



Ensuring worldwide food security

Feeding a growing population despite climate change



Hello.

My name is Felix Bogliolo. I'm the Founder and CEO of Via Marina.

I'm an engineer by Ecole Polytechnique of Paris and I also hold a PhD in Economics.

The mission of Via Marina is to ensure worldwide food security in the face of two adverse megatrends: population growth and climate change.

My presentation will tell you how Via Marina offers an extremely profitable impact ratio: solving the world's problems related to investment amount.

Irrigation water demand: large market ahead

- 💧 Approx. 80% of world water demand: agriculture
- 💧 Growing agricultural demand – population growth :
 - 💧 +2,5BN hab. around 2050
- 💧 Declining agricultural offer – climate change:
 - 💧 Reduction of cultivated areas
- 💧 Food insecurity: social unrest
- ⇒ **Irrigation supplementary : required 40Mha and 9500m³/s water**

UN World Water Development Report 2006 – Chapter 7 – P.252



3 May 2018

WaterVent Philadelphia

2

The largest market for water is agriculture, and its most crucial issue is bulk water provision.

On the first hand, we are about to face an important increase in demand for food by the 2.5 billions supplementary human beings upcoming before 2050.

On the second hand, we are already faced with the disastrous consequences of Climate Change: we see large decreases of agricultural surfaces in many regions and for many crops. And, it is not of much comfort for the concerned farmers to know that there is now newly available land in Siberia.

The consequence of these two megatrends is food insecurity which generates social unrest.

That's why all experts coincide that we require about 40 million hectares of supplementary irrigated land in surfaces today unproductive. Which will require an increased water provision over nine thousand cubic meters per second. And that's not counting the sheer preservation of the existing.

Excuse my French, I speak only international units. This represents about 12 times the whole cultivated area of California and its current water consumption. Yes, 12 times California.

Towards a solvent market

- **No longer free water gently offered by nature
→ a new business model**

- New infrastructure
⇒ New utility : construction, operation, meter, invoice, collection

- Public Private Partnership – P3
+ Full support of beneficiaries: farmers and agribusiness

Water supply for agriculture will be solved in a manner similar to what occurred with the introduction of many different kinds of utilities in the past: a change of business model. For instance, we transitioned at home from candles and wood to electricity and gas. And we had to pay for it.

Exactly the same is going to happen for agriculture. Farmers cannot rely any longer only on free water given by nature. They'll have to pay for the service of having water brought to their fields in order to grow imperiously needed supplementary crops or just to keep their current production.

Some new kind of utility will build and operate those new infrastructures. It will put a meter at the entrance of the fields. It will charge for the water consumed. And this will be enforceable.

This will be implemented in the framework of some kind of Public Private Partnership. Like a toll motorway or turnpike.

With a strong involvement of the beneficiaries: farmers and agribusiness.

Existing water provision techniques

Desalination :

- ◆ Limited flows: $2\text{m}^3/\text{s}$
- ◆ High energy consumption: $4\text{kWh}/\text{m}^3$
- ◆ Price not affordable by agriculture: $\approx 1\text{USD}/\text{m}^3$

Onshore transfers:

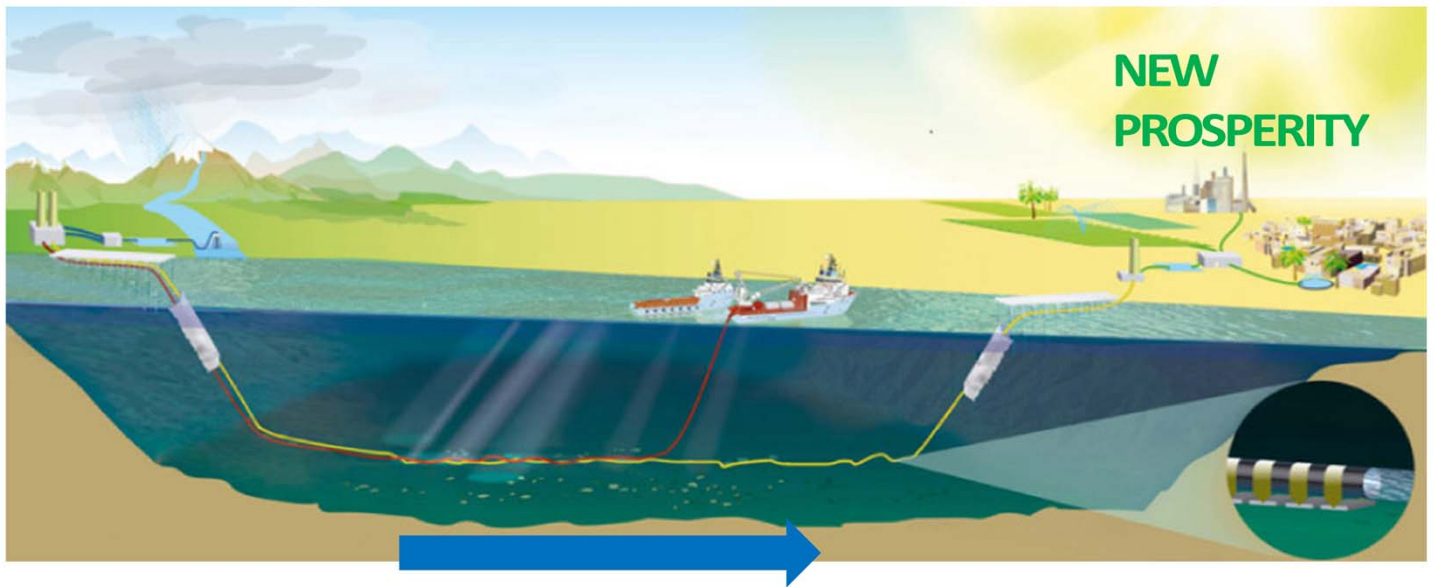
- ◆ Politically and environmentally difficult as intake is upstream

◆ **No solution for agricultural problem**

Now, existing water provision techniques cannot solve this agricultural challenge. Desalination produces limited flows that are not commensurate with agricultural requirements. It is very much energy consuming. And its cost is way above what even the most profitable crops can afford. That's why, among other reasons, basically nowhere, desalination is used for agriculture.

Traditional onshore transfers suffer from the same cost impediment. And also, they cause many environmental disasters downstream their catchment point. That's why no major onshore transfer has been implemented over the past decades in any country environment conscious.

Via Marina: THE solution



Important flows – Low energy consumption – **Affordable by agriculture**

3 May 2018

WaterVent Philadelphia

5

Via Marina is THE solution to this agricultural problem.

Indeed, we develop large irrigation infrastructures using our proprietary system for transporting water in large quantities and over long distances by an underwater flexible pipe. We take water at the mouth of a river or from the outfalls of wastewater treatment plants of large coastal cities.

We can transport the equivalent of one dozen desalination plants, in just one 4 meter diameter pipe, over several hundreds of kilometers, using up 5 to 10 times less energy and for a cost 50 to 70% smaller. Our investment cost is also about 5 times smaller than an equivalent traditional onshore transfer. i.e. Our projects are **AFFORDABLE BY AGRICULTURE!** And that's the important point: **AFFORDABLE BY AGRICULTURE!**

Disruptive innovation, albeit down-to-earth

- 💧 Inspired from existing techniques
- 💧 Several patents (pipe and system) = barriers to entry
- 💧 Technical and financial characteristics of our proprietary pipe → competitiveness of our system
- 💧 **Sole player and creating a new market**

All the elements of our system and of our pipe exist already, but in smaller dimensions and for other purposes. For example, there have been thousands of kilometers of offshore oil and gas pipelines for many decades.

Our innovation consists “only” in combining many existing elements and in enlarging their dimensions.

Yet, several patents protect our innovation, among other barriers to entry.

Our strong competitiveness derives mainly from the unique technical and financial characteristics of our proprietary pipe. Here you can see a small sample.

We are the only player and we invent a new way to address a very large and solvent market. This is the essence of our truly disruptive innovation. This ensures our leadership.

Currently Series B search

- 💧 After Love Money and Series A: total over 6M
- 💧 Amount: 25M
 - 💧 Technical : 15M for Proof Of Concept or Pilot Project and qualifications
 - 💧 Commercial : 10M for sales support and participations in project SPVs
- 💧 Equity
- 💧 Majority
- 💧 **Limited investment related to future projects size**

With the investments implemented so far, over 6M, our technical and commercial studies have confirmed that our projects are at the same time technically viable, environmentally sustainable, economically profitable and politically acceptable. These studies have also shown that it is necessary to continue investing, both technically and commercially.

That's why we're launching now our Series B fund search for 25M. This somewhat limited investment will allow us to construct safely in a few years' time one of our multi millions or billions projects. Only one single sizeable project ensures the payback on our investment!

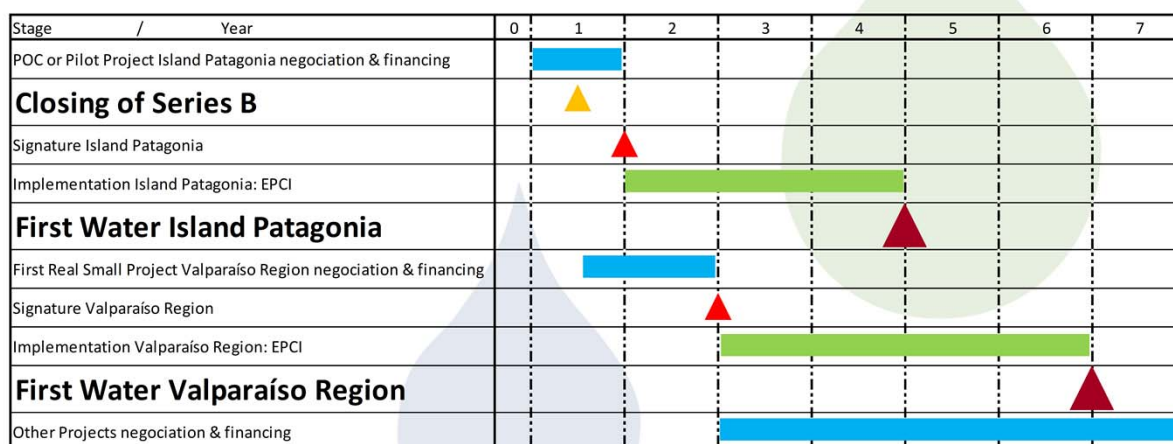
15M will be used for a Proof-of-Concept test or Pilot Project and the qualification of both our pipe and our system.

10M will be devoted to supporting the sales effort and more importantly to taking equity stakes in the SPVs developing our projects.

These funds are required as equity.

Investors will obtain a majority participation.

Green is the future



Over 25 leads around the globe, soon to follow first real project
NOW is the right time to invest into Via Marina!



3 May 2018

WaterVent Philadelphia

8

Our harvesting period has just started.

Indeed, we've just been invited to apply for two PPPs in Chile by the new Government.

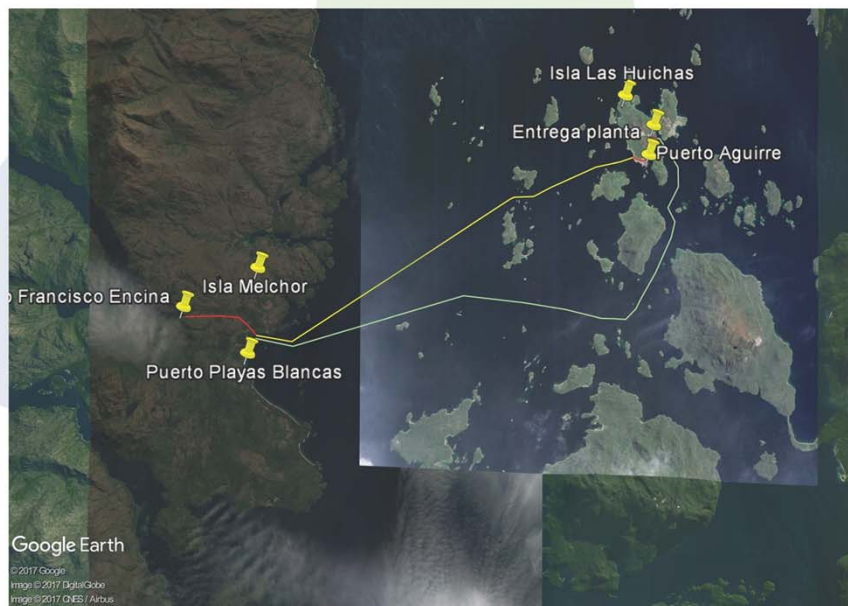
One, for a tiny island in Patagonia. It will serve as Pilot Project. It will deliver the first water in about 3 years after contract signature.

Another one, in the Valparaíso region. It will constitute a first real albeit small project. 160M for our offshore part and reaching a total of 280M including the other parts of the project: treatment and onshore route. Yeah, that's what Via Marina calls a small project. At Via Marina, we don't think big, as you can see! Anyway, it will deliver water about 2 years later. And very profitably.

More importantly, both projects will serve as a demonstration before launching our grand South to North Project, amounting to a total over the very long term of numerous billions.

And, other projects will follow soon after the first one starts delivering water, out of the 25 leads around the globe that we are currently negotiating: California, Texas, Mexico, Spain, Morocco, Tunisia, Egypt, among many other countries.

Pilot Project in Chilean Patagonia



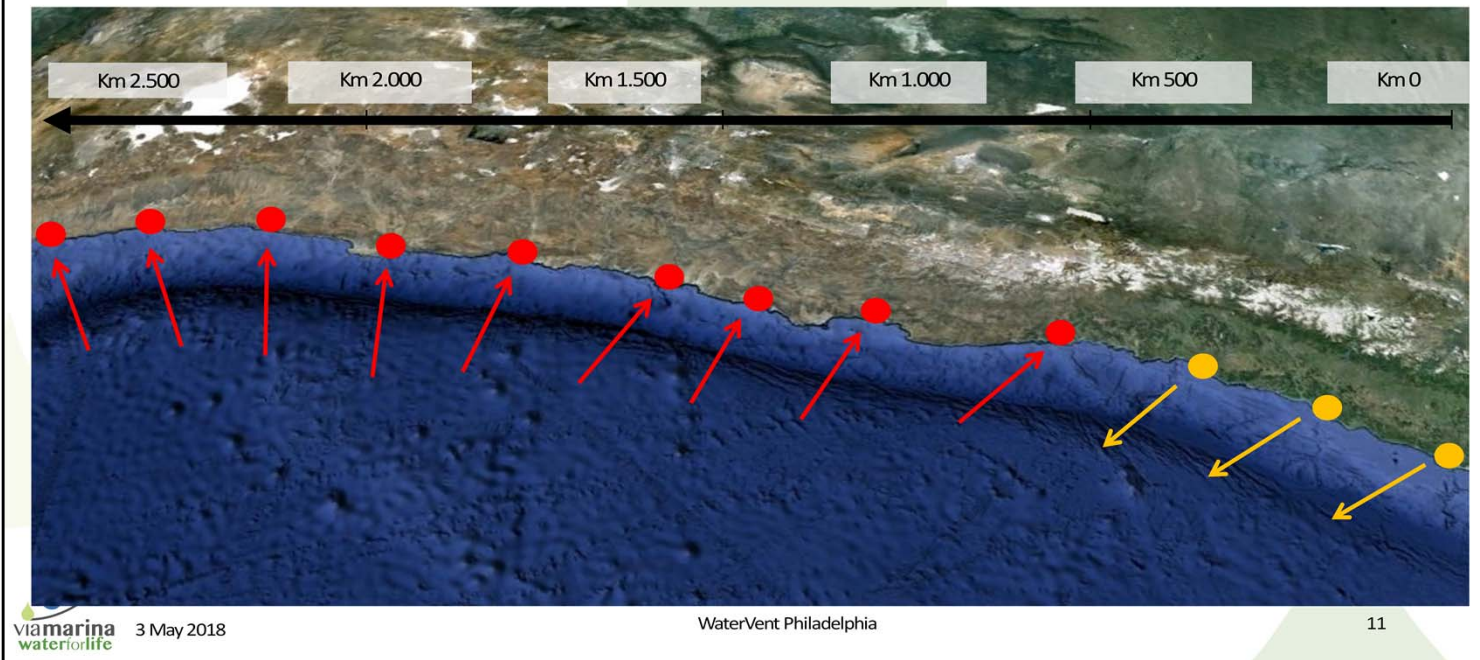
Here is our Pilot Project in Chilean Patagonia.

First real project in Valparaíso region



Here is our first real project in Valparaíso region.

Aquatacama project: South – North Chile



Here is our long Submarine Water Highway South – North Chile. We name it the Aquatacama project.

Looking for investors

- 💧 IRR >15% projection horizon = 10 years
- 💧 Cash positive with first construction
- 💧 I.E. acceptable risk-reward relationship with current low interest rates for a low-risk long term infrastructure
- 💧 Generation of socioeconomic development by fostering irrigated agriculture
- 💧 Ensuring food security = contribution to solving world's problems
- 💧 Investors:
 - 💡 Dynamic albeit patient,
 - 💡 Sensitive to the positive social profitability of our projects
 - 💡 Sharing our long term geostrategic vision



Via Marina = “Profitable Impact Investment”

3 May 2018

WaterVent Philadelphia

12

Our action plan yields an Internal Rate of Return greater than 15% over a 10 year horizon. We'll be cash positive in a few years' time thanks to the first real project. As such we can be considered a typical green field profitable investment opportunity. But, our projects will also generate socioeconomic development by fostering irrigated agriculture: dozens of thousands of hectares, generating GDP growth: numerous percentage points, employment: dozens of thousands of direct agricultural jobs, among many other benefits. By ensuring food security, they will contribute to solving political and social crises, undesirable migratory flows, extremism, among many other world's problems.

Therefore, thanks to all these specific beneficial characteristics, our projects will also yield a healthy social profitability. As such some investors could include Via Marina in their allocations for Venture Philanthropy or Impact Capital. For example Forbes billionaires or similar family offices.

These new infrastructures are desirable, they're profitable, they're bankable. That's why we're going to start building them right away!

But we need first to pursue our commercial and technical development thanks to the successful completion of our current 25M Series B fund search.

For this, we are looking for dynamic, albeit patient, investors who will share our long term geostrategic vision: ensuring worldwide food security in the face of two adverse megatrends: population growth and climate change.

To conclude, I trust that I have now fully proven my earlier affirmation: Via Marina offers an extremely profitable impact ratio, solving the world's problems related to investment amount.

Download presentation



Here you've the QR Code for downloading my presentation, if you want to flash it now on your cell phone.



While you're watching,
this river has poured into the
ocean much more water than
required to feed over
one million humans



Stop watching ... Act with



Thank you very much for your constructive attention.