PUBLIC REPORT ON NEEDS OF LABOR MARKET IN WIND ENGINEERING IN EGYPT AND TUNISIA

WESET PROJECT
May 2018

Vers. 20/2019

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INTRODUCTION AND SCOPE OF THE SURVEY

The goal of the Questionnaire on "local stakeholders" is to understand the needs of the stakeholders operating in the Wind Energy and Technology as new experts. The results will support the Consortium in the design of new and innovative modules able to provide the necessary and requested skills to the students and to support their entrance into the labour market.

METHODOLOGY

The survey works to collect data on the stakeholder's activities on the field of wind. The questions are divided in the following sections:

1. SECTION 1 – ACTIVITY AREA, that aims to collocate the company in the market and to classify it size and expertise

2. SECTION 2 – WIND ENERGY ASPECTS, that goes more in details on the aspects that the company deals respect to the wind energy applications.

3. SECTION 3 – FUTURE PLANNING, to anticipate a statistics on the directions that the company think to take in the future, in terms of market, new developments, recruitment and training.

4. SECTION 4 – EXTERNAL COLLABORATIONS, on the interest of the company to eventually collaborate to the design of the modules and to participate to activities related to the WESET project

All the plots report the survey results in terms of percentage of the answer with respect to the total of participants. Considering that multiple answers have been allowed, the total percentage in the plot may not add to 100.0

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PARTICIPANTS DETAILS

n.	Organisation Name
2	Tunisian Electrical and gaz company
3	ministère du développement, de l'investissement et de la coopération internationale
4	Ministère de l'équipement, de l'habitat et de l'aménagement du territoire
5	Association tunisienne de l'énergie éolienne
6	SOTECA
8	STEG ENERGIES RENOUVELABLES
9	Agence Nationale pour la Maîtrise de l'Energie
10	Société solutions industrielles 2SI
11	Automa Plus
12	Ministère de l'Energie, des Mines et des Energies renouvelables
13	Elmasria Equipment
14	Cairo Contracting Company
15	Triple M construction
16	Rowad Modern Engineering
17	MEGA for Construction and Industries

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18	SGRE
19	VESTAS
20	Senvion
21	ENERCON GMBH
22	Redcon Construction S.A.E
23	PETROTEC FOR GENERAL CONTRACTING
25	Elalamiah for Renewable Energy Systems
26	ERCC
27	Regional Center for Renewable Energy and Energy Efficiency
28	Orascom Construction

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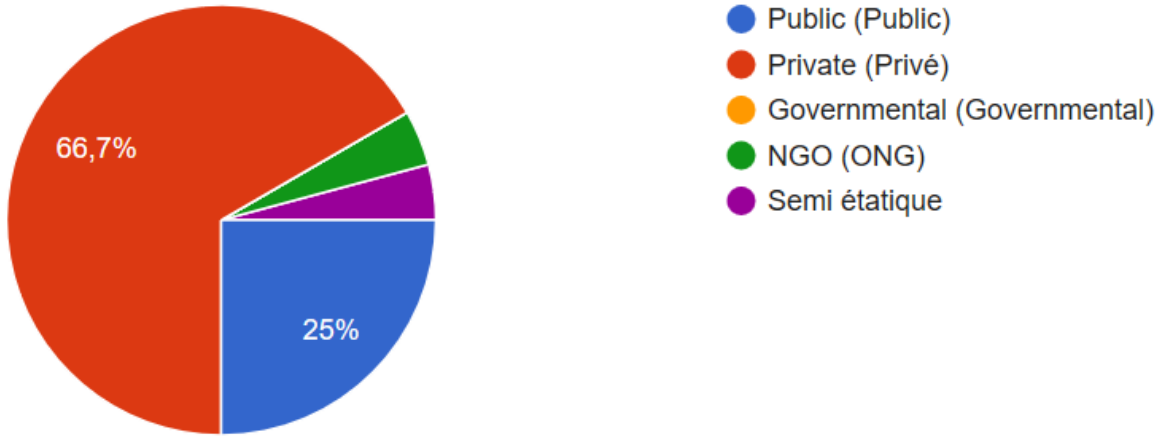
TYPE OF ORGANIZATION



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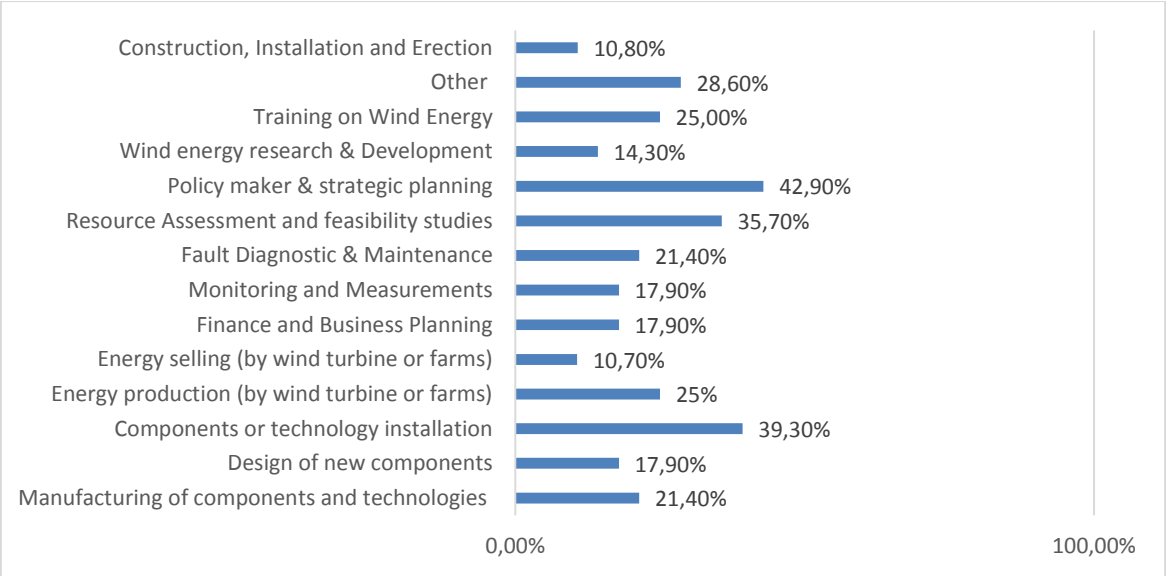
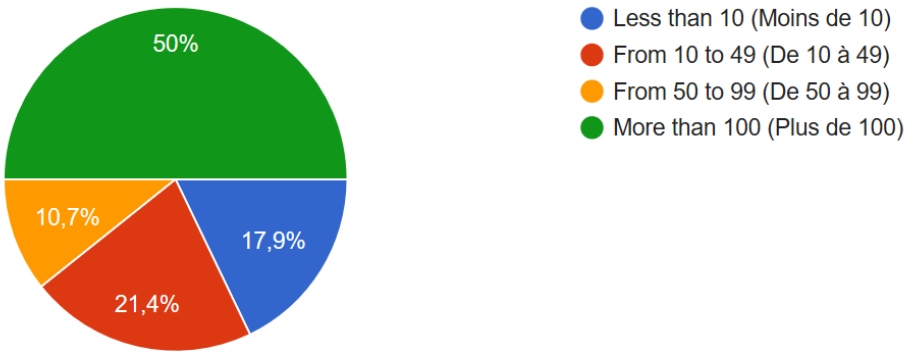
SECTION 1 - ACTIVITY AREA

What kind of activity is your Organization/Company/NGO involved in (only related to wind energy activities)?
(Dans quel type d'activité votre organisation/entreprise/ONG est-elle impliquée (uniquement liée aux activités d'énergie éolienne)?)



Number of employees
(Nombre d'employés)



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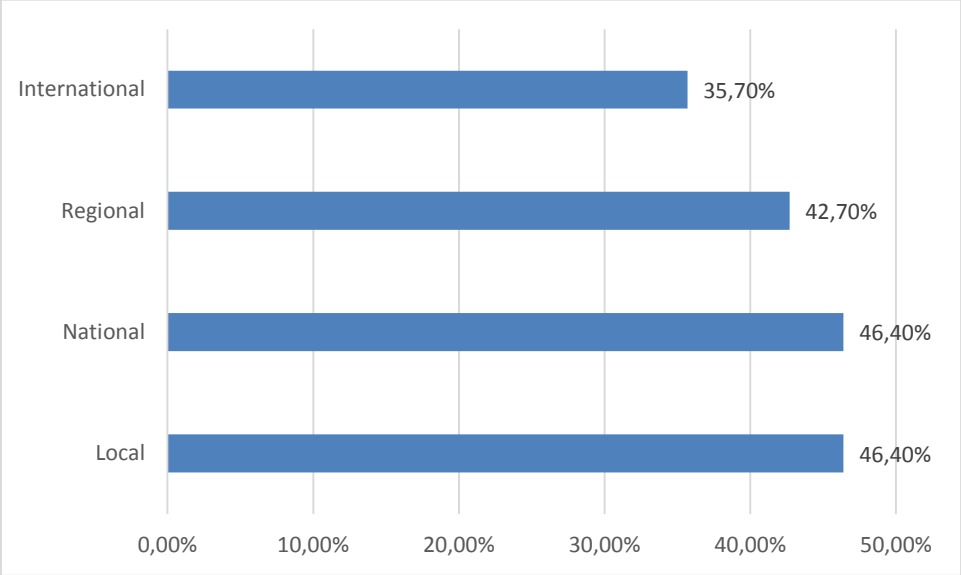
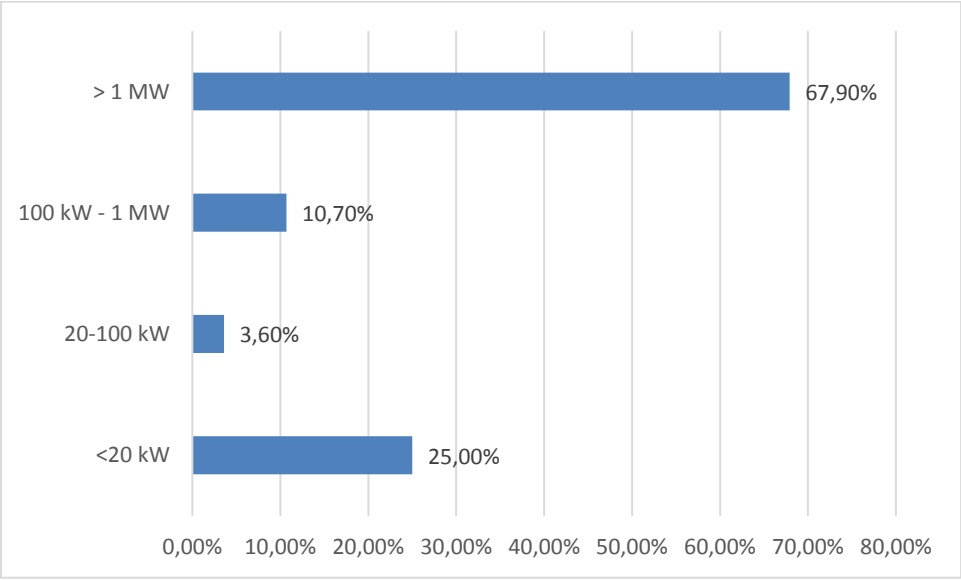
Markets
(Marchés)



Which of the following wind Turbine size is your Company dealing with more frequently?
(Quelle est la taille des turbines à vent avec lesquelles votre société traite le plus fréquemment?)



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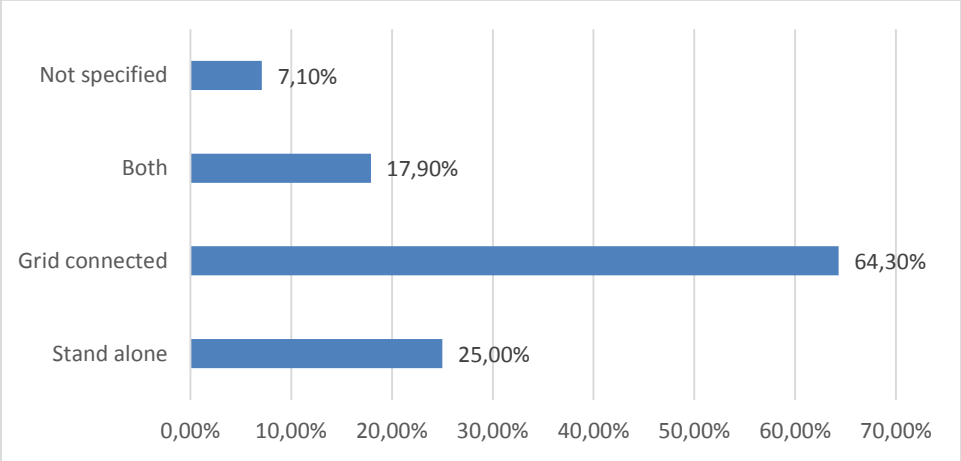
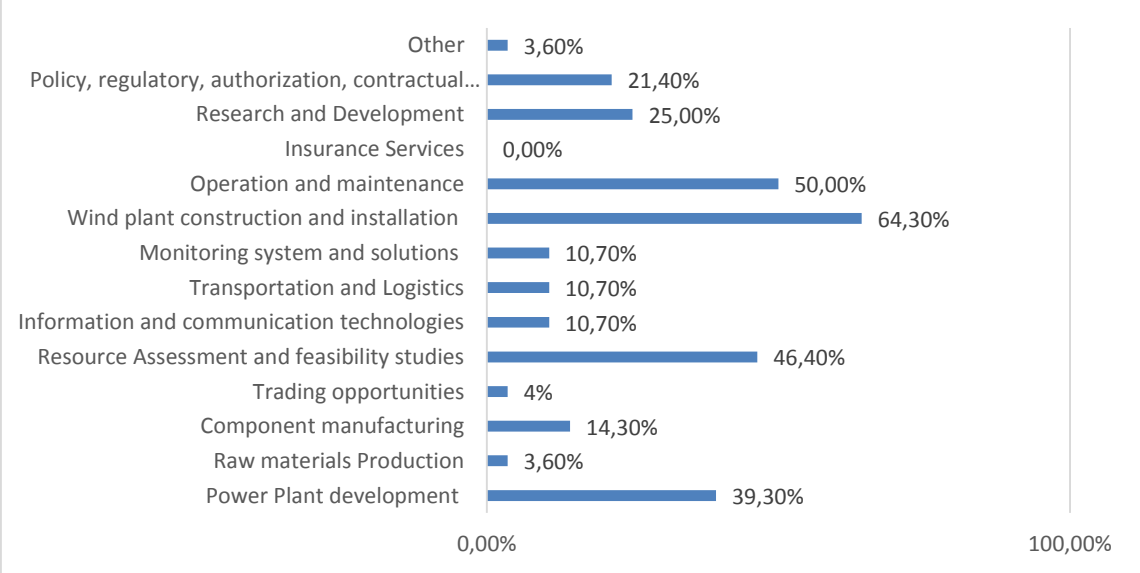
Which installation layout is your Company dealing with more frequently?
(Quelle configuration d'installation votre entreprise traite-t-elle le plus fréquemment?)



SECTION 2- WIND ENERGY ASPECTS

Which of the following aspects of Wind Energy and Technology is your Company dealing with more frequently?
(Lesquels des aspects suivants de l'énergie éolienne et de sa technologie sont traités par votre entreprise le plus fréquemment?)



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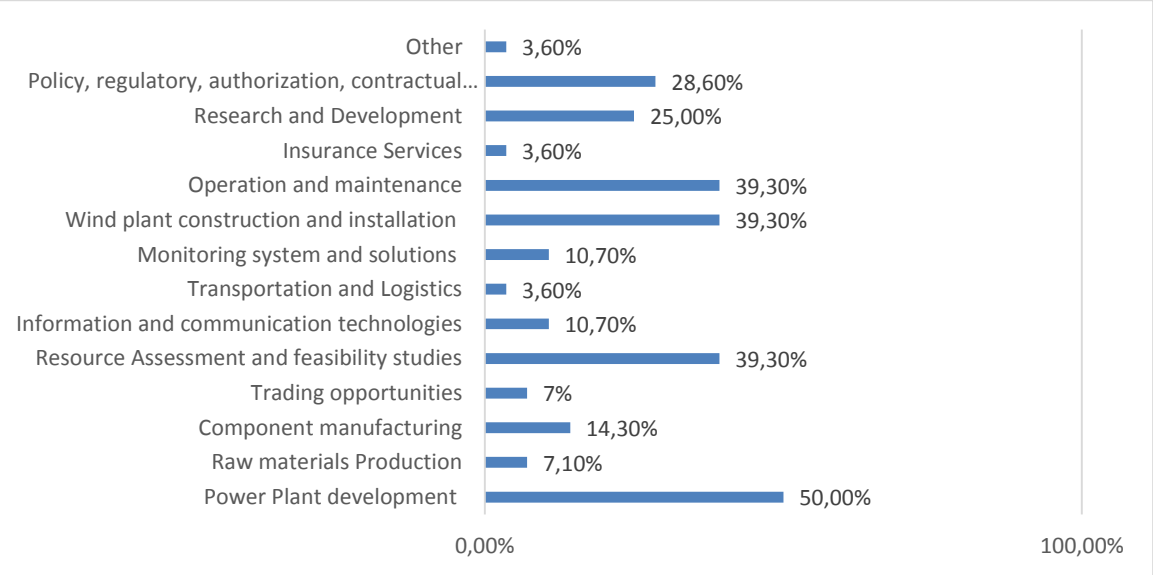
Which of the following aspects of Wind Energy and Technology are becoming increasingly important in your business?
(Quels aspects de l'énergie éolienne et de sa technologie deviennent de plus en plus importants dans votre entreprise?)



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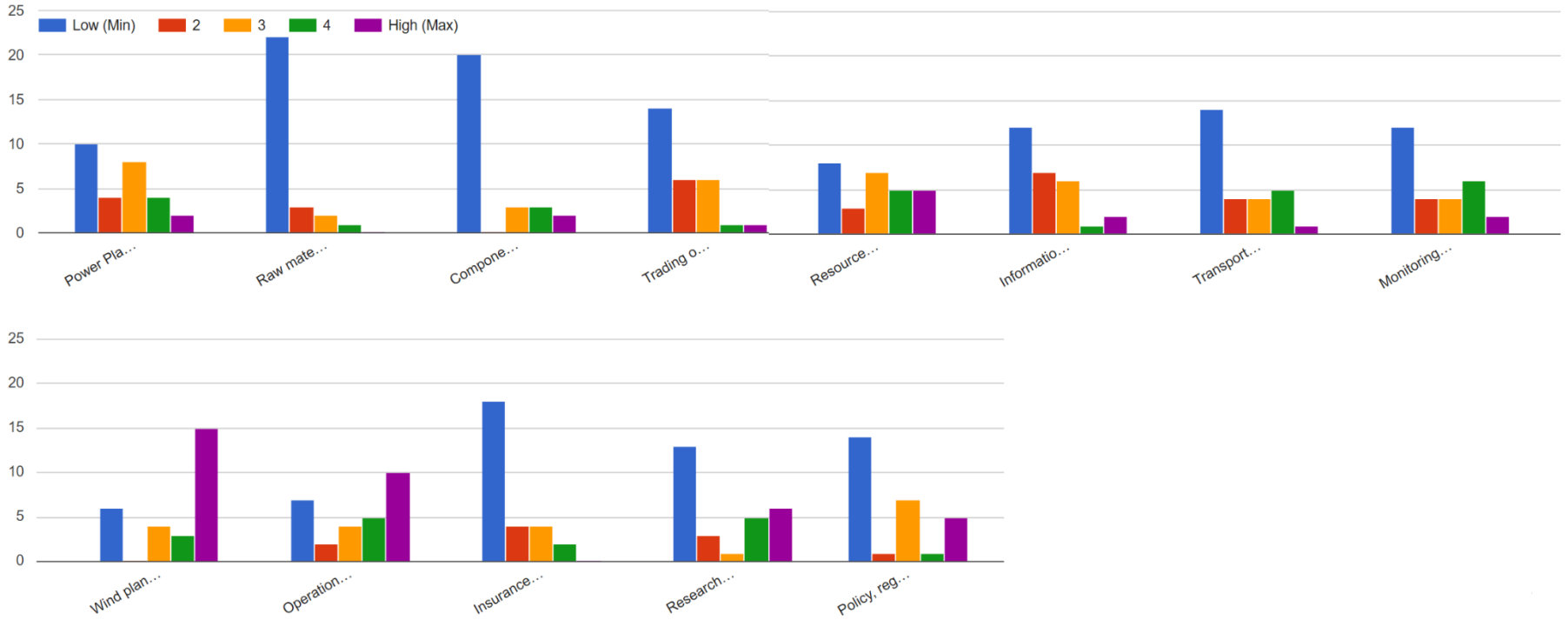
Gauge the level of competence of your Organization/Company/NGO employees in the following different aspects of Wind Energy and Technology
(Évaluez le niveau de compétence de vos employés de l'Organisation/Entreprise/ONG dans les différents aspects suivants de l'énergie éolienne et de la technologie)



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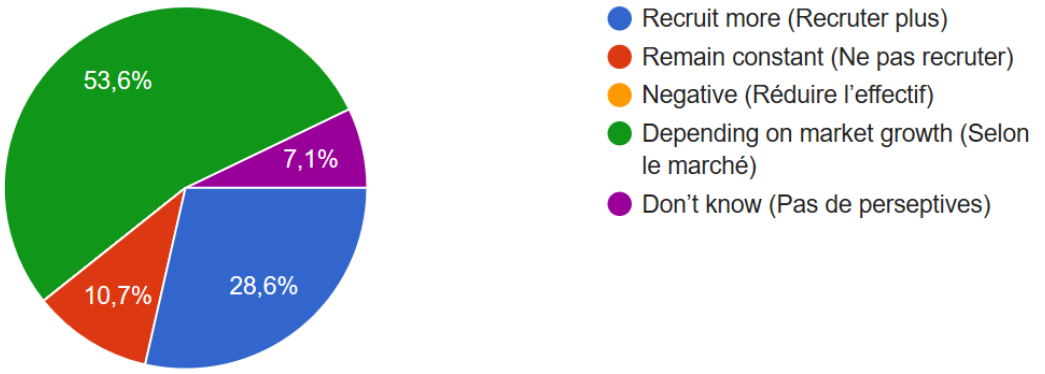
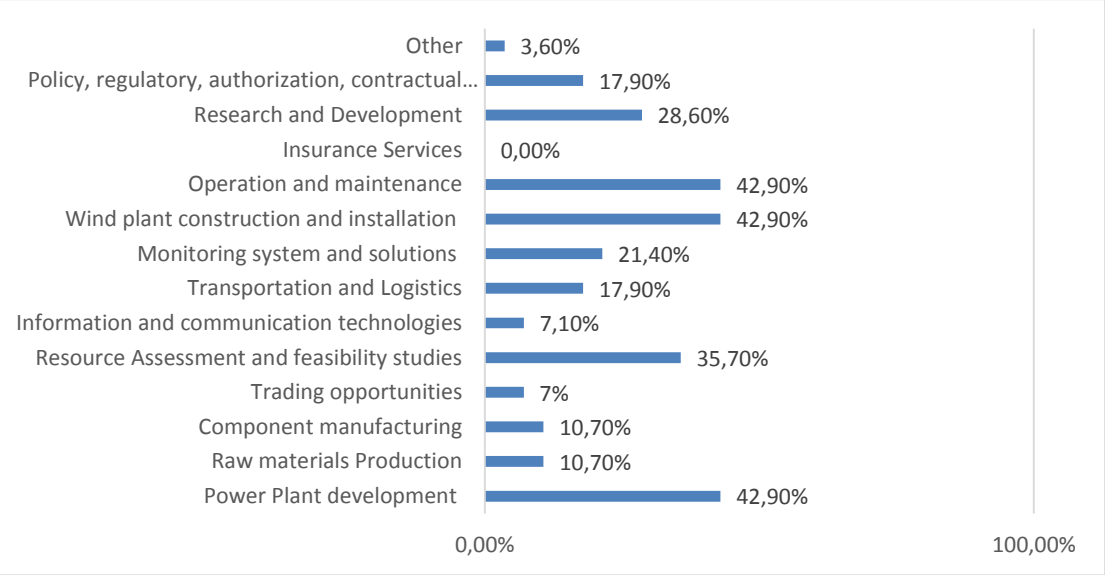
SECTION 3: FUTURE PLANNING

In terms of recruiting, what are the prospects for your Organization/Company/NGO in the Wind area in the short term (next 2 year)?
(En termes de recrutement, quelles sont les perspectives de votre organisation/entreprise/ONG dans la zone éolienne à court terme (2 prochaines années)?)



In the case of new recruitment, which are the additional competences on Wind Energy aspects they should have?
(Dans le cas d'un nouveau recrutement, quelles sont les compétences additionnelles en matière d'énergie éolienne?)



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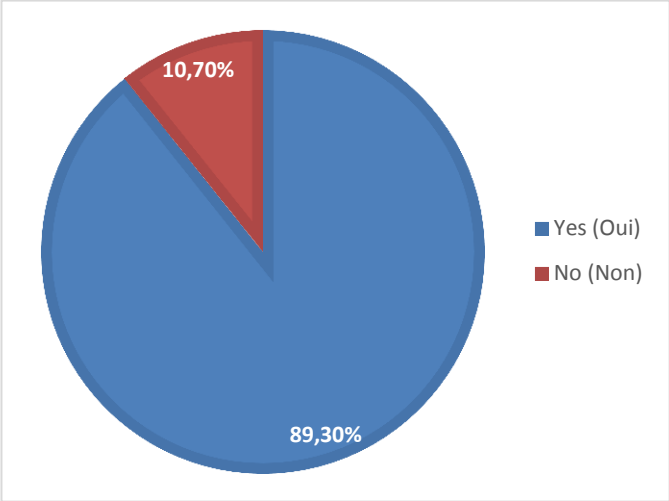
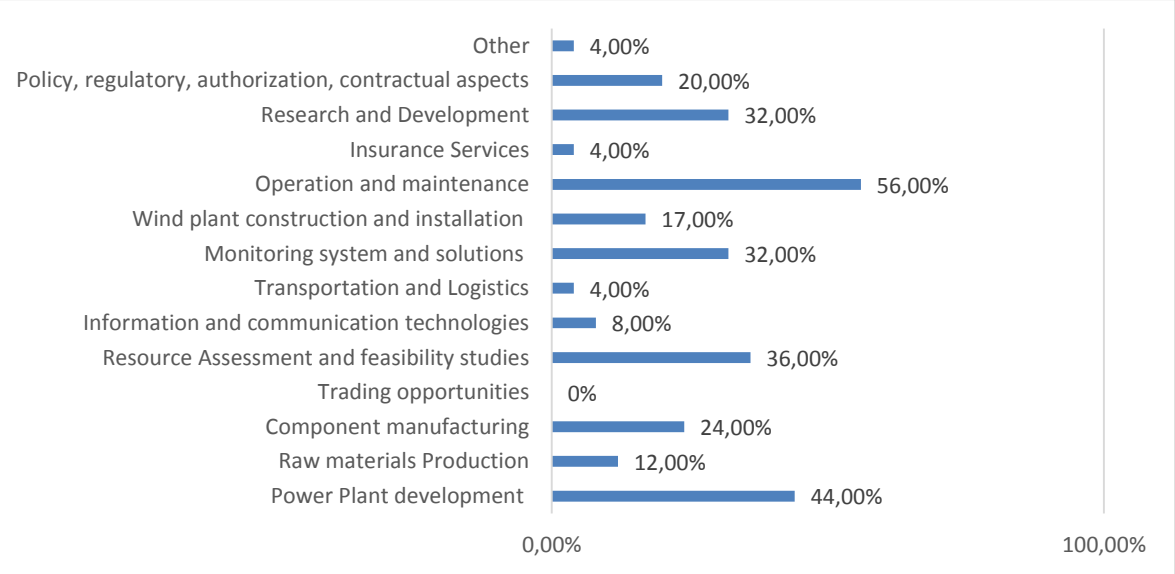
Is your Organization/Company/NGO planning to provide additional training to the internal staff working on the Wind Energy and Technology area?
(Votre organisation/entreprise/ONG prévoit-elle de fournir une formation supplémentaire au personnel interne travaillant dans le domaine de l'énergie éolienne et de sa technologie?)



Additional training

Which topics should the Training include?
(Quels sujets la formation devrait-elle inclure?)



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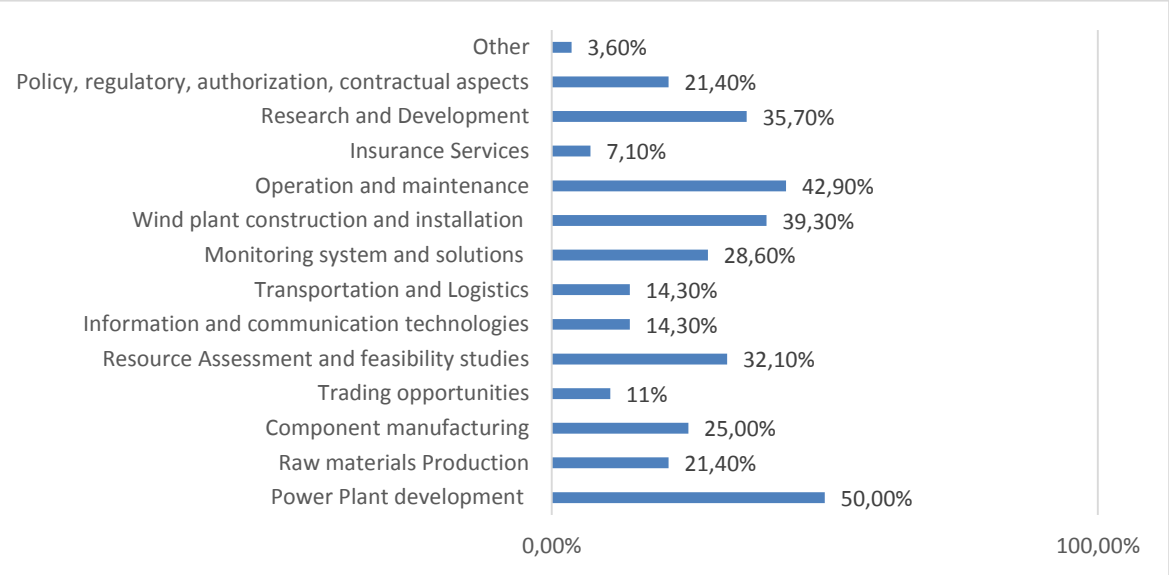
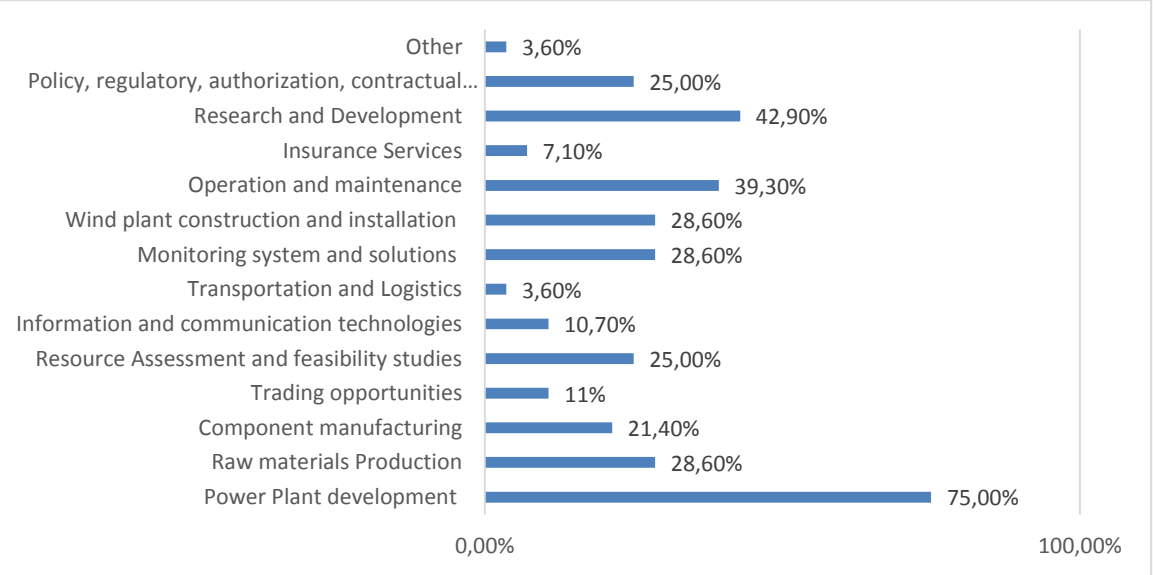
Which will be the Wind Energy and Technology aspects, such an Organization/Company/NGO as yours, must tackle during the next 10 years?
(Quels seront les aspects de l'énergie éolienne et de sa technologie, qu'une organisation / entreprise/ONG comme la vôtre, devrait aborder au cours des 10 prochaines années?)



Which of the following aspects of Wind Energy and Technology are becoming increasingly important in the Market?
(Lesquels des aspects suivants de l'énergie éolienne et de sa technologie deviennent de plus en plus importants sur le marché?)



Which sizes of wind energy applications are becoming increasingly important in the Market?

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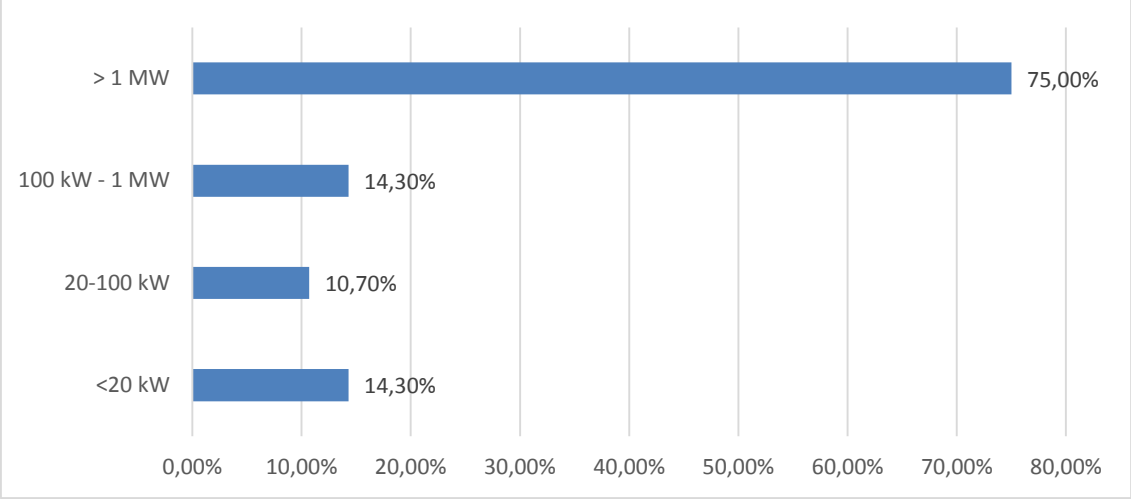
(Quelles tailles d'applications éoliennes sont de plus en plus présentes sur le marché?)

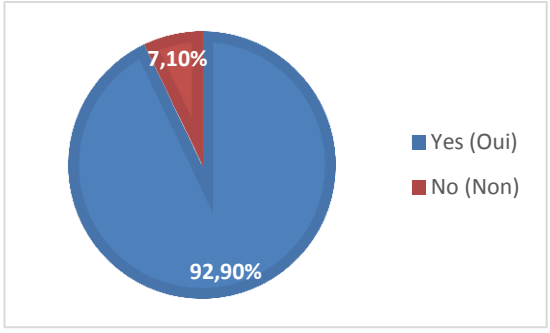


SECTION 4 – EXTERNAL COLLABORATIONS

Is your Organization/Company/NGO interested in being informed about events, Conferences, Workshops, Seminars on Wind Energy and Technology of the WESET Project? ***(Votre organisation/entreprise/ONG est-elle intéressée à être informée des événements, des conférences, des ateliers, des séminaires sur l'énergie éolienne et de sa technologie organisez par le projet WESET?)***

All the companies are interested

Is your Organization/Company/NGO interested in collaborating in the design and organization of the new modules on Wind Energy and Technology of the WESET Project? ***(Votre organisation/entreprise/ONG est-elle intéressée à collaborer à la conception et à l'organisation de nouveaux modules sur l'énergie éolienne et sa technologie dans le cadre du projet WESET?)***



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From your point of view what would be the appropriate skills and competences of the graduates in engineering to be covered by the academic training on Wind Energy? ***(De votre point de vue, quelles seraient les aptitudes et les compétences qui devraient être couvertes par la formation académique sur l'énergie éolienne?)***

n.	Answer
1	Conception, installation des eoliennes. Impact sur le réseau et l'environnement
2	Aspects techniques, réglementaires, financiers, technologiques.
3	1- Description du principe; 2- Différentes composantes nécessaires pour la mise en place du système; 3- Dimensionnement d'une installation; 4- Entretien et maintenance du l'installation.
4	l'énergie éolienne est Multi -disciplinaire qui pourrait toucher diverses secteurs de compétence tel que, mécanique, électrique, électronique, électrotechnique, aérodynamique, économique,...
5	De mon point de vue il sera intéressant que la formation académique accorde plus d'importance aux aspects pratiques de l'éolienne surtout au niveau de son installation et de son couplage au réseau
6	Le côté pratique est très intéressant.
7	aspect technologique aspect réglementaire aspect pratique
8	Étude de marché, Cadre réglementaire, Initiation à la recherche et au développement au niveau de la production d'énergie à partir du vent.
9	aspect technique, installation et réparation, étude de marché
10	Design, engineering, contracting
11	Operation and maintenance
12	Hardware in the loop technology
13	resource assessment and yield estimation, wind turbines technologies, safety awareness, technical writing, dependability and reliability
14	• Technologies and methods used in monitoring and observing migrant birds. • Ability to apply Environmental Impact Assessments and Social Impact Assessments of wind farms. • Wind farms environmental management. • Wind turbine operation and maintenance. • Components manufacturing. • Resources assessment and feasibility studies. • Energy business development, economic and finance.
15	A basic understanding of projects development process, how resource assessment is done, latest technologies, ...etc

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CONCLUSION

The survey was made to verify the actual and future needs of the stakeholders operating in the Wind Energy. The results of the survey activity gives to all the partners a contact line with the labour market, allowing to prepare and orient the didactic modules, programs and material, with an eye also to the industrial reality.

The first result of the survey underlines that the main technological trend of the labour market is addressed to large wind turbine sizes (>1MW), connected to the grid. A 25% of the stakeholders is also dealing with the mini-size (<20kW), standalone applications, which represent the energy self-production framework.

The survey also highlights the skills that are already present in the labour market. We see that wind plant construction and installation, and operation and maintenance (O&M) are the most widespread aspects, followed by the skills related to research and development (R&D).

Although the first two types of skill would be preferred as a topic for internal training and hiring, the R&D is substituted in this case by a tendency to look for experts of resource assessment.

The second part of the survey was dedicated to the future planning. We saw that no one of the stakeholders excludes new recruitment in the next two years. However, they mostly demonstrate a certain caution in considering this eventuality, in relation to the market trend. On this aspect, the interviewees predicted that the future market trend will be focused on the power plant development, immediately followed by the operation and maintenance. In this case, we find again the expectation about the R&D aspect.

RECOMMENDATIONS

From the overall analysis of the survey results, we can observe that the four new modules on Wind Technologies and Energy proposed in the project framework cover almost all the main issues required from the industry.

Particular attention should be put in power plant development, O&M and resource assessment, which are crucial and strategical aspects that characterize the labour market needs (actual and future). These aspects have been also pointed out by the results of the survey on the HEI offer.

Standalone installations and mini- wind energy applications are still ¼ of the market. This aspect should be taken into account during the definition of the didactic modules.

Research and development is always kept into strong consideration for future planning and labour market trend. The internship and training in the European Universities represents a valid opportunity to train the students participating to WESET also on R&D activities.

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ANNEX: The WESET project

WESET - Wind Engineering Skills in Egypt and Tunisia project (www.weset-project.eu) inscribes in the modernization, development and internationalization strategy of the HEIs involved, that share the common objectives of aligning Master degrees with the needs of Industry and the Society at large, and of creating links with foreign institutions.

The main goal is to transfer knowledge and technology on Wind Energy among experts in European, Egyptian and Tunisian institutions, strengthening the links between academic institutions and industry to produce engineers with the skills needed to support industrial growth in the wind energy sector.

The project aims also at promoting Bologna Process standards in the in South Mediterranean region.

The proposed project will contribute to the Engineering objective of the Capacity Building action in Tunisia and Egypt. Thus, it directly addresses the thematic national and geographic priorities set by the programme for South-Mediterranean countries (and Egypt and Tunisia in particular).

WESET project's specific objectives are

- fulfilling the lack of Engineers with multidisciplinary knowledge of Wind Technologies
- providing specific training materials and laboratories that support the training in Wind Engineering and the links HEIs-industry
- promoting the use of Wind as a reliable, cost-effective and pollution-free source of energy in SM countries, supporting their economic development and independence
- Supporting the activities of WE companies in those countries and the creation of new companies by entrepreneurs, thanks to the technically qualified manpower of international standards.

WESET will achieve the purposed objectives through the following activities:

- By developing Master modules and laboratories suitable for capacity building in wind energy for on-campus learning in Egypt and Tunisia, linked with industry and official organizations in SM countries through the Wind Engineering Centers to be created as part of WESET;
- By elaborating training materials openly distributed to be used as part of Masters in Engineering

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By training trainees from Egypt and Tunisia in Europe on real-life Wind Engineering aspects and by using those training materials for Master courses.

For further information on WESET project or comments on this document, please contact *Fernando.Tadeo@uva.es* *and* *weset.erasmusplus@uva.es*

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