

Perceived Benefits	Perceived Risks
Economic benefits - Creation of a new value chain <i>"[Hydrogen] will make it possible to transfer the energy chain and from electricity to a fuel chain, giving rise to a new value chain" (I1)</i> - Competitive cost (green H2) <i>"The great advantage of hydrogen is that it can be produced competitively from renewable energies, thus becoming a decarbonized vector" (I2)</i> - Use of existing infrastructures <i>"the possibility of using existing infrastructures" (I2)</i>	Economic risks - Large investment and uncertainty <i>"The inconsistency in energy policies makes it more difficult to provide stability for investments. When an investor wants to invest, they look at all the risks, particularly political risk, regulatory risk, legal risk, counterparty risk... So many risks are perceived" (I2).</i> - Energy dependency (if countries must import, for instance, natural gas for hydrogen production) <i>"Currently, due to the constraints of energy dependence, particularly in the case of natural gas, these forms of hydrogen [blue and gray hydrogen] can be disregarded" (I1)</i>
Technical benefits - Flexibility of use (various sectors where electrification is not possible) <i>"I think these are the main benefits I see from hydrogen: the ability to be flexible; the ability to be burned and to be used in applications where electricity doesn't work." (I3)</i> - Storage capacity <i>"So, it has this advantage of being able to be stored" (I3)</i> - Solution for the decarbonization of sectors that are difficult to electrify <i>"Hydrogen, at the moment, looks like the fuel or energy vector that could (if it's green hydrogen, produced from 100% renewable energy) possibly solve the problem [of difficult decarbonization in some sectors], both in transport (...) and in heavy industry" (I5)</i> - Increasing the security of the energy system <i>"it will make it possible to reinforce renewable energy through a resilient system" (I1)</i>	Technical and technological risks - Technical and human failures <i>"There are always manufacturing defects that we don't see, small problems that we don't identify and that can arise at any time..." (I1)</i> - Implementation of technologies <i>"There's also the problem of not knowing for sure, as it's an innovative technology, whether it will work on a larger scale." (I3)</i> - Handling of hydrogen <i>"There are more technical risks, you have to be careful when handling hydrogen" (I2)</i> - Accidents <i>"I'm sure there will be incidents and accidents [leaks and explosions]." (I1)</i> - Transport <i>"It is difficult in technological terms to transport hydrogen without major losses because it is a very small and volatile molecule." (I3)</i>
Environmental benefits - Replacement of fossil fuels in industry and mobility as a clean fuel <i>"Hydrogen will make it possible to replace fuels, both in industry and in mobility" (I1)</i> - Decarbonized/clean and inexhaustible energy carrier <i>"Hydrogen is nature's most present source of energy, it's inexhaustible, it's clean." (I7)</i> - Possibility of being produced in a green and environmentally clean way <i>"For the cycle to close and have no emissions, I need to have renewable electricity production to feed electrolyzes, obtain hydrogen and, in this complete cycle, I never have CO₂ emissions, except in the manufacture of the equipment." (I4)</i> - The ability to provide clean energy without emitting pollutants, producing only water vapor <i>"Water vapor is a greenhouse gas, just like CO₂. The advantage is that when it concentrates in the atmosphere above certain values, it rains. So, it turns into something that's very important to us, which is water." (I6)</i> <i>"The main benefit is that there will be no GHG emissions from burning hydrogen." (I3)</i>	Environmental risks - Resource scarcity <i>"There aren't always resources, and when I say resources it's not just wind or solar, it's also other available network resources, the possibility of implementing renewable projects for reasons of environmental impact to produce so much renewable energy." (I2)</i> - Impacts on biodiversity <i>"Then there are other issues related to with the large areas that will be used for solar panels for the production of green production of green hydrogen and that, in some in some cases, these panels may be placed in areas that are important from an point of view and biodiversity." (E3)</i> Social risks - Public concerns <i>"The fact that there are people who perceive hydrogen as a risk is a risk in itself, because it will be an obstacle to the development of hydrogen" (I2)</i> - Conflicts of interest <i>"there is a risk that there will be pressure from economic agents with interests in hydrogen to somehow try to make it into a solution that isn't as efficient." (I3)</i> - Dependence on political will <i>This political risk is one that is always very present, especially in very large, large-scale and very long-term</i>

	investments, where they [the investors] know that they are going to be subject to various political cycles." (I2) - Misinformation "The greatest obstacle is perhaps the media, which is the guarantor of good information for public opinion and only in this way can it then also have a consequent power of decision. If there is no good communication, public opinion is manipulated" (I2) - Creation of new needs "There's this risk of building yet another large energy-intensive industry that requires a lot of energy to be produced, which then causes more problems." (I3) - Territorial occupation without defined criteria "These areas [for installing solar panels] have to be really well selected and the government's licensing criteria are much less demanding at the moment, because there is an urgency to install renewable energy production capacity because of the geostrategic issue. So that's a risk too." (I5) - Non-efficient use of energy "The risks have to do with how, for example, we are diverting energy that is important for other uses and using it to produce hydrogen." (I3)
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