Guidelines for RES project developers interested in financing their projects through crowdfunding

Centre for Qualitative Research in Finance & CEPMLP, University of Dundee

January 2018

CrowdFundRES

Unleashing the potential of Crowdfunding for Financing Renewable Energy Projects
**Table of contents**

Aim of this document ........................................................................................................... 3

1. What should developers ask themselves? ................................................................. 4

   Why do I need funds? ........................................................................................................... 4
   What type of financing am I considering? ........................................................................ 4
   Have I searched for funds from conventional financial sources? ............................... 5
   Do I have an obligation or a desire to engage with a local community for local planning support, and/or sharing of potential benefits from a project? ................................................................. 5
   Do I have sufficient knowledge of - and the resources required to engage with - crowdfunding in practice? ................................................................................................................................. 5
   What crowdfunding platforms are available in my area? ........................................... 5
   Does my company or group comply with the local, regional and national government regulations and laws in regards to crowdfunding? ......................................................... 6
   Do I understand that crowdfunding will require me to make certain business information public? ........................................................................................................................................ 6
   Do I see opportunities to use crowdfunding repeatedly? ............................................. 6

2. What questions should project developers ask crowdfunding platforms? ................. 7

   What is the background and experience of the crowdfunding platform? ................ 7
   What are the procedures for safeguarding and handling investment funds?................. 7
   What is the lead time from application until the capital is on my bank account?............ 8
   What are the costs (monetary and non-monetary) that crowdfunding will involve? ....... 8
   What are the benefits/services that a crowdfunding platform will provide? ................. 8
   What type of business information about the developer or project will have to be made public for the crowd? ................................................................................................................................. 9
   What happens if the crowdfunding platform ceases to trade, regardless of reason? .... 9

3. - Case Studies – Examples of renewable energy projects successfully funded by crowdfunding platforms ................................................................. 10

   Abundance – REG High Down (United Kingdom) ......................................................... 10
   Bettervest – Hotel Magnetberg (Germany) ................................................................. 11
   Lumo – Iteuil (SERGIES SAEML) (France) ................................................................. 11
   Lumo & OnePlanetCrowd (Toreilles solar Park) (Cross-border Collaboration FR-NL) .... 12

4. If crowdfunding is not appropriate for my renewable energy project, where should I look? ................................................................................................................................. 13

Technical references ......................................................................................................... 14
Guidelines for renewables project developers seeking crowdfunding finance.

Aim of this document

Crowdfunding platforms have proven they have the ability to attract investment funds for renewable energy projects and energy companies. Relative to traditional financing sources, crowdfunding can provide funds in a timely manner, reflecting reduced bureaucracy and regulatory complexity. Crowdfunding can often help for small-scale renewable projects where bank loans, structured around economies of scale, are effectively crowded out. Indeed, a detailed survey of more than 300 EU citizens' views conducted as part of the CrowdfundRES project suggested that speed was one the key perceived benefits of such funding models in the context of renewables. More generally, the community-oriented nature of crowdfunding has been suggested as making it particularly appropriate for renewables - the above survey in fact found that the “morals/ethics” of crowdfunding’s “collaborative basis” was the most important benefit of all.

Millions of Euros and Pounds have been raised in the past few years, allowing dozens of projects across Europe to be built by project developers. Whilst the exact form of instruments used vary internationally (reflecting regulatory nuances), the most common forms employed to date in the EU as a whole include donation-based funding, reward-based funding, equity-based funding (particularly in the UK), peer-to-peer lending, invoice-trading, community-lending and bonds/debentures. The industry has demonstrated that this alternative financing method can work for developers, and it can provide additional benefits beyond providing just investment capital. Benefits are also being delivered to individual investors and communities by enabling direct involvement in local renewable projects. The goal is to help unleash the potential of crowdfunding for even greater amounts of investment funds to flow to the renewable energy sector and provide financing to promote a fast-growing renewable energy sector.

This guide presents a series of questions that renewable energy developers should ask themselves and crowdfunding platforms in order to facilitate better understanding and decision-making before engaging in crowdfunding. The demand for investment capital in the renewable energy sector is large and growing. Crowdfunding is one possible solution to providing investment capital. The overall viewpoint of EU citizens regarding crowdfunding for renewables has been shown in the CrowdfundRES project to be very favourable, particularly amongst those who have had recourse to use the market previously\(^1\), but many important questions need to be addressed for efficient and effective fundraising to materialise. There are many more questions that a project developer needs to ask beyond those listed in this document. However, by following this practical guide to questions a project developer will more effectively determine if crowdfunding can be a successful financial solution to their funding needs.

The guidelines are composed of four parts. Part One presents questions project developers should ask themselves to help with understanding their own priorities in terms of crowdfunding needs. Part Two then presents questions that project developers should ask of crowdfunding platforms to establish clearly what crowdfunding is and what the likely benefits and costs are if using this alternative finance method. Case studies of successful renewable energy projects that were funded through crowdfunding are presented in Part Three. Part four shows alternative financing sources to consider if crowdfunding is not the right option for your company.

---

1. What should developers ask themselves?

Why do I need funds?

Having a clearly defined financial objective will facilitate finding the correct financial resource. Knowledge about how and when the funds will be spent/invested, allied to the overall business case for investment, will play a critical role in determining and guiding the type of financing that can be attained. Whilst it is likely that certain financing types will not be appropriate/acceptable for particular investment purposes, the findings from the CrowdfundRES survey of EU citizens suggest widespread positivity regarding the role of alternative funding models for renewable energy projects.

It should also be noted that the results of the CrowdfundRES decision choice analysis suggest that potential investors are financially literature and rate of return remains the most important criterion. However, substantive importance is attached to a range of factors, including project type, development stage and financing instrument structure.

What type of financing am I considering?

As noted earlier, there are numerous types of financial instruments that can be used to fund a project or company, and financing can happen at different stages of a project or company’s development. Early-stage discussions with a crowdfunding platform - if you have an idea about what you want and need – will be important. However, it is important to consider both conventional and alternative financing options. Some crowdfunding platforms have been known to provide customised funding arrangements to meet a developer’s specific needs. Therefore, sound knowledge of the following basics regarding your intentions is vital:

- How much money do you want?
- How will it be repaid or returned to investors?
- What project / company development stage is involved?
- What is an acceptable cost of money (interest rate, dividends, etc.)?
- What are the main risks - and mitigations for these?
- How quickly are funds required?
- At what stage in the project do you require funds (different stages carry risk levels which will affect the return profile)?
- Are tranche payments acceptable to you?
- What costs/interest rates can your project bear?
- Will the other components of finance in your project work with crowdfunding?

---

Have I searched for funds from conventional financial sources?

It is good business practice to investigate multiple sources for acquiring funds for a project or company. Conventional financial service companies may be able to provide a wide range of beneficial services, but they may also have requirements that extend beyond your project or company’s capabilities. Therefore, compare the offerings of different financial providers and select the one that fits best with your business objectives and philosophy.

Do I have an obligation or a desire to engage with a local community for local planning support, and/or sharing of potential benefits from a project?

Community engagement is commonly recommended (or required) for renewable energy project approval by local planning authorities. Payment or sharing of benefits to a neighbouring community is also suggested / mandated in some countries. Crowdfunding has demonstrated its ability to attract community investment for renewable energy projects and encourage a positive engagement process. Indeed, those involved in the project, or early-stage investors, can act as evangelists for the project within the community.

Do I have sufficient knowledge of - and the resources required to engage with - crowdfunding in practice?

Crowdfunding will entail some different activities relative to conventional financial lending services, whether your company is seeking / has sought traditional debt or equity financing through private or public placement. The next section of this guide identifies questions you should ask crowdfunding platforms in this context prior to formalising any arrangement. Not all crowdfunding platforms perform the same services, so learn the specifics of what they offer to you and what they need from you. A good resource to learn what may be required for crowdfunding is the European Crowdfunding Network’s – “Successful Crowdfunding in 15 Steps”⁴. Another online resource is the “Report on the practical experience of RES project financial using crowdfunding”⁵, written by the CrowdfundRES project.

What crowdfunding platforms are available in my area?

Organisations and resources that can assist you in connecting with crowdfunding platforms that work with renewable energy developers include:

- European Crowdfunding Network (ECN), a professional network representing crowdfunding companies that acts to promote the industry and establish good business practices. The ECN

---

⁴Successful Crowdfunding in 15 Steps  http://eurocrowd.org/category/facts-and-figures/e-library/
can provide referrals to member platforms that operate in your country. ECN can be contacted at: info@eurocrowd.org; SolarPlaza’s Renewable Energy Map; and Citizenergy, which promotes selected crowdfunding platforms and cooperatives that focus on public involvement in sustainable energy projects. Citizenergy vets featured platforms to provide the public with confidence regarding those in which they invest.

Does my company or group comply with the local, regional and national government regulations and laws in regards to crowdfunding?

Crowdfunding legislation varies greatly from country to country. Before engaging in detailed preparatory work, investigate the rules that apply in your country. Complying with the existing regulatory framework might require compromises in terms of the amount of funds raised, type of investor participation, prospectus requirements, etc. For an overview of crowdfunding regulation and market developments in specific EU states see “Review of Crowdfunding Regulation & Market Developments for RES project financing in the EU”.

Do I understand that crowdfunding will require me to make certain business information public?

Crowdfunding involves making a public offer of an investment and therefore your business may be open to a greater level of transparency and public disclosure as required by regulation or law. For an overview of requirements regarding prospectus requirements across EU nations see the relevant sections in “Review of Crowdfunding Regulation & Market Developments for RES project financing in the EU”. There may be conflicts with timing of released information and its activities and the timing of information that the platform needs to present to the crowd (public).

Do I see opportunities to use crowdfunding repeatedly?

Crowdfunding may provide even greater benefits if used more than once, further campaigns for other projects offers efficiency benefits to both the platform and the project developer: less due diligence and less new crowd recruitment is needed as the crowd from the first campaign can be involved again. Most platforms have a crowd that builds up a personal investment portfolio and seeks to invest in multiple projects to spread risks.

---

6 www.eurocrowd.org
8 https://citizenergy.eu/
10 Cf. above.
2. What questions should project developers ask crowdfunding platforms?

What is the background and experience of the crowdfunding platform?

Get to know the crowdfunding company. Always develop a good understanding and knowledge of any company or service provider with whom you conduct business. This is especially true when building a strategic relationship that may last many years and involve significant financial commitments and confidential disclosures by the project developer. Your crowdfunding partner will be the public face of your project so you must ensure that you share common principles and approaches. It is also important to know who the crowdfunding company is, what they do and their track record. Questions to ask in this context are:

- What is the company structure and business model, size (i.e. funding volume, employees), physical location, year established, experience of senior personnel, etc.?
- What regulations and laws (local, regional and national) do the crowdfunding platform operate under and comply with.
- Does the platform have all necessary licenses and permits?
- How large is the platform’s investor community?
- What are the characteristics of similar funded projects?
- Does the platform specialise in RES projects?
- What is the success rate in meeting funding goals? Goals can be measured in both timeframe and amount.
- What are the characteristics of their portfolio of successful offerings?
- What activities or services are they prohibited from conducting or have chosen not to conduct?
- Determine if the crowdfunding platform is one you can trust and appropriate for your company to have a working relationship with. Ask for business references from developers and projects they have helped fund, as well as from businesses that have provided services to the platform.
- Conduct an online (Google, blogs, other social media) sanity and reputation check by searching for information on the platform company and its founders.

What are the procedures for safeguarding and handling investment funds?

Who collects and holds funds? Are the investment / repayment funds held by the crowdfunding platform itself, a regulated escrow service or other third parties? What are the legal responsibilities and liabilities of all parties to the investment or repayment funds?
What is the lead time from application until the capital is on my bank account?

Crowdfunding typically is faster than conventional types of financing. On average, it takes 3 to 6 weeks from application until the project is active and visible on the platform, 2 to 8 weeks campaigning time and 1 to 2 weeks finalisation and transfer of the funding. Of course there are many factors that will influence the length of time. Ask the platform about the expected timeframe of their process.

What are the costs (monetary and non-monetary) that crowdfunding will involve?

It is important to have clear expectations of what the platform will cost the developer in terms of both money and time. Ask for all written information and take notes of all verbal representations. Determine what costs will or can be charged and when these are payable. Compare this information to what a conventional or alternative financial service company will provide. Other specific questions in the context should include:

- What are the set-up costs?
- What are the on-going annual fees?
- What is the timeframe required to reach the funding target?
- What are the direct/indirect costs of facilitating due diligence information flows?
- What are the time requirements and costs of running a funding campaign (planning, text writing, and videos) by the project developer?

What are the benefits/services that a crowdfunding platform will provide?

Crowdfunding platforms provide various levels of services. As with any product you buy, be clear about what you can expect to receive. Marketing is a critical function and so. This might include developing and distributing video, print or radio promotion material. Benefits that might be expected to accrue from the engagement with a platform include:

- community engagement;
- preparation of a prospectus;
- campaign coaching and support;
- marketing of the offering. This might include developing and distributing video, print or radio promotion material. Determination of the manner in which the platform will aid with the launch and / or lead the campaign to attract investors, is vital. A call-centre might be made available; and
- provision of a mechanism for investors to cash out/sell their investments, i.e. provision of liquidity.
What information does the crowdfunding platform require of the project developer?

Generally, the developer should expect to disclose the same information as in conventional financing although some additional information will be needed by the platform to aid promotion / marketing of the project or company to investors; for example, if a reward-based model is used, the precise details regarding the offerings will be essential. The attracting of individual investors to a specific offering through social media is one of the defining characteristics of crowdfunding.

What type of business information about the developer or project will have to be made public for the crowd?

In order to see the level of information to be shared on a project and its project owner, one can go to the potential platforms and view the current and past projects and their info as examples. Most platforms do ask a list of due diligence documents for them to analyse the quality of the project but do not require all of it to be presented to the investors. In short it is advisable to check beforehand the list of required due diligence documents, next to the final documentation presented on the public platform.

What happens if the crowdfunding platform ceases to trade, regardless of reason?

The developer needs to know what the long-term relationship with the platform will or may be, and what happens if it ceases to operate. Contingency planning needs to be carried out - due diligence is important in this context. Platforms might be expected to provide more information on the remedies here, and provide advice more generally on (dealing with) the impact of such eventualities on investors. Quality platforms should have processes in place so recurring revenues from projects flows from project owners to investors. This cash flow structure enables a platform, in case it ceases to trade, to transfer its portfolio to another party, including the platforms administration system and obligations. In case a platform stops its services, it may also enable the project developer to fulfil its obligations directly with its investors.
### 3. - Case Studies – Examples of renewable energy projects successfully funded by crowdfunding platforms

<table>
<thead>
<tr>
<th>Country</th>
<th>Abundance – REG High Down –</th>
<th>Bettervest – Hotel Magnetberg –</th>
<th>Lumo – Iteuil (SERGIES SAEML) –</th>
<th>Lumo-OnePlanetCrowd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UK</td>
<td>Germany</td>
<td>France</td>
<td>Cross-border collaboration (FR-NL)</td>
</tr>
<tr>
<td>Year</td>
<td>2014</td>
<td>2015</td>
<td>2015</td>
<td>2017</td>
</tr>
<tr>
<td>Technology</td>
<td>Wind (single turbine)</td>
<td>CHP (Combined Heat &amp; Power)</td>
<td>Rooftop Solar PV</td>
<td>Solar PV</td>
</tr>
<tr>
<td>Capacity</td>
<td>500 kW</td>
<td>20 kW electric &amp; 40.1 kW thermal power</td>
<td>1.4 MW</td>
<td>9.6 MW</td>
</tr>
<tr>
<td>Total raised</td>
<td>£ 1.5m</td>
<td>€ 172,250</td>
<td>€ 150,000</td>
<td>€ 800,000</td>
</tr>
<tr>
<td>Debt structure</td>
<td>Debenture (debt-security)</td>
<td>Subordinated loan</td>
<td>Junior corporate bond</td>
<td>Bonds &amp; Loan</td>
</tr>
<tr>
<td>Returns</td>
<td>8.4-9.3% IRR</td>
<td>7%</td>
<td>3.19%</td>
<td>5%</td>
</tr>
<tr>
<td>Term length</td>
<td>20 years</td>
<td>7 years</td>
<td>9 years</td>
<td>3 years</td>
</tr>
<tr>
<td>Payment frequency</td>
<td>6 months</td>
<td>Annually</td>
<td>Annual</td>
<td>Annual</td>
</tr>
<tr>
<td>Smallest / largest investment</td>
<td>£ 5 / £ 100,000</td>
<td>€ 50 / € 10,000</td>
<td>€ 25 / € 25,025</td>
<td>-</td>
</tr>
<tr>
<td># of investors</td>
<td>672</td>
<td>133</td>
<td>193</td>
<td>438</td>
</tr>
<tr>
<td>Time to raise</td>
<td>152 days</td>
<td>37 days</td>
<td>109 days</td>
<td>14 days (120,00€)</td>
</tr>
<tr>
<td>SPV (special purpose vehicle)?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Abundance – REG High Down (United Kingdom)**

https://www.abundanceinvestment.com/app/projects/reg-high-down

Abundance Investment Ltd is authorised and regulated by the Financial Conduct Authority (525432). It is a crowd-investment platform based in London, UK with a focus on investments that generate both financial returns and social / environmental benefits. Launched in 2012, Abundance has raised over £20m for 21 different energy-related projects and has an investor base of over 2,500. The investments on Abundance are structured as debentures - a debt security - and are typically long.
term in orientation (15-20 years), although they have undertaken some projects with timeframes of less than 7 years. Abundance has helped finance a variety of technologies, including rooftop and ground-mounted solar, wind turbines, biomass and energy efficiency more generally. Abundance offers investors the opportunity to share in the renewable energy future from as little as £5, with no maximum investment amount, whilst offering developers a platform to raise capital and administer payments to investors over the lifetime of the debenture.

In 2014 the REG High Down project, a wind turbine already built in Cornwall, was launched on Abundance to provide an opportunity for members of the public to share in the renewable energy future through refinancing. The investment is a variable return transferrable debenture with a term period of 20 years. The debenture offers investors an IRR of 8.4-9.3% and pays out interest and a fixed amount of capital every 6 months. The capital is paid back in equal instalments across the term period. With help from Abundance’s multiple marketing channels the project raised the targeted amount of £1.5m in 152 days.

**Bettervest – Hotel Magnetberg (Germany)**


Bettervest is an online platform based and regulated in Germany giving non-professional investors the opportunity to invest in renewable and energy-efficient projects. Project developers are paid once the funding is successful and investors can keep track of their investments on the platform. Investment returns are paid directly into bank accounts. As part of the platform’s due diligence process, developers are required to raise at least 30% of the required funding themselves therefore only asking the public for up to 70%. Project owners are required to provide regular updates to investors, as well as various financial and technical information.

Given Bettervest’s 100% success rate for funding projects, Hotel Magnetberg approached them to help finance the installation of two CHP (Combined Heat & Power) units in October 2015. The CHP units run on natural gas, replacing the electricity the hotel buys from the grid as well as conventional gas-fired central heating. The efficiency gains from having the co-generated heat and electricity on site are estimated to save the hotel nearly 100 tonnes of CO2 per year, as well as substantial monetary savings which help to yield a return of 7% over 7 years to investors. While Bettervest allows up to 180 days to raise the target amount, the Hotel Magnetberg successfully funded the €172,250 target within 37 days. In addition, Hotel Magnetberg offered a free one-night stay as a reward to those who had invested €2,000 or more.

**Lumo – Iteuil (SERGIES SAEM) (France)**

https://www.lumo-france.com/projets/une-toiture-solaire-a-iteuil

Lumo is authorized and regulated by the AMF (Autorité des Marchés Financiers) in France and is able to arrange investments through junior/senior project or corporate bonds. Lumo allows French citizens to invest in bonds from as little as €25 in renewable energy projects, earning a return of between 2-5% gross per year. Lumo’s added value is in the careful selection of projects’ social
bankability, making sure the project sits well with all stakeholders, including neighbours and local authorities. Lumo provides an E-wallet service where project returns are collected before being withdrawn or used to invest in other projects.

SERGIES had been receiving requests for local residents to be able to participate in their projects, so in order to enable local residents to invest into a 1.4MW rooftop solar investment, SERGIES partnered up with Lumo in 2015 for the Iteuil project. SERGIES had already successfully financed two smaller projects through Lumo. The Iteuil scheme sought to raise €150,000 from local residents, alongside a €200,000 equity investment from SERGIES and a bank loan of just over €1.5m. In addition, the local region offered financial incentives for crowdfunding. The Iteuil project successfully raised the target amount in 109 days from nearly 200 investors thanks to Lumo’s tailored marketing to local residents.

**Lumo & OnePlanetCrowd (Toreilles solar Park) (Cross-border Collaboration FR-NL)**

Oneplanetcrowd provided a loan to the SPV, which in turn buys bonds from the Torreilles Solar Park, represented by Ferme PV6 SAS. The payments of the bonds are then used to repay the Dutch investors through the Oneplanetcrowd platform. Thanks to this solution, the Dutch crowd is offered the same financial conditions as the French investors.

This was the first campaign involving cross-border platform collaboration. Regulatory differences required an innovative structure that would allow both platforms to sell their product in their regions on the same terms. Despite proving too expensive for regular use, the experience showed willingness of European investors to invest directly in other regions – especially when the project area is well-known to the target investor group. Demonstrates possibility of pan-European crowdfunding and development.
4. If crowdfunding is not appropriate for my renewable energy project, where should I look?

Alternative financing sources to consider if crowdfunding is not the right option for your company or project include:


[^13]: https://greendealflow.com/
## Technical references

<table>
<thead>
<tr>
<th>Project Acronym</th>
<th>CrowdFundRES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title</td>
<td>Unleashing the potential of Crowdfunding for Financing Renewable Energy Projects</td>
</tr>
<tr>
<td>Project Coordinator</td>
<td>Silvia Caneva &amp; Pablo Alonso  Wirtschaft und Infrastruktur GmbH &amp; Co Planungs-KG (WIP)  <a href="mailto:silvia.caneva@wip-munich.de">silvia.caneva@wip-munich.de</a>  <a href="mailto:pablo.alonso@wip-munich.de">pablo.alonso@wip-munich.de</a></td>
</tr>
<tr>
<td>Project Duration</td>
<td>February 2015 – January 2018 (36 months)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deliverable No.</th>
<th>D4.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissemination level*</td>
<td>PU</td>
</tr>
<tr>
<td>Work Package</td>
<td>WP 4 - Guidelines Application and Revision</td>
</tr>
<tr>
<td>Task</td>
<td>Task 4.5 – Guidelines Revision</td>
</tr>
<tr>
<td>Lead beneficiary</td>
<td>UNIDUN</td>
</tr>
<tr>
<td>Contributing beneficiary/ies</td>
<td>All partners</td>
</tr>
<tr>
<td>Due date of deliverable</td>
<td>31 January 2018</td>
</tr>
<tr>
<td>Actual submission date</td>
<td>30 January 2018</td>
</tr>
</tbody>
</table>

PU = Public  
PP = Restricted to other programme participants (including the Commission Services)  
RE = Restricted to a group specified by the consortium (including the Commission Services)  
CO = Confidential, only for members of the consortium (including the Commission Services)

<table>
<thead>
<tr>
<th>v</th>
<th>Date</th>
<th>Beneficiary</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>01.12.2016</td>
<td>UNIDUN</td>
<td>Bruce Burton (UNIDUN)</td>
</tr>
<tr>
<td>2.0</td>
<td>23.01.2017</td>
<td>BNRG</td>
<td>Rebecca Kelly; Lorraine Clifford (BNRG)</td>
</tr>
<tr>
<td>3.0</td>
<td>04.03.2017</td>
<td>UNIDUN</td>
<td>Bruce Burton (UNIDUN)</td>
</tr>
<tr>
<td>4.0</td>
<td>17.07.2017</td>
<td>WIP</td>
<td>Pablo Alonso, Silvia Caneva</td>
</tr>
<tr>
<td>5.0</td>
<td>25.01.2018</td>
<td>UNIDUN</td>
<td>Bruce Burton, Ariel Bergman</td>
</tr>
<tr>
<td>6.0</td>
<td>30.01.2018</td>
<td>WIP</td>
<td>Pablo Alonso, silvia Caneva</td>
</tr>
</tbody>
</table>
Disclaimer

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646435. The sole responsibility for the content of this report lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither INEA nor the European Commission are responsible for any use that may be made of the information contained therein.

While this publication has been prepared with care, the authors and their employers provide no warranty with regards to the content and shall not be liable for any direct, incidental or consequential damages that may result from the use of the information or the data contained therein. Reproduction is authorised providing the material is unabridged and the source is acknowledged.