UNECE

ENERGY

Guidelines and Best Practices for MSMEs in delivering energy efficient products and in providing renewable energy equipment

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Introduction

Objectives of the Study

ENERGY

United Nations Economic Commission for Europe (UNECE) is one of the partners implementing UNDA project “Global Initiative towards post-Covid-19 resurgence of the MSME sector.” The overall goal of the project is to strengthen the capacity and resilience of micro-, small and medium enterprises (MSMEs) in developing countries and economies in transition to mitigate the economic and social impact of the global COVID-19 crisis.

Introduction

Objectives of the Study

Definition of MSMEs as a reference, established according to the number of employees and the annual turnover or balance sheet:

- **Micro-enterprise:** fewer than 10 employees and an annual turnover or balance sheet below €2 million.
- **Small enterprise:** fewer than 50 employees and an annual turnover or balance sheet below €10 million.
- **Medium-sized enterprise:** fewer than 250 employees and annual turnover below €50 million or balance sheet below €43 million.

Introduction

Objectives of the Study

ENERGY

- UNECE is developing Guidelines and Best Practices for MSMEs in delivering energy efficient products and in providing renewable energy equipment (can be shortly termed “Clean Energy MSMEs”) after the COVID-19 crisis.

- MSMEs have an above average representation in sectors affected by the COVID-19. These sectors are transport, manufacturing, construction, wholesale and retail trade, air transport, accommodation and food services, real estate, professional services, and other personal services

Introduction

COVID-19 impact background

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Health crisis caused by the COVID-19 has forced governments of the world to take drastic measures such as

- Administrative business shutdowns,
- Quarantines,
- Restrictions on mobility and social contact

MSMEs have reduction in their revenues with same financial commitments to suppliers, employees, lenders and investors are depleting liquidity buffers of the firms.

Working environment for the Clean Energy MSMEs as a result of the Covid-19 crisis

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- Due to number of obligations taken by the countries towards promotion of the green and renewable energy capacity, the rising cost of energy can be detrimental to the financial health of MSMEs during the post COVID recovery phase, and potentially require more subsidiary stimulation from the side of national and local governments.

- Countries are rapidly developing their renewable energy capacity, but it is important to invest in energy efficiency as well, to avoid excess power consumption.

General impact of COVID-19 crisis on MSMEs

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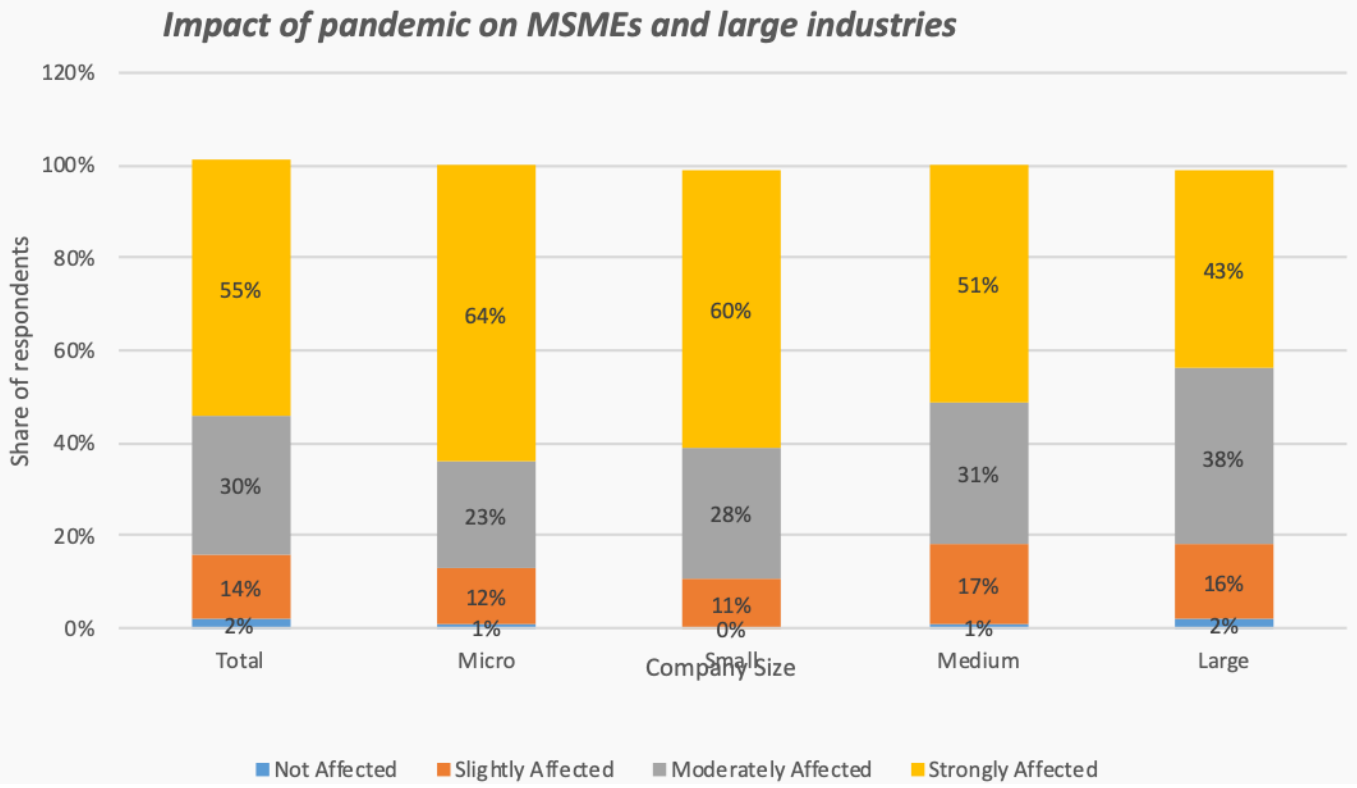
✓ **Impact of the COVID-19 crisis:**

- Shutdown Impacts
- Supply Chain disruptions
- Demand Depression
- Recovery

General impact of COVID-19 crisis on MSMEs

ENERGY

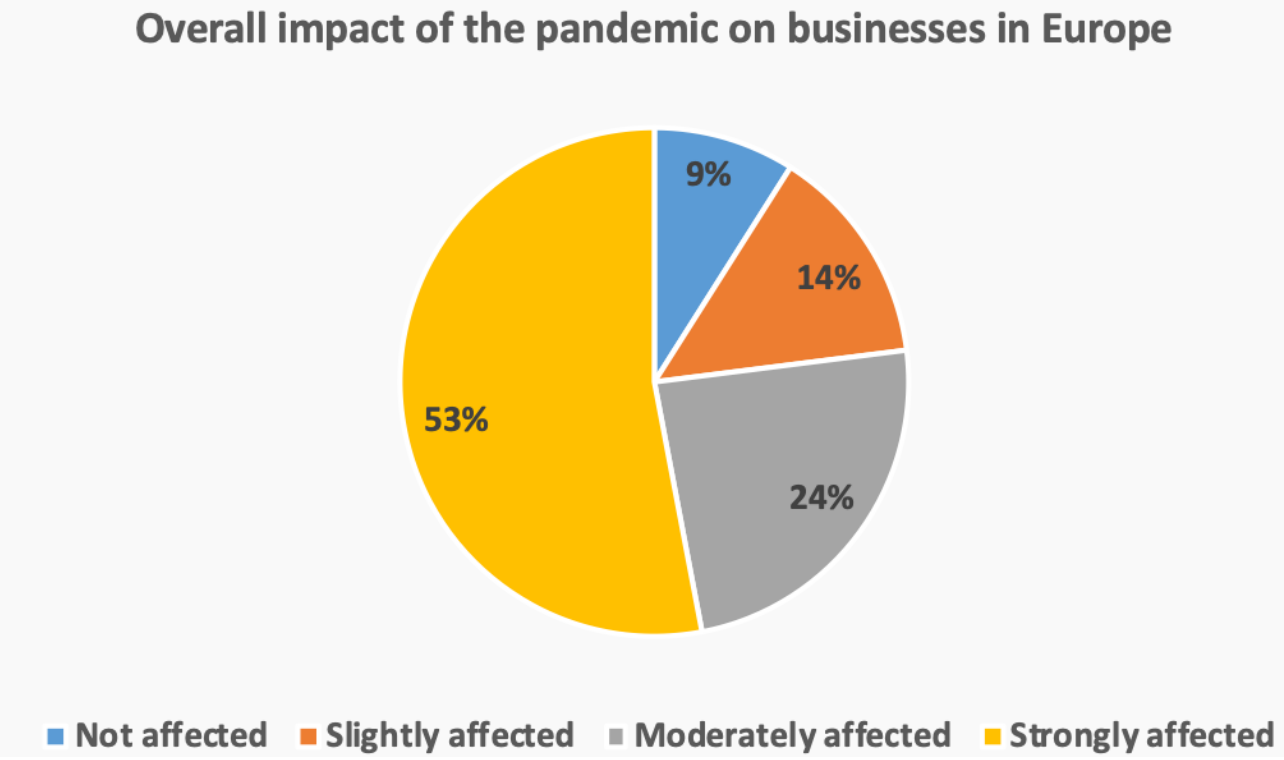
✓ Trade Council's (ITC) report "COVID-19: The Great Lockdown and its Impact on Small Business"



- Micro enterprise: Up to 4 employees
- Small enterprise: 5-19 employees
- Medium enterprise: 20-99 employees
- Large enterprise: 100 and above employees

General impact of COVID-19 crisis on MSMEs

- ✓ Trade Council's (ITC) report "COVID-19: The Great Lockdown and its Impact on Small Business"



Impact of working environment on MSMEs as a result of the COVID-19 crisis.

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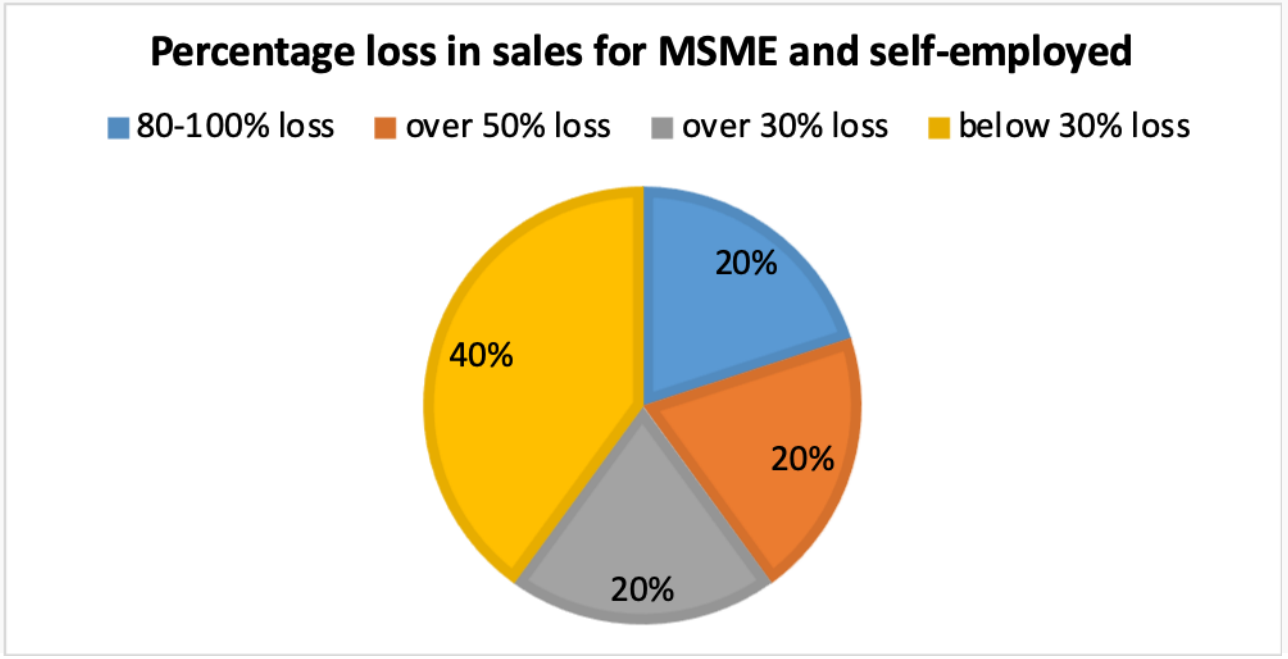
- ✓ More than half of the MSMEs experienced over 30% loss in their sale. Mainly due to the government-imposed lockdowns preventing MSMEs from conducting business

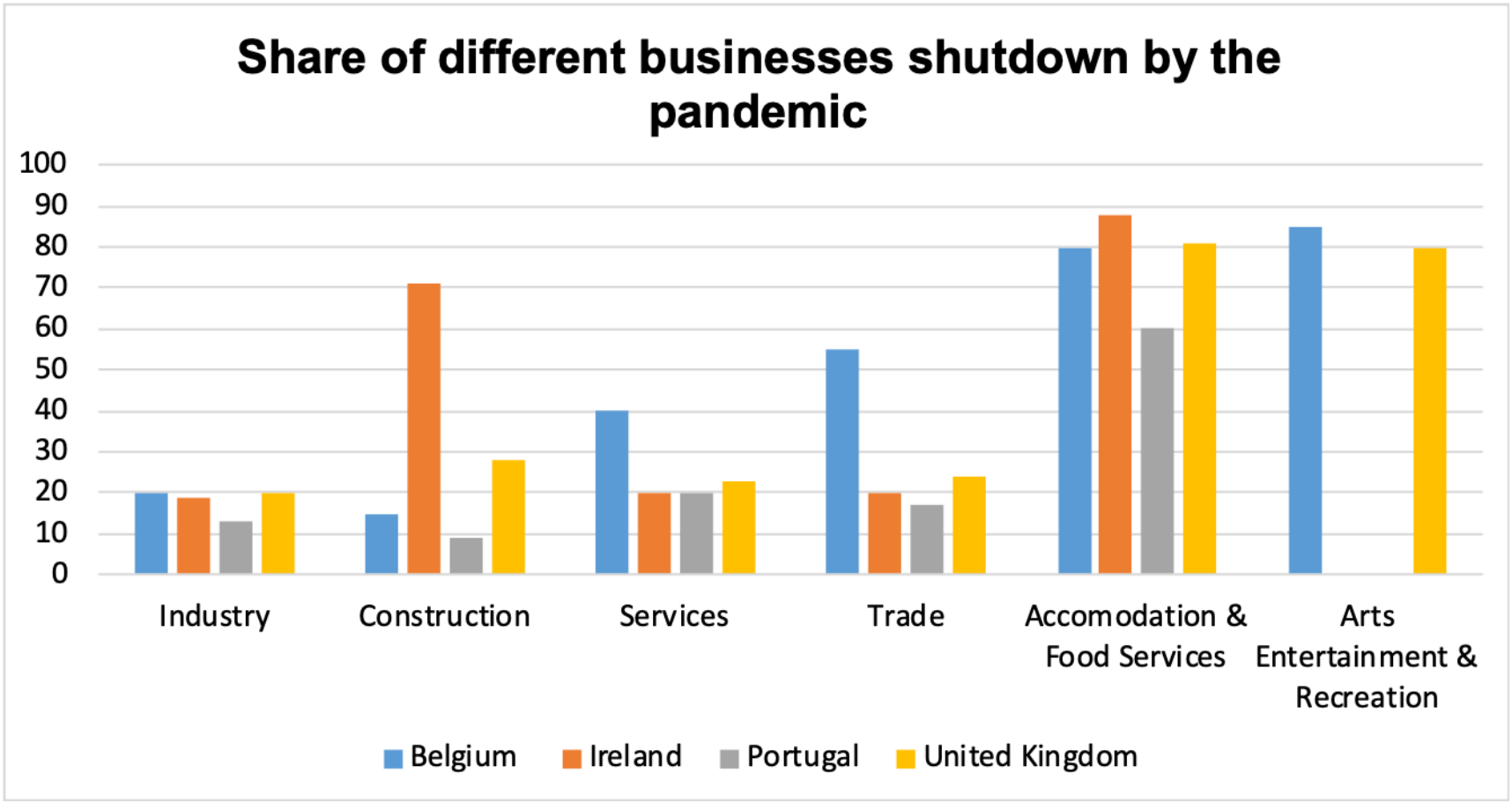


Impact of working environment on MSMEs as a result of the COVID-19 crisis

- The manufacturing sector, which is more integrated in supply chains than the service sector faces a decline of around 30% in output.
- Manufacturers of building materials, metals and electrical equipment are among the most affected by supply linkages.
- Service industries have been hit the hardest, with the strongest impact on travel, tourism, food services, arts and recreation and retail trade.

Impact of working environment on MSMEs as a result of the COVID-19 crisis

ENERGY



Impact of working environment on MSMEs as a result of the COVID-19 crisis

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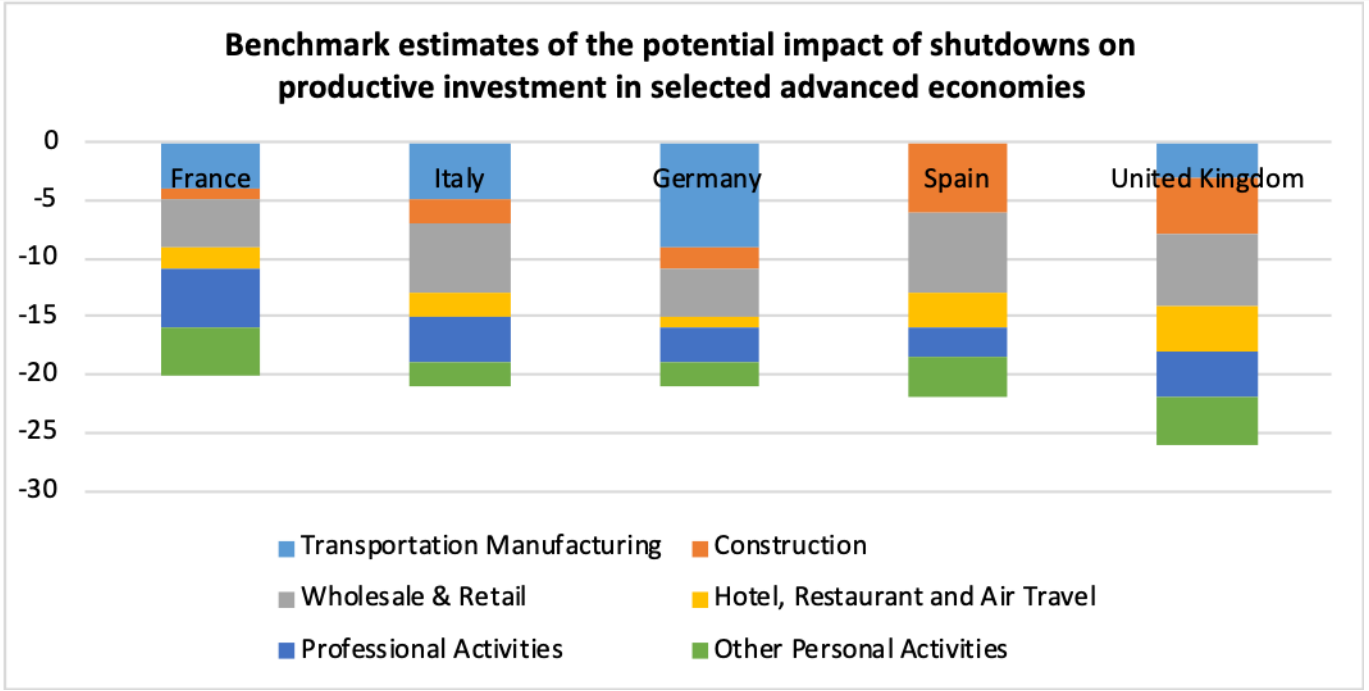
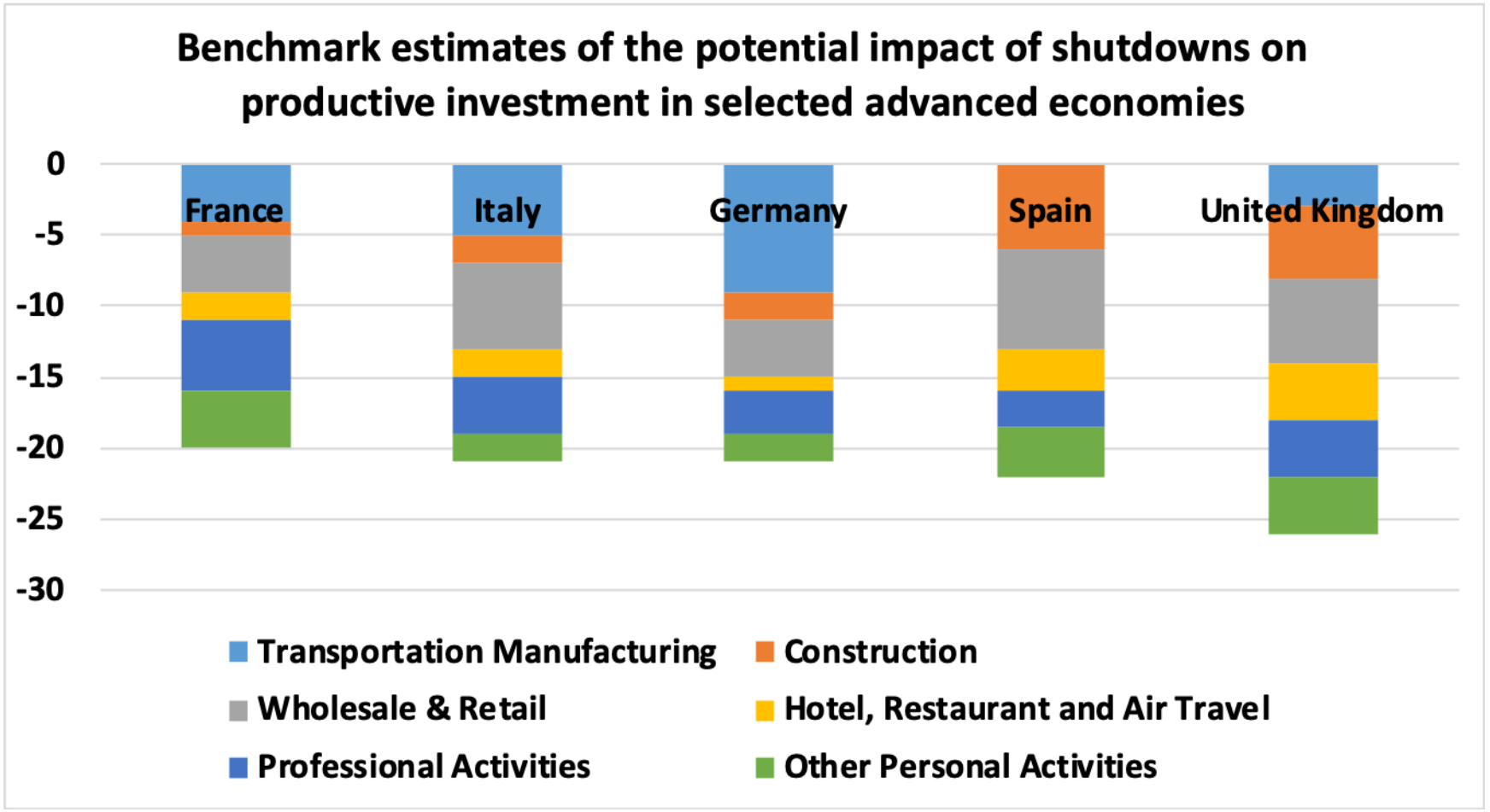
- Transportation manufacturing, wholesale and retail sectors as well as professional activities, are the worst affected sectors, as more and more people are staying at home and avoiding crowded places.



Impact of working environment on MSMEs as a result of the COVID-19 crisis

ENERGY



Impact of working environment on MSMEs as a result of the COVID-19 crisis

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Overview of specific conditions for MSMEs facing new working environment

- **Specific impact on the MSMEs in Europe due to the COVID-19 pandemic**:

✓ About 90% of MSMEs reported that they are economically affected.

✓ 30% of total MSMEs reported that their turnover is suffering at least an 80% loss, with a European Union (EU) average of about 50%.

✓ Expected increase in the unemployment 3% - 5%.

Overview of specific conditions for MSMEs facing new working environment

- **Effect on different industries**

- **Agriculture**: The impact of COVID-19 is generally estimated to be relatively mild in this sector. Although constraints such as transport and the availability of seasonal workers may affect the output.
- **Manufacturing**: This is one of the most affected sectors. For Europe as a whole a 40% loss in manufacturing activity is estimated.
- **Construction:** Impact of shutdowns on construction activity vary widely across countries, 40% hit has been estimated for the EU as a whole.

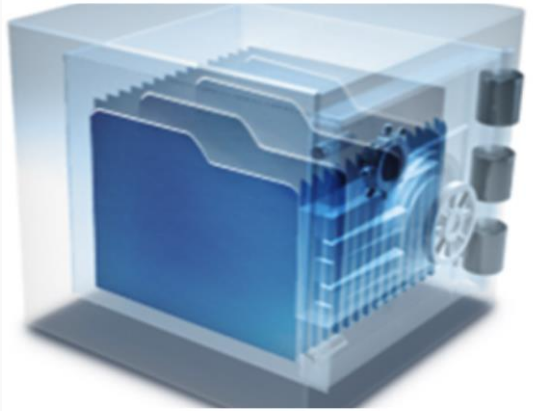
Best practices in the energy efficiency sector relevant for MSMEs response to the Covid-19 crisis and post-crisis recovery

Energy efficient solutions for big data storage

Switzerland

ENERGY

- **Company: Swiss Vault Systems Gmbh**
- **Number of employees: 1-10**



https://www.swissvault.io

Background:

Basel-based Swiss Vault Systems Gmbh provides storage and protection systems for big data. Hardware design and software setup works for rapid analysis, with secure long-term storage at exceptionally low energy consumption.

Energy efficient solutions for big data storage

Switzerland

ENERGY

- **Company: Swiss Vault Systems Gmbh**
- **Number of employees: 1-10**

Case study

The data solutions company providing energy efficient storage solutions for big data has pitched in to provide one for the healthcare systems. Their project has received funding through the EIC accelerator programme through the emergency fund sanctioned to fight off against COVID-19 situation

Production of EE battery packs
Russian Federation

ENERGY

- **Company: Volts Battery LLC**
- **Number of employees: 13**

VOLTS energy storage

https://voltsbattery.com

Background: Volts Battery LLC is a manufacturer of Li-ion based energy storage systems and solar panels, founded in the year 2017 and, headquartered in St. Petersburg, Russia. The company has more than 30 representative offices in Russia, the CIS and Europe.

Production of EE battery packs
Russian Federation

ENERGY

- **Company: Volts Battery LLC**
- **Number of employees: 13**

Case Study:

Due to COVID company's logistics were completely halted. They were unable to receive necessary components to manufacture the battery packs. When the restrictions eased, a new production facility was taken on lease and own production of missing components was started. Five employees were trained to work in compliance to COVID-19 safety protocols. New line was able to manufacture 10 new type battery units.

IT-based solutions for equipment operations monitoring

Spain

ENERGY

- **Company: AEInnova**
- **Number of employees: 11-20**

AEInnova
Alternative
Energy Innovations

https://aeinnova.com

Background:

AEInnova company based in Spain, founded in 2014. The organization is currently involved in researching and developing Waste Heat Recovery (WHR) systems including thermoelectric energy generation offering the cutting-edge technology capable of improving its energy efficiency and reducing its environmental impact

IT-based solutions for equipment operations monitoring

Spain

ENERGY

- **Company: AEInnova**
- **Number of employees: 11-20**

Case study:

COVID-19 lockdown did not make strong impact in terms of R&D work However, the production of new units of WHR systems was affected by lockdown because of the labour shortage and logistics problems. During this time, company applied for funding from European Union for their INDUEYE under the Horizon 2020 programme and received €507.6 thousand for the project. Company also introduced an IT based solutions for monitoring the operation of ventilators used in the treatment of COVID-19.

Best practices in the area of renewable energy relevant for MSMEs response to the Covid-19 crisis and post-crisis recovery

Recycling of PET plastic waste
Latvia

ENERGY

- **Company: Polylabs**
- **Number of employees: 1-10**

https://www.polylabs.eu

Background:

PolyLabs is a chemical production company established in close partnership with the Institute of Wood Chemistry of Latvia. Their main area of expertise is manufacturing bio polyol - a polyol synthesized from renewable materials, such as rapeseed or tall oils.

Recycling of PET plastic waste
Latvia

ENERGY

- **Company: Polylabs**
- **Number of employees: 1-10**

Case study:

During the lockdown has been by strengthening its R&D portfolio. As the manufacturing activities are at a minimum due to the lack of labor, the company has been able to research a new solution for recycling previously unprocessed PET plastic waste into an energy-saving material – polyurethane. This solution has also been selected to represent Latvia at the InnoEnergy PowerUp challenge finals.

Wooden wind turbine tower

Sweden

ENERGY

- **Company : Modvion**
- **Number of employees: 11-50**

https://www.modvion.com

Background:

Gothenburg-based company Modvion develops large-scale applications in laminated wood – nature's own carbon fiber. By replacing emission-intensive materials such as steel and concrete, wooden structures offer radical reductions in greenhouse gas emissions. The company's current focus is on wind turbine towers made out of wood, where Modvion's patented module system offers reduced manufacturing costs and more efficient transportation of high towers to installation sites.

Wooden wind turbine tower

Sweden

ENERGY

- **Company : Modvion**
- **Number of employees: 11-50**

Case study:

COVID-19 lockdown has impacted and delayed certain development and implementation projects of the company in the areas in and around Gothenberg. Logistics disruption has led to a situation where procurement of material has been hampered a great deal. However, company a €6.5 million investment from the European Investment Bank (EIB) through the EIC Accelerator Programme. This investment has helped the company erect its first Modvion wooden wind tower outside Gothenberg during the lockdown.

Installation of backup energy supply
Belgium

ENERGY

- **Company: Energy Engineering BVBA**
- **Number of Employees: 11-50**

EREA TRANSFORMERS
erea · energy · engineering
https://erea.be

Background:

EREA is a manufacturer of highly efficient electrical transformers, founded in 1933 and headquartered in Wijnegem, Antwerp, Belgium. They supply to a variety of sectors such as renewable, marine and offshore, agriculture, public transport, medical applications, telecoms and for EV charging infrastructures.

Installation of backup energy supply
Belgium

ENERGY

- **Company: Energy Engineering BVBA (EREA)**
- **Number of Employees: 11-50**

Case Study:

Company completely stopped production at its factory due to COVID 19 related restrictions. Although the commercial services of the company remained open, delivery of new products to their customers had completely stopped. After the restrictions were relaxed EREA started installation and commissioning of its medical transformers and insulation monitor for operation quarters in hospitals

The company has also been active on the LinkedIn about its products and associated new services. It helped them become a one-stop solution for medical transformers, by providing both the product and its commissioning.

Case studies on Practical measures for MSMEs in getting access to markets, financing, and advanced technologies to MSMEs providing renewable energy equipment

Funding Programme for MSMEs, EIC Horizon 2020

European Union

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The programme has made a funding of nearly €80 billion available over a period of 7 years (2014-2020). This year, European Commission has pledged to invest €1 billion from the EU Horizon 2020 programme into corona virus research and innovation.

Programme's objectives are aimed to promote and accomplish the European Green Deal (policy initiatives by the European Commission with the aim of creating a climate neutral Europe by the year 2050), it provides the MSMEs working in the Renewable Energy and Energy Efficiency sectors to sustain through the pandemic and be the growth engines in Europe after the pandemic is over.

Funding Programme for MSMEs, EIC Horizon 2020

European Union

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Horizon 2020 fund has not only helped some of the MSMEs to ward off the impact of the virus on their business activities (less business involving close physical contact) but has also provided a way for the region to recover from the impact through these clean innovation strategies.

This grant, provides an opportunity for other MSMEs as well to bring in a change in their business practices and align them with the immediate crisis.

Support for MSMEs from the Clean Energy sector by European Investment Bank's (EIB)

ENERGY

European Union

This programme is aimed on support for MSMEs, especially from the Clean Energy sector, to recover from the unexpected shock after COVID-19 pandemic.

EIB helped the affected enterprises with €3.4 billion investment towards COVID-19 health and business resilience, energy, transport and education. This includes investments in renewable energy and energy efficiency projects, and to the most impacted enterprises in the sector.

Internationalization of Wielkopolska's MSMEs
Poland

ENERGY

This project aims to support Poland MSMEs internationalization by organizing regional stands at international trade/investment fairs and promotion of regional brands.

Following steps were taken under the project:

- **Economic promotion** - MSME participated in international trade fairs organized outside European markets to strengthen Wielkopolska's image of attractive economic partner.

Internationalization of Wielkopolska's MSMEs
Poland

ENERGY

- **Investment promotion** - Wielkopolska's investment sites, real estates and projects were promoted. The region's great economic potential and well-developed transport infrastructure, rich scientific and research facilities, qualified staff and stable development conditions were highlighted. The Electronic Database of Investment Areas of the Wielkopolska Region (eBOI) is maintained.

- **Wielkopolska Brand building** - A brand-building exercise using the image and promotion campaign at international events was used to promote the Wielkopolska brand.

Trading Online Voucher Scheme
Ireland

ENERGY

This scheme introduces Trading Online Vouchers to incentivize MSMEs in developing online trading as their business in order to better compete in a tough environment created by COVID-19.

Utilizes the rapid growth of internet usage, adoption of mobile technologies, globalization and COVID-19 pandemic.

Trading Online Voucher Scheme
Ireland

ENERGY

Programme is aimed to introduce Irish businesses to online trading through a voucher to cover a part of their expenditure up to EUR 2,500 in value and develop a commercial internet presence. The scheme is being administered by the Local Enterprise Offices.

Scheme provides businesses an opportunity to go online which is seen as essential for many enterprises during the current COVID-19 pandemic.

Guidelines to MSMEs delivering energy efficient products and providing renewable energy equipment on access to financing, access to markets, and access to advanced technologies

Measures taken by MSME's during the pandemic lockdown

Overview of measures taken by MSME's during the pandemic lockdown and regional dissemination possibilities presented in the table below

No	Measures taken	Western Europe	Eastern and South-Eastern Europe	Russian Federation, Central Asia and the Caucasus
1	Communication through social media or other platforms on internet	(+)	(+)	(-)
2	Increase of on-line and sales	(+)	(+)	(+)
3	Provision of value-added services	(+)	(+)	(+)
4	Fixed growth strategy	(+)	(-)	(-)
5	Accessing only easier markets	(+)	(-)	(-)
6	Raising IPO	(-)	(-)	(-)
7	Work from home	(+)	(+)	(-)
8	Providing paid online training services	(+)	(+)	(+)
9	Strengthening R&D portfolio	(-)	(-)	(-)
10	Applying for International funding programs	(+)	(+)	(+)
11	Increasing focus on aligning with COVID related activities	(+)	(+)	(-)

Background for support of the best practice dissemination process

Following background information should be taken in consideration for support of the best practice dissemination process:

- ✓Production of companies who were heavily reliant on logistics for their operations were affected.
- ✓Around 40% of the MSMEs were actively promoting their products on social media platforms during the period of lockdown.
- ✓Around 40% of the MSMEs have access to from international development organizations under different programmes. These funding programmes offers grants for MSMEs, with innovative products prioritization.

Background for support of the best practice dissemination process

ENERGY

- ✓Industries not directly affected by COVID get indirectly affected by a shortage in demand from their consumers.
- ✓After pandemic, companies also started prioritizing activities essential for the survival of business and offering additional value-added services.
- ✓Companies have also introduced work from home for their employees and increasingly digitized their business. One company has also provided valuable paid training seminars during lockdown.

Background for support of the best practice dissemination process

ENERGY

- Companies have also started focusing on projects related to fight against COVID. This provides additional stream of revenue and allows companies to have access to International Development Grants.
- Retrofitting for improved energy efficiency can lead to significant savings for MSMEs by reducing their energy consumption.
- Energy consumption data from unoccupied buildings can be collected when almost everyone is working from home for benchmarking.

Background for support of the best practice dissemination process

ENERGY

- Associations at regional and national level have previously supported their respective members in globalization, finding vendors or new customers. This model can still be replicated at the time of pandemic.
- Companies, which are working in line with the Sustainable Development Goals (SDGs) can have additional access to funding from different International Development Organizations

Guidelines for the MSMEs post-pandemic recovery strategy development

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Following Activities were elaborated as a part of the Guidelines for the MSMEs and could be used as components of the companies' post-pandemic recovery strategy actions:

- **Support development and increase of participation level in various relevant on-line based platforms and databases**

- **Participation in virtual trade fairs at local and international level**

- **Voucher scheme support**

Guidelines for the MSMEs post-pandemic recovery strategy development

- Participation in collaboration programmes
- Technical and financing advisory support activities
- Trainings and capacity building
- Enabling access to local and international financing

Conclusions

Conclusions that were drawn from the case studies covered in the report:

- Many MSMEs have adjusted already to the new normal of remote working conditions and social distancing

- Availability of various funding programmes, which could be used to financially stabilize the MSMEs or start-ups.

- Delaying the non-essential and non-priority projects to some future date is also a way in which the crisis could be mitigated.

Conclusions

- Virtual (online) activities for MSMEs become the most important now, by using blog posts on the website and social media, the MSMEs can reach out investors and customers, with social distancing norms maintaining.

- Companies could start to provide classes and skill-based sessions to students and professionals worldwide during the pandemic at a nominal fee.

- Some of MSMEs have repackaged their products and have branded themselves as a health-tech start-up aimed to fight the pandemic.

Recommendations

to Governments for developing policy guidelines

ENERGY

Policy Measures to avoid economic fallout:

- Temporary tax waivers on all transactions done by MSMEs' at national, regional or local level. This would free the MSMEs from any tax obligations for a temporary period.

- Temporary tax breaks to reduce the amount of taxes to be paid by MSMEs. Changes can also be made to tax system to benefit MSMEs.

- Federal Financial Programs to support MSMEs though loans, credit, guarantees on loans and relaxation of laws on loan repayment.

Recommendations

to Governments for developing policy guidelines

ENERGY

Policy Measures to avoid immediate startup failure:

- Offer payment delays, wage subsidies, line of credit and guarantee free loans to MSMEs just starting up.
- Support direct payments for MSMEs to improve cashflow and reduce delays in payments.
- Stimulate mutual assistance/solidarity in the MSME community

Recommendations

to Governments for developing policy guidelines

ENERGY

Policy Measures to avoid workforce layoffs:

- Offer employee development programs (e.g., for digitalization).
- Support temporal downsizing (e.g., through wage subsidies).
- Provide financial support to laid-off workforce.
- Form policies to avoid situations like businesses availing financial benefit as well as downsizing workforce.

Recommendations

to Governments for developing policy guidelines

ENERGY

Policy Measures to support new businesses:

- Secure future innovations through mid-or long-term policy measures linked to larger policy objectives (e.g., sustainability and/or digital transformation).
- Lay foundations for post-crisis recovery (e.g., incentivize investors to provide additional growth capital).
- Nurture knowledge diversity and entrepreneurial culture in the ecosystem.
- Boost positive business climate for consumption and innovation.
- Decrease specific barriers for MSMEs starting up through specific support (e.g., consider future growth trajectories instead of past revenues)

Recommendations

to Governments for developing policy guidelines

ENERGY

Supporting activities

- Provide information and support services addressing the specific challenges of businesses (e.g., hotlines).

- Fast track the process of access to financial assistance by partnering with major banks/institutions.

Recommendations

to Governments for establishing financial incentives schemes

ENERGY

- Increased support for entrepreneurs and MSMEs is required in order to maintain sustainable development track for companies as well as presentation of available solutions, which could help to withstand the impact of COVID-19 crisis.

- Governments should use public procurement procedures for targeted support of MSMEs.

- Governments should provide funding support through grants and low-or no-interest loans to the MSMEs working on low carbon technologies in the clean energy sector to facilitate green economic recovery.

Recommendations

to Governments for establishing financial incentives schemes

ENERGY

- Governments could establish a specialized clean energy financial institution to enable MSMEs as a driving force to clean and green economic recovery.
- Governments could provide urgent financial help to MSMEs on liquidity issues through existing grants and schemes
- Governments could pool their resources to attract more private investors.
- To address a significant reduction in tax revenue, which could last for several years, governments may ensure that their tax systems are adapted to become more supportive to MSMEs.

Full report available at:

http://www.unece.org/fileadmin/DAM/energy/se/pdfs/geee/Guidelines_MSME_EE-RE_Final.pdf

Thank you!

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