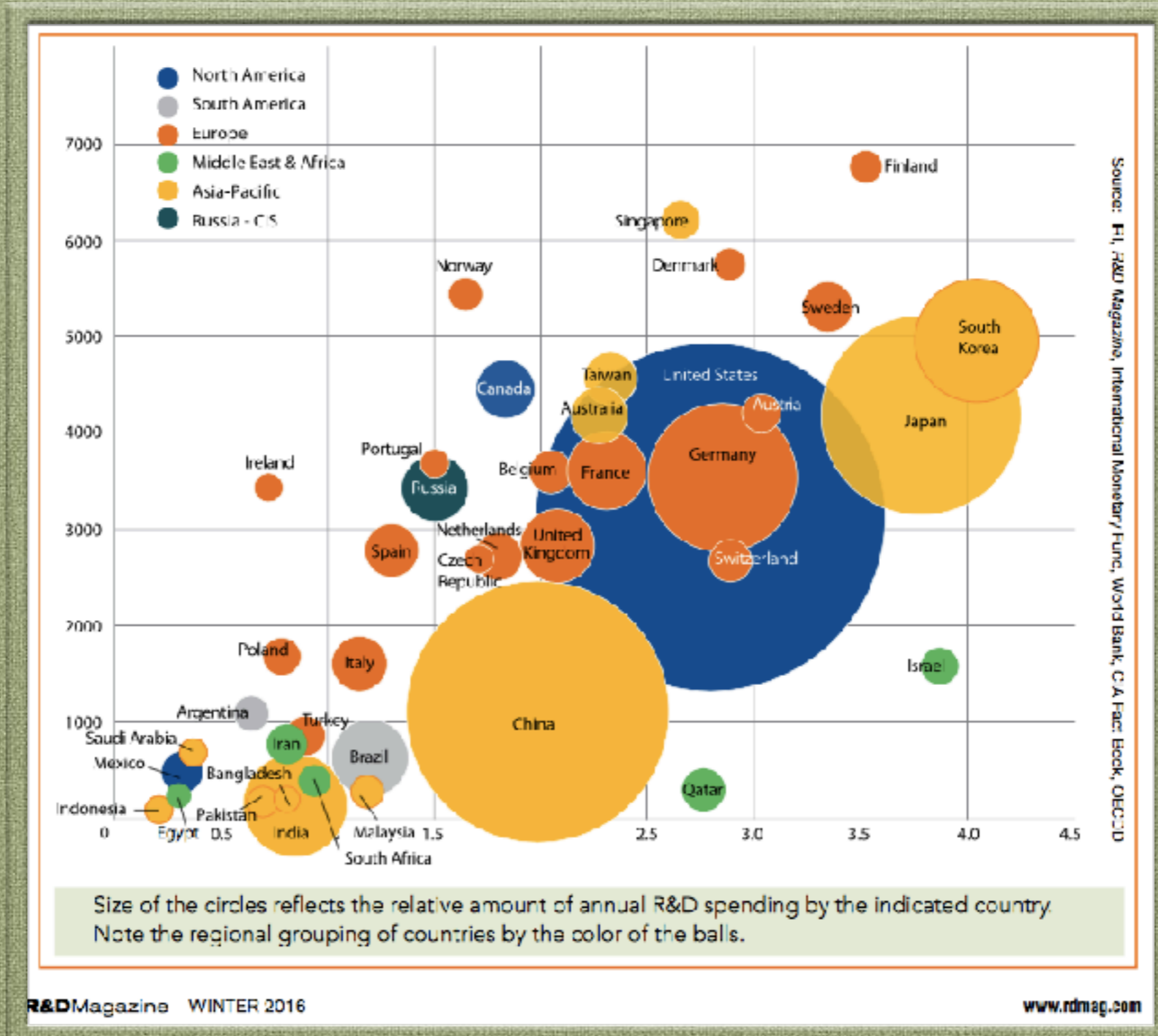
COP 21, Paris, December 2015

- ❖ COP21, where the US and France unite against climate change
- ❖ Developed and developing countries alike are required to limit their emissions to 2°C.

❖ Source : <https://www.theguardian.com/environment/2015/dec/13/paris-climate-deal-cop-diplomacy-developing-united-nations>



R & D investment is key to competitiveness



ENERGY EFFICIENCY
INDUSTRIAL FORUM

EEIF

REPRESENTS

1 MILLION
DIRECT JOBS IN ENERGY EFFICIENCY

€150 BILLION
CONTRIBUTION TO EU ECONOMY THANKS TO ENERGY EFFICIENCY

€300 BILLION
TURNOVER

At least **25% PRIMARY ENERGY SAVINGS**
with combined heat & power



2020
Up to **2 MILLION JOBS**
in buildings sector could be created by 2020

BILLIONS OF NEW WINDOWS
sold by 2030

2030

€1.4 BILLION
Invested in R & D in Europe

More than **100 Twh/year**
savings by LED

2030

45 Mtoe SAVINGS
expected from efficient
heating & cooling equipment

Up to **70% ENERGY SAVED**
with thermal insulation

2050

Up to **200 MILLION CITIZENS**
served by efficient
District Heating & Cooling in 2050

Up to **24% OF ENERGY GAINS**
thanks to maintenance & daily operation

1 COPPER-BASED TECHNOLOGIES

=
545 Mtoe of CO₂ saved by 2030

WE PROVIDE COST EFFECTIVE SOLUTIONS FOR A LOW-CARBON ECONOMY & SUSTAINABLE SOCIETY



Please visit our website for more information on data and references - www.eeif.eu

What is the Green Economy?
Trillions of dollars of investment
opportunities, energy savings, job
creations

The Green Economy

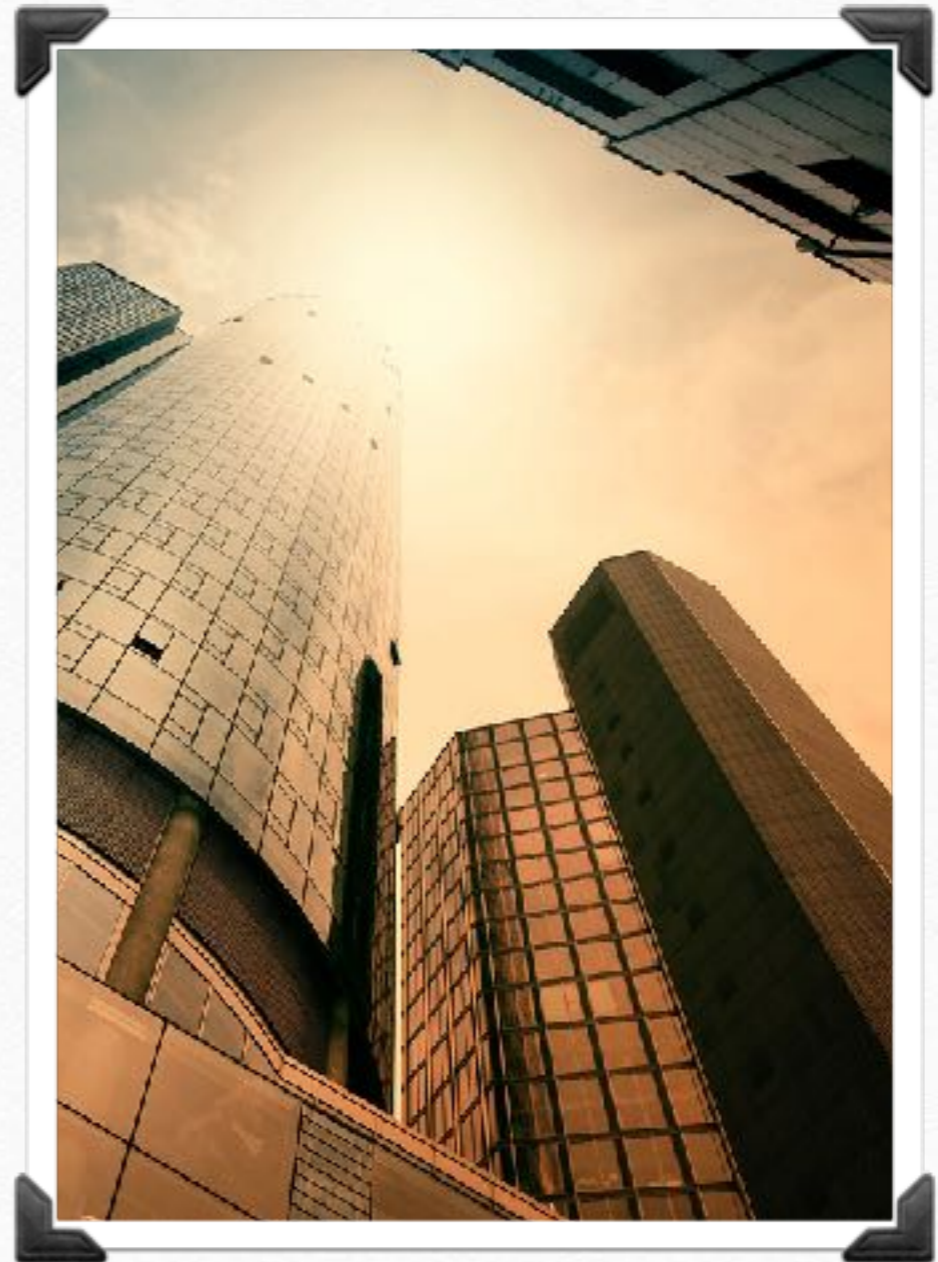
- ❖ A green economy is based on the efficient use of energy, reducing polluting emissions, and the use of renewable sources of power.
- ❖ A green economy uses these investments to create new opportunities, good jobs, and stronger communities
- ❖ Six green economy strategies

❖ Source : https://cdn.americanprogress.org/wp-content/uploads/issues/2008/06/pdf/green_jobs.pdf

Six strategies to create jobs and stay competitive

- ❖ 45 representative occupations = 14 million people today = 9% of today's total U.S. workforce The last year the U.S. Bureau of Labor Statistics reported on the number of green jobs in the United States, they found that
- ❖ Building retrofitting
- ❖ Mass transit
- ❖ Energy-efficient automobiles
- ❖ Wind power
- ❖ Solar power
- ❖ Cellulosic biomass fuels

❖ Source : <https://www.americanprogress.org/issues/green/reports/2008/06/03/4489/job-opportunities-for-the-green-economy/>



Efficiency in Operating and Management Systems

- ❖ Lighting
- ❖ Plug Loads
- ❖ Building Envelope
- ❖ Air Distribution & HVAC systems



Energy efficiency = energy savings

- ❖ Lightbulbs
- ❖ Windows
- ❖ Appliances
- ❖ Use a clothesline



<http://www.findenergysavings.co.uk/blog/new-energy-label-for-appliances/>

Climate change requires a shift in priorities in Energy Security, Innovation and Jobs and at the G7 meeting in Italy, *La Mission innovation*, launched by France and the US to double public and private investments in R & D for 7 strategic challenges in the energy transition to reinforce cooperation between our two countries.

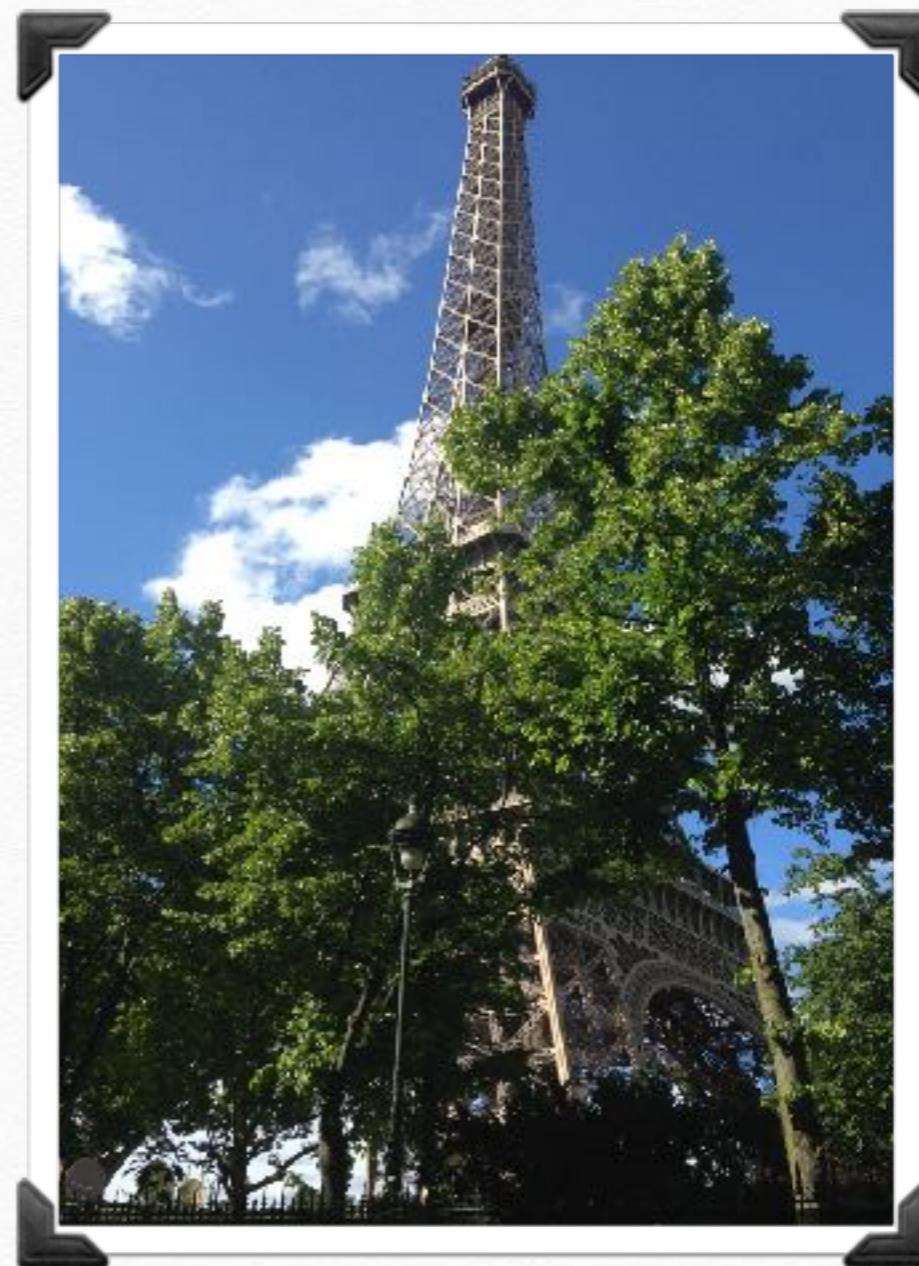


Source : <https://www.flickr.com/photos/franceecologieenergie/33181992801/in/photostream/>

FRANCE

What has France done?

- ❖ La loi de la Transition Énergétique de la Croissance Verte (LTECV) publiée au Journal Officiel du 18 août 2015
- ❖ Réduire les consommations et les émissions énergétiques de 40% et 50% respectivement
- ❖ Augmenter la part des énergies renouvelables de 23% à 32% d'ici 2030
- ❖ Réduire de 50 % la quantité de déchets mis en décharge à l'horizon 2025



And the economic impact?

- ❖ La LTECV favorise une croissance économique durable et la création d'emplois pérennes et non délocalisables :
- ❖ la création de **100 000 emplois** à court terme (dont **75 000** dans le secteur de la rénovation énergétique et près de **30 000** dans le secteur des énergies renouvelables) et de plus de **200 000** emplois à l'horizon 2030 ;
- ❖ le PIB devrait profiter des efforts réalisés à hauteur de 0,8% en 2020 et 1,5% en 2030.

Green professions and Education are key in France

- ❖ **France** : La croissance de l'emploi est particulièrement dynamique dans les **professions vertes** (+9,1 %) mais seulement légèrement plus forte que dans l'ensemble de l'économie pour les **professions verdissantes** (+2,4 %). Malgré leur très fort dynamisme, les professions vertes représentent des effectifs relativement modestes avec seulement 144.000 emplois en 2012, soit **0,5 % de l'emploi total**. Ces professions ont gagné 12.000 emplois en cinq ans.
- ❖ Profil : les métiers de la distribution d'énergie et de l'eau regroupent des **ingénieurs** mais aussi des **ouvriers** qualifiés. Il apparaît ainsi que 27% ont un **CAP** ou un **BEP**, 28% leur **bac**, 21% un **bac+2** et 15% un **diplôme supérieur**.

USA

Goal : reduce its carbon dioxide emissions from energy-based sources by 40 percent, to 3,200 million metric tons over roughly the next 20 years.

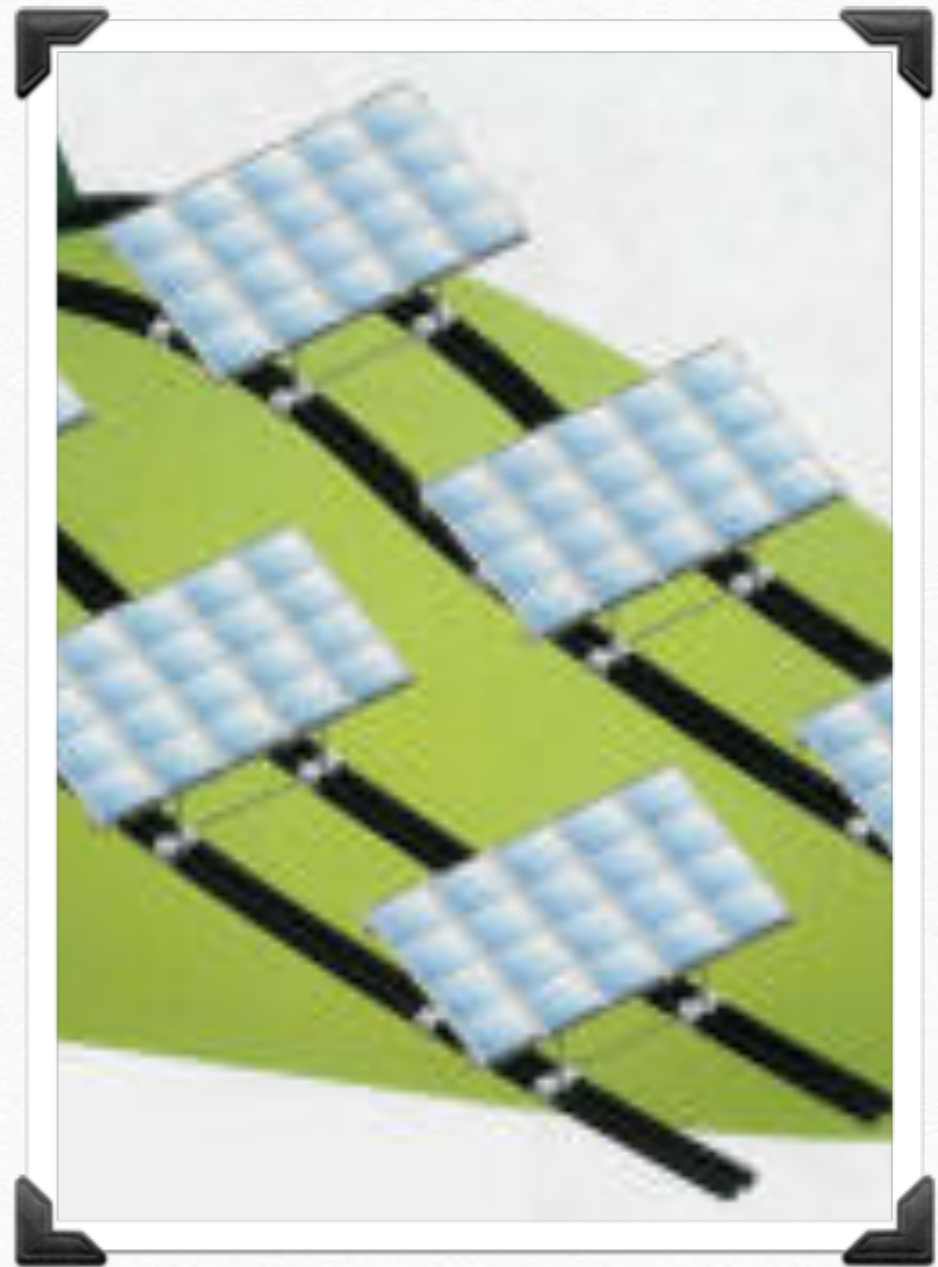
Green Investments are key

The investment needed to stabilize our climate and improve our economy amounts to about **\$200 billion annually** in both public and private resources. Average **net public expenditures** would comprise roughly one quarter of that total, averaging **\$55 billion per year**, which falls within the \$44 billion to \$60 billion per year range that the United States has devoted to **clean energy investments** in recent years. If a successful **carbon tax** or cap were implemented as part of this plan, it would also yield public revenues averaging **\$200 billion per year**.

<https://cdn.americanprogress.org/wp-content/uploads/2014/09/GreenGrowthReport.pdf>

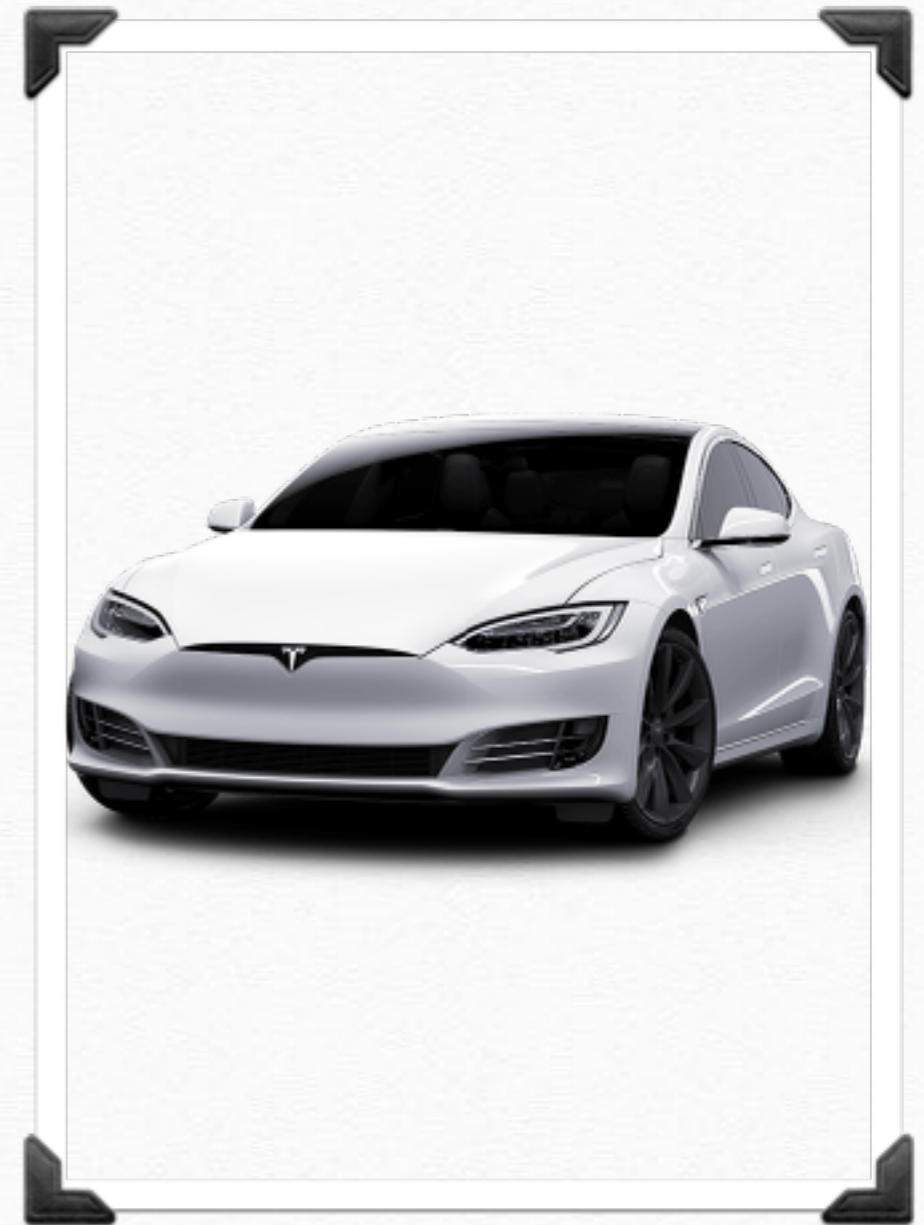
Jobs created in the US

❖ **Solar industry** : Producing affordable solar energy will increase employment for electrical engineers, of whom there are presently about 150,000 employed throughout the United States. The 590 electrical engineers now working in Nebraska earn about \$35 an hour. The roughly 1,900 employed in Tennessee are now making, on average, more than \$36 an hour. Opportunities for these workers will also grow. An expanding solar energy industry will also employ thousands of equipment operators, budget analysts, laborers, and office clerks.



What kind of jobs?

- ❖ An example of jobs involved in one of the key sectors :
- ❖ **Energy efficient automobiles :**
Computer Software Engineers, Electrical Engineers, Engineering Technicians, Welders, Transportation Equipment Painters, Metal Fabricators, Computer-Controlled Machine Operators, Engine Assemblers, Production Helpers, Operations Managers



<https://www.tesla.com>

