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CURRENT PROFILE OF PEFC CHAIN OF CUSTODY CERTIFIED COMPANIES IN ROMANIA

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Abstract

PEFC is one of the most common certification schemes in forestry worldwide. The aim of this paper was to highlight the profile of the PEFC Chain of Custody certified companies from Romania. Data available in December 2018 on the official website of PEFC were taken into consideration. Until present, 43 PEFC CoC certified companies were recorded in Romania, more than half holding an individual certificate. The certified companies are located in fifteen counties plus Bucharest, one quarter of them being based in the capital city. 60% of the valid CoC certificates in Romania were issued only by two certification bodies. As regards the product category, the number of the companies involved in paper-related activities is almost equal with the companies acting in wood industry. Even though Romania is a country well known for its forest resources and its wood industry, PEFC certification is not very well represented. But, by taking into account that PEFC national certification system was endorsed in mid-summer 2018, it might happen very soon that PEFC (both FM and CoC) will gain more interest in Romania.

Key words: Chain of Custody, Romania, forest certification, PEFC, wood industry

INTRODUCTION

According to recent statistics, every year approximately 3,000 million cubic meters of wood are harvested worldwide, more than half being used in industry [18]. This high quantity is mainly generated by the growing world population that is putting a higher pressure on the main resources [3], including wood.

In the last twenty-thirty years, environmental issues gain an increasing attention from the general public, including the trade flows at international level [4], [27]. It is also the case of forestry sector which is confronted with diverse customer needs [8], such as fire wood or roundwood used in industry. In this context, the management of forest companies should take into consideration the opinions of stakeholders, including the customers.

In order to fulfill the above-mentioned requirements, more and more agencies,

companies and enterprises both from forest management sector and wood industry adopted several types of certification initiatives in order to implement specific measures regarding the management of the forests and the producing of certain wood-base products [16].

As a general definition, forest certification is regarded as a set of procedures aimed at assessing the quality of forest management and timber harvesting according to specific standards. In forestry, there are two main levels, namely the evaluation of the quality of the management of a forest land (*i.e.* forest management certification, known as FM) and the tracking of wood products from forests to the market (*i.e.* chain of custody certification, known as CoC) [1], [6], [13], [15]. In other words, forest certification represents perhaps the main instrument that is defining the sustainable development in forestry [17].

Worldwide, numerous forest certification schemes were developed in the last years, Programme for the Endorsement of Forest Certification (PEFC) and Forest Stewardship Council (FSC) being the most common ones [9], [14], [19]. Nowadays, it is estimated that almost 10% of the world's forests are PEFC or FSC certified [26]. At a global level, Europe recorded the highest number of the PEFC chain of custody certificates, while the highest area of PEFC certified forests is located in North America [5], [10].

Both certification schemes, that were launched in 1993 (FSC) and 1998 (PEFC) [22], [28], respectively, include minimum management requirements and specific criteria that are defining the principles of sustainable forest management [7], [20].

If FSC certification scheme was designed as a global standard, PEFC is more regarded as an umbrella organisation for the national standards [14]. PEFC was created by several representatives of wood industry and forest owners and managers across Europe [21] in order to provide a certification tool also for small forest areas that are in generally in private ownership. For example, in Italy, several cork oak forests of twenty, forty or more hectares were certified [23].

The two certification schemes provide important benefits to forest owners, forest managers and companies active in wood industry, however the implementation of CoC standard involves some costs which represent in most of the cases a real problem [11], [25]. Even if nowadays, big companies have very complex supply chains, meaning that they have to deal with long and complicated chains of custody, thanks to the benefits provided by the information and communication technology the work of the managers simplifies [12].

In Romania, in December 2018, there were around 2.7 million hectares of FSC certified forests [10], most of them being managed by the National Forest Administrator ROMSILVA, which is the main forest administrator across the country, being responsible for 3.2 million hectares of state-owned forests [2].

The history of PEFC in Romania started in 2015, when a group of NGOs and academia representatives developed the first PEFC standard. The national PEFC standard was debated for two years and in August 2017, PEFC International endorsed it. Until now, there is no PEFC certified forest in Romania, but only PEFC CoC certificates issued by several certification bodies (CBs).

The aim of this paper was to highlight the profile of the PEFC CoC certified companies in Romania.

MATERIALS AND METHODS

Data regarding the PEFC certified companies in Romania were centralized from official PEFC website [24]. The companies with valid Chain of Custody (CoC) certificates at the end of 2018 (December, 31) were taken into account.

RESULTS AND DISCUSSIONS

In total, 43 PEFC CoC certified companies were recorded in Romania in December 2018. In most of the cases, these companies trade products with PEFC labels from other countries. More than half (56%) hold an individual certificate, only four companies having a multi-site certificate (Fig. 1).

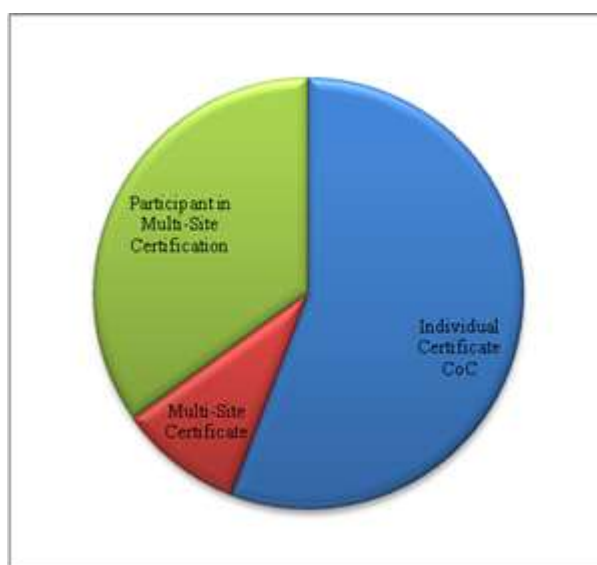


Fig. 1. Type of certification of the PEFC CoC certified companies in Romania

Source: PEFC [24], <https://www.pefc.org/find-certified/certified-certificates>

The PEFC CoC certified companies from Romania are based in 15 counties plus Bucharest, one quarter of them being located in the capital city (Fig. 2)

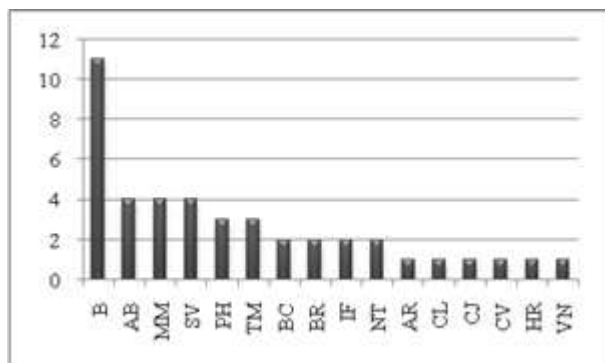


Fig. 2. Distribution of PEFC certified companies per county

Source: PEFC [24], <https://www.pefc.org/find-certified/certified-certificates>

60% of the valid CoC certificates in Romania were issued only by two certification bodies, namely SGS Société Générale de Surveillance SA (SGS), based in Switzerland, and Soil Association Certification Limited (SA), based in United Kingdom, respectively (Fig. 3). These two certification bodies have also the most FSC certified companies, SA being the CB that issued the first FSC certificate in Romania.

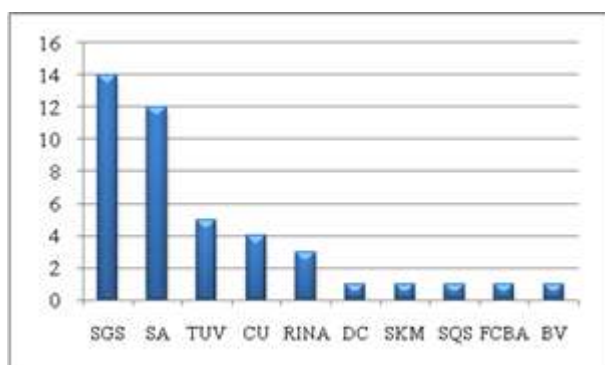


Fig. 3. Certification bodies present in Romania

Source: PEFC [24], <https://www.pefc.org/find-certified/certified-certificates>

The list of the certification bodies is completed by TÜV SÜD Czech (TUV), Control Union Certifications (CU), Rina Services (RINA), DIN CERTCO (DC), DNV GL Business Assurance Sweden AB (SKM), Swiss Association for Quality and Management Systems (SQS), Technological

Institute (FCBA) and Bureau Veritas Certification France (BV), respectively.

As regards the product category, the number of the companies involved in paper-related activities is almost equal with the companies acting in wood industry. In the case of two companies, there was no information available on the official website of PEFC.

CONCLUSIONS

Even if Romania is a country well known for its forest resources and its wood industry, PEFC CoC certification is not very well represented. But, by taking into account that PEFC national certification system was endorsed in mid-summer 2018, it might happen very soon that PEFC (both FM and CoC) will gain more interest in Romania. Perhaps that the most interested will be the small forest owners and the small companies that will supply certified material to biggest ones and/or to other countries worldwide. Another opportunity will be for the local specialists who would want to conduct field and office audits regarding the implementation of the PEFC standards across the country.

Last but not least, it is expected that by increasing the number of PEFC certificates the confidence of the consumers in the companies that are active in Romania will increase, no matter of their capital.

REFERENCES

- [1]Bowler, K., Castka, P., Balzarova, M., 2017, Understanding Firms' Approaches to Voluntary Certification: Evidence from Multiple Case Studies in FSC Certification, *Journal of Business Ethics* 145: 441-456.
- [2] Enescu, C.M., 2018, How many people are needed to manage a forest in Europe and in Romania? *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development* 18(3): 123-126.
- [3] Eriksson, M., Samuelson, L., Jägrud, L., Mattsson, E., Celander, T., Malmer, A., Bengtsson, K., Johansson, O., Schaaf, N., Svending, O., Tengberg, A., 2018, Water, Forests, People: The Swedish Experience in Building Resilient Landscapes, *Environmental Management* 62: 45-57.
- [4]Garcia-Montiel, E., Cubbage, F., Rojo-Alboreca, A., Lujan-Álvarez, C., Montiel-Antuna, E., Corral-

- Rivas, J.J., 2017, An Analysis of Non-State and State Approaches for Forest Certification in Mexico, 8(8), 290, doi:10.3390/f8080290.
- [5]Garrett, R.D., Levy, S., Carlson, K.M., Gardner, T.A., Godar, J., Clapp, J., Dauvergne, P., Heilmayr, R., le Polain de Waroux, Y., Ayre, B., Barr, R., Dovre, B., Gibbs, H.K., Hall, S., Lake, S., Milder, J.C., Rausch, L.L., Rivero, R., Rueda, X., Sarsfield, R., Soares-Filho, B., Villoria, N., 2019, Criteria for effective zero-deforestation commitments, *Global Environmental Change* 54: 135-147.
- [6]Gilani, H.R., Kozak, R.A., Innes, J.L., 2018, A Change Management Model for the Adoption of Chain of Custody Certification in the British Columbia Value-added Wood Products Sector, *Journal of Change Management* 18(3): 240-256.
- [7]Guan, Z., Xu, Y., Gong, P., Cao, J., 2018, The impact of international efforts to reduce illegal logging on the global trade in wood products, *International Wood Products Journal* 9(1): 28-38.
- [8]Halaj, D., Sedliačiková, M., Malá, D., 2018, Customer Behavior on the Slovakian Roundwood Market: A Case Study, *BioResources* 13(3): 6003-6020.
- [9]Hălălișan, A.F., Abrudan, I.V., Popa, B., 2018, Forest Management Certification in Romania: Motivations and Perceptions, *Forests* 9, 425, doi:10.3390/f9070425.
- [10]Ilie, A., Apăfăian, A., Puicea, D.R.E., Enescu, C.M., 2018, Latest trends in the evolution of PEFC certification, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development* 18(3): 179-182.
- [11]Klarić, K., Greger, K., Klarić, M., Andrić, T., Hitka, M., Kropivšek, J., 2016, An Exploratory Assessment of FSC Chain of Custody Certification Benefits in Croatian Wood Industry, *DRVNA INDUSTRIJA* 67(3): 241-248.
- [12]Konovalenko, I., Ludwig, A., 2019, Event processing in supply chain management – The status quo and research outlook, *Computers in Industry* 105: 229-249.
- [13]Lukashevich, V., Shegelman, I., Vasilyev, A., Lukashevich, M., 2016, Forest certification in Russia: development, current state and problems, *Lesnicky časopis - Forestry Journal* 62: 48-55.
- [14]Maesano, M., Ottaviano, M., Lidestav, G., Lasserre, B., Matteucci, G., Mugnozza, G.S., Marchetti, M., 2018, Forest certification map of Europe, *iForest Biogeosciences and Forestry* 11: 526-533.
- [15]Majer, S., Wurster, S., Moosmann, D., Ladu, L., Sumfleth, B., Thrän, D., 2018, Gaps and Research Demand for Sustainability Certification and Standardisation in a Sustainable Bio-Based Economy in the EU, *Sustainability* 10(7), 2455.
- [16]Maryudi, A., Nawir, A.A., Sumardanto, P., Sekartaji, D.A., Soraya, E., Yuwono, T., Siswoko, B.D., Mulyana, B., Supriyatno, N., 2017, Beyond good wood: Exploring strategies for small-scale forest growers and enterprises to benefit from legal and sustainable certification in Indonesia, *Journal of Agriculture and Rural Development in the Tropics and Subtropics* 118(1): 17-29.
- [17]Mikulková, A., Hájek, M., Štěpánková, M., Ševčík, M., 2015, Forest certification as a tool to support sustainable development in forest management, *Journal of Forest Science* 61(8): 359-368.
- [18]Oprea, A.M., Borlea, G.F., Dronca, D., 2018, Oak species – providing renewable and sustainable raw materials, enriching the ecosystems services and fulfilling the social demands. Case-study – Western Romania, *Scientific Papers. Series E. Land Reclamation, Earth Observation & Surveying, Environmental Engineering* 7: 225-233.
- [19]Paluš, H., Parobek, J., Šulek, R., Lichy, J., Šálka, J., 2018, Understanding Sustainable Forest Management Certification in Slovakia: Forest Owners' Perception on Expectations, Benefits and Problems, *Sustainability* 10(7), 2470.
- [20]Paluš, H., Parobek, J., Vlosky, R.P., Motik, D., Oblak, L., Jošt, M., Glavonjić, B., Dudík, R., Wanat, L., 2018, The status of chain-of-custody certification in the countries of Central and South Europe, *European Journal of Wood and Wood Products* 76: 699-710.
- [21]Panico, T., Pagnani, T., Caracciolo, F., 2018, Intention to Purchase Sustainable Wood Products: An Empirical Analysis of the Determinants, *International Journal on Food System Dynamics* 9(4): 342-353.
- [22]Perera, P., Vlosky, R.P., 2006, A History of Forest Certification, *Louisiana Forest Products Development Center Working Paper* 71.
- [23]Pollastrini, M., Chiavetta, U., Cutini, A., Casula, A., Maltoni, S., Dettori, S., Corona, P., 2018, Indicators for the assessment and certification of cork oak management sustainability in Italy, *iForest - Biogeosciences and Forestry*, Vol. 11(5):668-674.
- [24]PEFC Find Certified 2018. <https://www.pefc.org/find-certified/certified-certificates>, Accessed December 31, 2018.
- [25]Ratnasingam, J., Ark, C.K., Latib, H.A., Subramaniam, H., Khoo, A., 2018, Innovation in the Malaysian Furniture Industry: Drivers and Challenges, *BioResources* 13(3): 5254-5270.
- [26]Sen, G., Genc, A., 2018, Perceptions and expectations on forest management certification of foresters in state forest enterprises: a case study in Turkey, *Applied Ecology and Environmental Research* 16(1): 867-891.
- [27]Vlosky, R., Tasdemir, C., Gazo, R., Cassens, D., 2015, The U.S. value-added wood product sector and certification over time: 2001, 2007 & 2014, *Intercathedra* 31(2): 110-116.
- [28]Wibowo, A., Giessen, L., 2018, From voluntary private to mandatory state governance in Indonesian forest certification: Reclaiming authority by bureaucracies, *Forest and Society* 2(1): 28-46.