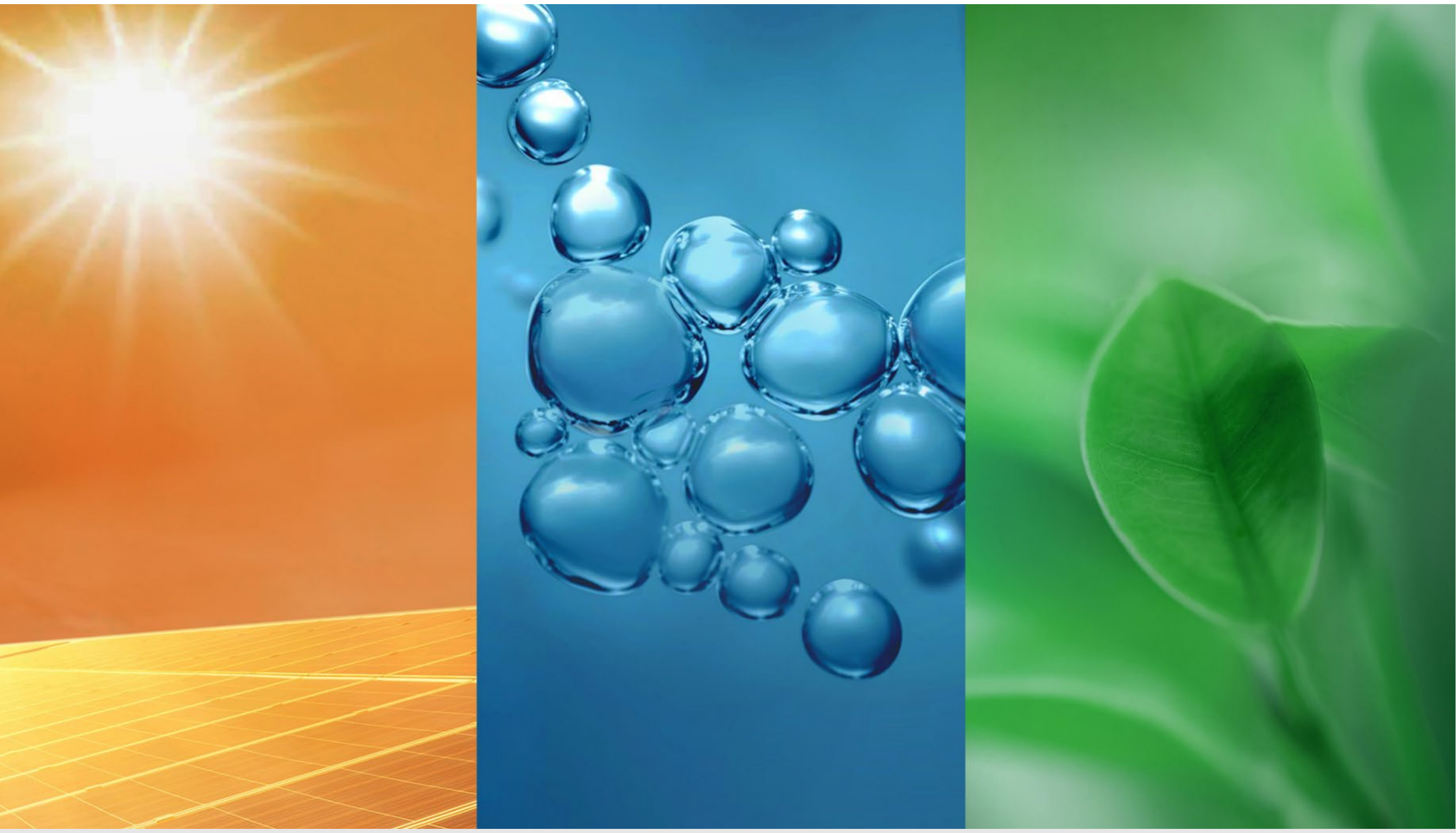

S2H2 elaboration on the Sustainability Development Goals established by the United Nations

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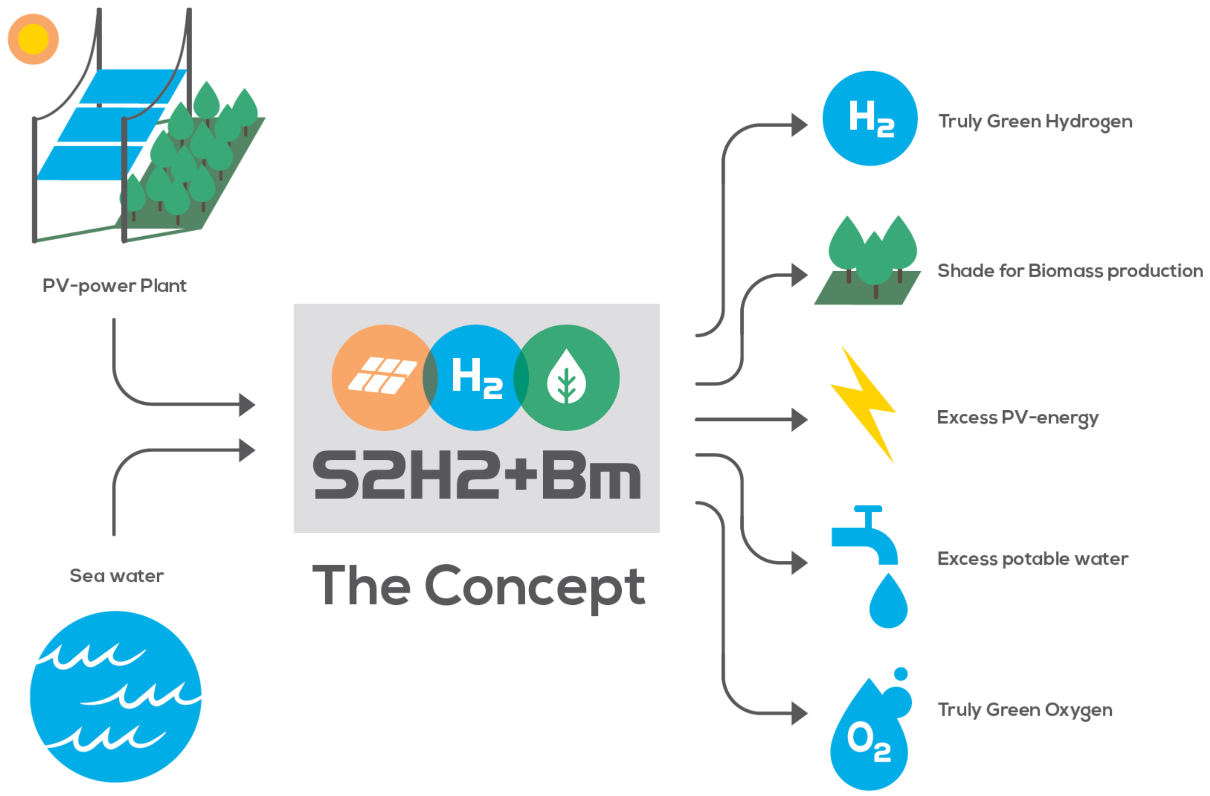
1. Executive Summary

S2H2+Bm Concept AB will develop profitable, large-scale green hydrogen hubs built on and strongly supporting the UN Sustainable Development Goals (SDGs), with profitability as a prerequisite and enabler of long-term sustainability.



The concept integrates solar-powered hydrogen production, desalination, biomass farming, and circular industrial development to drive economic growth, job creation, education, gender equality, and community resilience – particularly in rural and underdeveloped areas. Environmental and ethical standards are central, including strict transparency, responsible sourcing, and ecosystem regeneration.

The project is seamlessly scalable, can be replicated on multiple locations, and aspires to be a global model for sustainable industrialization.

2. Project Profitability

Looking at the SDG's from a project perspective, we strongly believe that it is appropriate to discuss profitability as a precondition for any honest attempt to contribute to the globally agreed upon goals for a sustainable future.

A sound profitability includes returns for all stakeholders over the foreseeable future. It is not built on the back of taxpayers, people, wildlife or the environment in general, nor depletes the planet of non-renewable resources.

A sound profitability is not akin to maximized profits. Instead, it means the ability to pay decent returns to those who put something at risk, pay interest on and amortize loans, have the financial muscle to face obstacles, and the ability and appetite to invest in sustainability both short and long term.

A sound profitability is a pre-requisite for sustainability.

We also believe it goes both ways; sustainability is an enabler and a precondition for long-term sound profitability.

Weak or poor operational profitability will, sooner or later, invariably result in businesses making tough decisions where short-term gains might overshadow maintaining sustainability goals.

Subsidies

Various forms of subsidies are necessary in many sectors to speed up progress and reduce risk in our common fight against the climate crisis, e.g., support for high-risk development of new technology or infrastructure.

However, having subsidies as a business plan corner-stone is in general a bad idea and can in addition be directly counterproductive, leading to wasteful use of limited resources.

S2H2+Bm will seek and accept government grants and financial guarantees if the conditions align with our values and targets, if they contribute to a faster ramp-up, and if doing so does not cause us to diverge from our path and focus on producing low-cost truly green hydrogen.

3. The Global Sustainable Development Goals (SDG)

This document, our elaboration on the SDG's, is not a tick-the-box activity. We are not part of some sort of competition comparing marks in sustainability.

As is very clear for everyone close to S2H2+Bm Concept AB, the SDG's are quite to the contrary our business and Concept development guide. With this document we want to tell our story and hopefully inspire others.

3.1 No Poverty (S2H2 low impact)

End extreme poverty in all its forms everywhere.

S2H2 cannot end poverty even at the locations we operate, but we will contribute to this end with job creation.

It is also important what we will not do; we will not directly or indirectly evict people from their homes, and we will not take away whatever means they have presently to survive and make a living or deprive them of any resource they presently have whether by formal or informal rights.

3.2 Zero Hunger (S2H2 high impact)

Achieve food security and improved nutrition and promote sustainable agriculture.

The Bm in our company name stands for Biomass. It is a fundamental part of the Concept, combining positive technical and economic factors with humanistic, creating 12 000 hectares of farmable land in a desert biome by elevating the PV-panels and shading (approx. 50% alternating shade) the land below. We will encourage the people in the local community to farm this land at zero charge and thus greatly contribute to their ability to produce food locally.

We will also produce water by desalination of oceanic water using solar energy, which we will sell at cost (<$1/m3) for agriculture and other purposes.

In addition, we will provide biosolids (sanitized, treated form of sewage sludge suitable for land application) from our water treatment and recycling plant as a highly potent fertilizer for farming activities.

3.3 Good Health and Well-Being (S2H2 low impact)

Ensure healthy lives and promote well-being for all ages.

The very first building erected will be the Industrial School and Training Center, which will include a canteen, doctors' office and nurses' reception, locker rooms with showers and utilities, a town hall type larger meeting room, in addition to traditional training facilities.

The primary reason for building the training center on site is the safety of our employees and others working or visiting the site. It is primarily built to enable proper safety training, both in a classroom setting and more practical, e.g., safety when welding, operating a truck etc. The safety standards of S2H2 are world class, our implementation is among the best in the world, and our safety records will reflect that.

Our ambition is that our example will make a mark in the community and in the country, wherever we take our Concept.

3.4 Quality Education (S2H2 medium impact)

Provide inclusive and equitable quality education and lifelong learning.

The level of schooling will vary greatly between locations and between individuals. We will target our initial recruitment on those individuals with a high school diploma or higher, and provide them with high quality industrial schooling fitting for their future role as operators, maintenance technicians etc.

However, to fill all positions we will also provide more basic schooling, including reading and writing, basic algebra etc. as needed.

Longer-term, we will provide training and education to our employees both at our own campus and elsewhere to deepen and broaden their knowledge extending their skillset, train the trainers, and create a learning organization.

In an even longer perspective, we foresee our Industrial School and Training Center to grow substantially and to establish partnerships with leading companies and universities, offering post graduate studies and examination in the field of PV-based green hydrogen and its derivatives.

3.5 Gender Equality (S2H2 low impact)

Achieve gender equality and empower all women and girls.

Possibly the most difficult of all the SDG's, as this seemingly logical and natural goal is based on a deeply rooted and in most countries still dominant culture of paternalism. Culture has strategy for lunch, but S2H2 shall, despite any difficulties, install a culture of equality between sexes and create diverse efficient teams.

All facilities will from the get-go be designed for 50/50 female/male employees.

Recruiting will target a 50/50 female/male employment in all areas, including maximum diversity in other aspect, e.g., age, ethnicity, etc., because diverse teams are better teams.

We have a plan for intense interaction with the local community including with schools from middle school and upwards. Inviting and arranging visits to our plant by school classes for example. At each such interaction we will emphasize that a growing, prosperous and sustainable community – and companies in this community – must utilize all available talent, not just half of it.

3.6 Clean Water and Sanitation (S2H2 high impact)

Ensure availability and sustainable management of water and sanitation for all.

S2H2 will, as part of the overall Concept invest in, build and operate a desalination plant covering our need for green hydrogen production by electrolysis of water. This plant will be scaled up matching the scaling of the hydrogen plant. However, the capacity of this plant will at all times be such that it can accommodate not only the production of hydrogen, but also the overall project need for potable water, including our co-located GH2 (Green Hydrogen) off-takers. In addition, it will cover any need for potable water from the local community, which will be offered at dead cost only.

The PV-energy and GH2 based industrial hub will have its own water management and treatment utilities including sewage system which will have capacity to serve also the immediate areas adjacent to the hub.

3.7 Affordable and Clean Energy (S2H2 high impact)

Ensure access to affordable, reliable, sustainable and modern energy.

The single most important corner-stone of the project is low-cost solar based energy, produced at a levelized cost of energy (LCOE) of less than $20/MWh. This cost includes transmission cost etc. Our intention is to run our hub in an island set-up as no grid is large enough to cope with the power needs of the hub. However, we will be connected to the grid for a number of different good reasons, one being our ability to feed the grid with solar power reducing daytime need for fossil energy production in the community. During nighttime we will have a minimized need for energy, and will e.g., not run hydrogen production. Our nighttime power needs will be provided with a battery-solution.

The overall energy and power balance between the hub and the grid/community will depend on multiple factors and is quite complicated. What is certain is that we will contribute to lower electricity cost, a more stable grid, and an improved mix between renewable and fossil energy in the grid.

3.8 Decent Work and Economic Growth (S2H2 high impact)

Promote sustained, inclusive economic growth, full and productive employment, and decent work.

We will create safe jobs with decent pay at both lower skill requirement levels and higher. The sub-contractors we take on will be required to follow our standards in every aspect, including minimum pay and safety.

Each fully developed green hydrogen industrial hub will create approximately 2,000 full time employments, not including construction labor or indirect labor.

The job creation from entrepreneurial activities such as farming in the partial shade below our PV-panels, producing salt from the brine coming from the desalination plant and many many more opportunities will be massive.

3.9 Industry, Innovation and Infrastructure (S2H2 high impact)

Build resilient infrastructure, foster innovation, and promote sustainable industrialization.

This is The Concept per say and needs no further elaboration.

3.10 Reduced Inequalities (S2H2 medium impact)

Reduce inequality within and among countries.

In most countries the biggest macro-inequality is between rural and urban areas, with a focus on medium to higher-paying jobs in urban areas. Our Concept is built on access to vast unhabituated coastal land areas, bringing well paid jobs, massive infrastructure and development to rural areas.

3.11 Sustainable Cities and Communities (S2H2 low impact)

Make cities inclusive, safe, resilient, and sustainable.

The purely photovoltaic energy and green hydrogen based industrial hub will be massive when reaching the targeted size of 500 kton GH2 per annum. It will actually be a small city on its own with; production plants, offices, roads, dedicated bus-service both internal and for commuting, parks, service centers, schools, water and sewage treatment, power and communication network, kids' daycare, canteens/restaurants, visitor hotels and other accommodation and more.

All this will be designed and built from scratch, providing a fantastic opportunity to create a place for people, industry and nature to co-exist in harmony, doing good, and feeling good. However, and fundamentally important, the industrial hub will be built relatively close to an existing community and small city, which have both needs and offerings. Creating a healthy symbiosis is paramount for success.

3.12 Responsible Consumption and Production (S2H2 medium impact)

Ensure sustainable consumption and production patterns.

Our raw materials are oceanic water and solar radiation. What is problematic is the production of PV-cells which can be produced causing both substantial environmental and human harm. The silica used is produced from silicon oxide, consuming vast amounts of energy and with a considerable CO2-footprint. The production of PV-cells is also known for using labor working under slave like conditions.

We will, as far as what is possible, vet all our suppliers outside EU, US, CA, AU, and NZ, using Humanistic Due Diligence.

As for material choices, both silica and steel, we will rank and put a value on green silica, green steel etc. promoting these materials rather than those with a larger CO2 footprint. We will not use any concrete or aluminum in any construction or buildings, as these materials have a huge CO2-footprint and are interchangeable with other more sustainable materials.

Before even starting the plant construction, we will build our Industrial School and Training Center to ensure that all people on site, whether our employees or those of sub-contractors, have the theoretical and behavioral skills to perform their tasks in a safe way. Safety is policy, rules, methods, personal protection equipment, and much more, but above all it is culture. We will install a world class safety culture and standard.

A green hydrogen based industrial hub is an industrial park. The hall-mark of an industrial park is circularity, sharing resources, creating various industrial synergies, i.e., a production and operational symbiosis. Optimizing energy use, cooling becomes heating for the neighbor, sharing water treatment and other infrastructure, being substantially more efficient and sustainable than any standalone plant.

3.13 Climate Action (S2H2 high impact)

Take urgent action to combat climate change and its impacts.

Depending somewhat on the type of green hydrogen derivatives that will be produced from the green hydrogen provided, one fully developed hub will abate approx. 8 million tons of CO2 annually. This is a substantial contribution to combat climate change. For comparison it is 20% of Sweden's total annual emissions.

We will install free-for-use-for-all EV-charges at our premises next to the Industrial School.

3.14 Life Below Water (S2H2 low impact)

Conserve and sustainably use the oceans, seas, and marine resources.

We will use large quantities of oceanic water, which intake will be non-intrusive using proven natural infiltration technology to avoid any disruption of sea-life at the point of intake.

The main biproduct from desalination is a salt brine, which normally is fed back to the ocean. If so, the point of dispatch needs to be several hundred meters from the shore-line depending on the location and water depth, and neither at the surface nor on the ocean floor avoiding harmful local salt concentrations.

Another alternative being investigated is to arrange for local entrepreneurs to use the brine – free of charge – for salt production. Presently large quantities of salt are produced by pumping or manhandling oceanic water into vaporization ponds, where the salt is collected and further dried after the water has naturally vaporized. Same can possibly be done using the salt brine instead, thus improving productivity more than tenfold.

3.15 Life on Land (S2H2 high impact)

Protect, restore, and promote sustainable use of terrestrial ecosystems.

All industrial developments will have an impact on fauna and natural ecosystems and biomes. A desert is also a biome, even if with limited amounts of living organisms. Our concept of using elevated PV-panels shading vast areas below will bring this biome to life, obviously changing it but doing zero harm. The micro-climate created will enable farming and other biomass production, will promote life of just about everything from the smallest little amoeba type organisms to wildlife, birds and much more. The transition enabled by the shade is actually difficult to fathom and has never been done on this scale before.

We will work with identified established academic and research institutions in the country as well as internationally to monitor, test, and maximize the benefits of the ecosystem regeneration.

3.16 Peace, Justice and Strong Institutions (S2H2 low impact)

Promote peaceful and inclusive societies, provide access to justice, and build effective institutions.

S2H2 and the industrial hub with the off-takers will most likely be the dominant employer in the local community and as such have a responsibility towards this community, reaching far beyond being a good employer and tax-payer. However, businesses are not democratic institutions, and there shall be an arm-length distance between the two avoiding real or perceived intransparency.

One fundamental root-cause to unrest, injustice and weak institutions is corruption in all its ugly forms. It is a bigger problem in some countries, but a real problem in every single organization, community and country on earth. History has shown that it is easy to be corrupted and to corrupt, and can be seemingly harmless, but it is a slippery slope, eroding every moral principle of mankind and twisting our perception of right and wrong.

S2H2 has Transparency as one of our three core values. We feel strongly about this, and we will rather cancel a $10 billon project than pay $100 in a non-transparent fashion for a favor or ‘service’. The same goes for swapping ‘favors’ or any other invented or still to be invented method of shady deals. We demand the exact same behavior from all employees, suppliers, partners and also customers with zero tolerance for breaches as specified in our Code of Conduct. We can only hope that these standards also can inspire people and organizations to interact with us.

3.17 Partnerships for the Goals (S2H2 low impact)

Strengthen the means of implementation and revitalize global partnerships for sustainable development.

S2H2 has used the SDG’s as a guideline for our project rather than a tick-the-box checklist. We are ambitious and believe we can accomplish a lot both for our direct business stakeholders and societal stakeholders including the environment amplified with the climate crisis we all need to take on together.

S2H2 have partnerships around technology and services, green hydrogen off-take, overall finance and more supporting our project and the SDG framework.

We will be happy to share technology, methodology, and learnings with like-minded organizations, as far as we are legally permitted, and hope to inspire others and welcome invitations for different types of cooperation.

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4. The Industrial Hub – some numbers

S2H2 Green Hydrogen based Industrial Hub in numbers				
Item	***Description***	***Value 2027***	***Value 2037***	***Unit***
1	**Industrial School and Training Center**	2	15	$m capex
1a	Capacity, students being trained, classroom and workshop	150	500	Students
1b	Total staff	8	30	FTE
1c	Required land in immediate vicinity to a main road	2	20	Hectares
2	**Desalination Plant**	1	400	$m capex
2a	Total capacity	50	150 000	1,000 m3 per yr
2b	S2H2 need	17,5	17 500	1,000 m3 per yr
2c	Capacity for other local purposes	32,5	132 500	1,000 m3 per yr
2d	Salt in concentrated salt slurry produced (used locally or returned to sea)	1,75	5 250	kton per yr
2e	Total staff	10	30	FTE
2f	Required land in immediate vicinity to the sea	1	10	Hectares
3	**Photo Voltaic Power Plant**	7	6 000	$m capex
3a	Installed power	13	15 000	MWp
3b	Total staff	20	300	FTE
3c	Required land in vicinity to the Hydrogen Plant	12	12 000	Hectares
4	**Green Hydrogen Plant**	2	4 500	$m capex
4a	Electrolyzer Capacity/Power rating	3,1	10 400	MW
4b	Production capacity	0,5	500	kton per yr
4c	Total staff (including overall admin, management etc.)	25	175	FTE
4d	Required land	5	70	Hectares
5	**Green Oxygen Plant**	1	100	$m capex
5a	Production capacity	4	4 000	kton per yr
5b	Total staff	5	25	FTE
5c	Required land	1	2	Hectares
6	**Synthetic hydrogen carbohydroxides (e.g. SAF)**		50	$m capex
6a	Production capacity		25	kton per yr
6b	Total staff		350	FTE
6c	Required land		45	Hectares
6d	Hydrogen off-take		50	kton per yr
7	**Direct Reduced Green Iron Plant**		2 500	$m capex
7a	Production capacity		2 000	kton per yr
7b	Total staff		500	FTE
7c	Required land		250	Hectares
7d	Hydrogen off-take		200	kton per yr
8	**Green Ammonia Plant**		700	$m capex
8a	Production capacity		500	kton per yr
8b	Total staff		500	FTE
8c	Required land		55	Hectares
8d	Hydrogen off-take		100	kton per yr
9	**Shipping of Green Hydrogen**	1	450	$m capex
9a	Shipping capacity	0,5	150	kton per yr
9b	Total staff	10	80	FTE
10	**Total capex**	**14**	**14 715**	$m capex
10a	**Total staff**	**78**	**1 990**	FTE
10b	**Total land**	**21**	**12 102**	Hectares

General comments: Construction staff are not included in the FTE figures above. Green oxygen production will hugely exceed present market demand even at a zero $/kg price and will be supplied at cost only to hospitals or other users, e.g., land based fish-farming. Item 1-5 and 10 is S2H2-scope, rest is by other operators utilizing the very competitive price for GH2 and energy offered by S2H2. Total Land figure will be significantly reduced depending on how much 'double-use' that can be achieved, i.e., combining PV-area and industry. Salt slurry can be utilized for local sea-salt production and will be supplied at cost only to any local off-taker. At least 10 000 hectares of land with approx. 50% shade provided by the PV-panels will be available for development of various bio-mass production by local entrepreneurs/farmers.