HYST TECHNOLOGY FOR FOOD SECURITY

Senate of the Italian Republic

Rome, November 29, 2012

SCIENZA PER AMORE

BITS OF FUTURE FOOD FOR ALL

Bits of Future: Food for All è un progetto che si propone di sostenere la crescita dei Paesi in Via di Sviluppo, combattere la fame e la povertà.

Il progetto si basa sulla messa a disposizione di un importante strumento industriale, la tecnologia HYST, al cui sviluppo e industrializzazione l'Associazione ha dedicato oltre 15 anni di lavoro.

Per la realizzazione del progetto Scienza per Amore si avvale della collaborazione della società BioHyst, che gestisce gli aspetti tecnici e commerciali inerenti la tecnologia.

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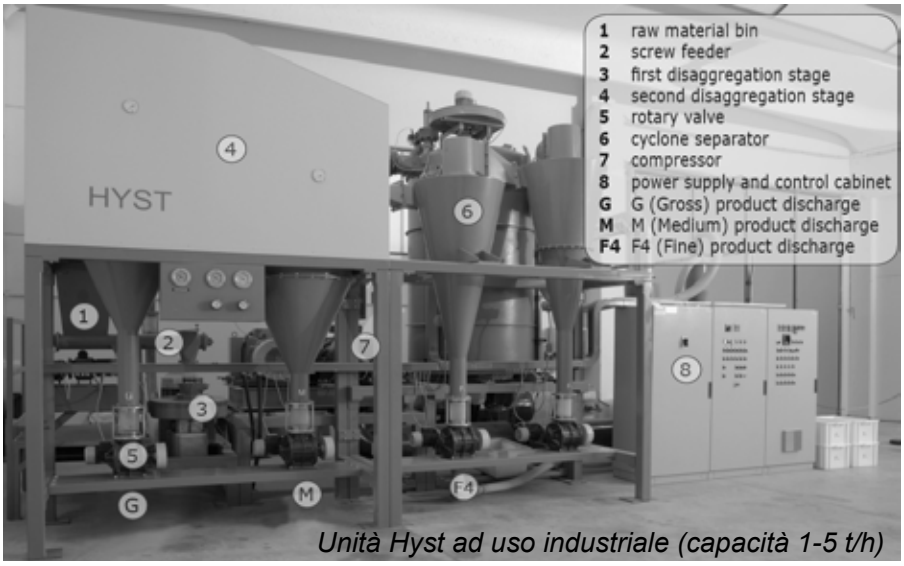
Slide 3

HYST: COME FUNZIONA



Unità Hyst ad uso industriale (capacità 1-5 t/h)

I sistemi Hyst sono in grado di valorizzare materiali vegetali a scopo alimentare ed energetico

Il sistema abbisogna solamente di energia elettrica e non produce reflui di alcun tipo.

Ripetuti stadi di urto disgregano la struttura del materiale trasportato da una corrente d'aria.

Il prodotto viene poi diviso in numerose correnti che si prestano a diversi utilizzi.

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Slide 4

FRANCESCA LUCIANI

Scienza per Amore Association (Moderator)

I speak on behalf of the Scienza per Amore Association and I am here to open the meeting today. To begin with, I wish to thank all the representatives of the Embassies present, all the representatives of Government Institutions, the Ministry of Economic Development, all the guests and scientific representatives of the Universities for honouring us with their presence. As you know we will be speaking of the Bits of Future: Food for All Project. Speakers will illustrate guidelines and state of the art, in order to understand what steps to take in conjunction with Embassies and interested countries. Let us begin with Eng. Pier Paolo Dell'Omo, La Sapienza University of Rome, Department of Astronautical, Electrical and Energy Engineering, who will explain the project and what instruments it makes use of.

PIER PAOLO DELL'OMO

President of Scienza per Amore

Good morning everyone. I too wish to thank you all for coming today. I'll start by immediately illustrating the fundamental aspects of Bits of Future: Food for All, as well as the technical tools we intend to use to set it up.
Bits of Future aims to support the growth of developing countries by fighting against hunger and poverty. The project consists in making available to these Countries an important tool: Hyst technology. The Association has devoted 15 years of work to the development and industrialization of this technology.
We believe that it is the innovative characteristic and scientific-economic importance of this tool that makes this project particularly valuable. In fact, Hyst is a cutting edge technology in the food and energy sectors, at least ten years ahead of the current state of the art and with huge growth prospects. Furthermore, thanks to its simplicity and low operating costs it is particularly suited to being used across the territory. These are the main reasons for which the Bits of Future Project has received broad appreciation, from the Presidency of the Italian Republic to the Executive Directors of the World Bank.
In slide 4 we have a Hyst plant unit. As you can see it is a device with extremely reduced dimensions – in fact it occupies a few dozens of square meters – that requires only electricity to operate it and does not produce waste of any kind.
The fundamental concept on which this technology is based is the disaggregation of the plant matter being processed: it breaks down plant matter in such a way as to maximize the use of the different components for a variety of uses. This disaggregation takes place via a very simple physical process: the material being treated is carried by air flows at very high speed and subjected to a series of repeated impacts. The resulting products are extremely significant in the fields of renewable energy, human nutrition and animal husbandry. Let us begin by considering one of the fields of application, that of renewable energy and, more specifically, biofuels. Biofuels are currently produced by using mainly food resources. Every year, hundreds of millions of tons of cereals and oilseeds are burned to produce biofuels. Clearly this is an unsustainable practice seeing that, at the same time, nearly one billion people risk dying of hunger.
We have become aware of this conflict at a global level and we have begun to seek the means to produce so-called second generation biofuels, obtained from agricultural residues. At present, however, there is no technological tool able to efficiently convert these residues into fuel. This is attested by the fact that second generation biofuels are virtually non-existent on the market.

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BIOCARBURANTI: STATO DELL'ARTE

BIOHYST

L'odierna industria dei biocarburanti si è rivelata insostenibile per il pianeta: centinaia di milioni di tonnellate di cereali e semi oleosi vengono "bruciati" ogni anno per produrre carburanti, mentre quasi un miliardo di persone rischia di morire di fame.

E' dunque in atto a livello mondiale un intenso sforzo per cercare tecnologie in grado di produrre carburanti dai residui agricoli (i cosiddetti biocarburanti di seconda generazione).

Tuttavia ancora non esiste un adeguato strumento tecnologico per produrre biocarburanti di seconda generazione, come testimoniano i quantitativi insignificanti presenti sul mercato.

La *International Energy Agency* stima che occorrano altri 10-12 anni per sviluppare tecnologie adeguate *(OECD-IEA, 2010).*

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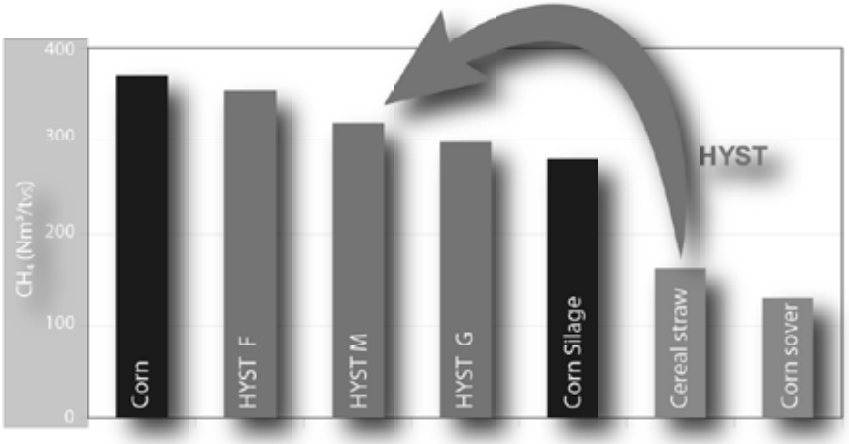
Slide 5

HYST PER I BIOCARBURANTI: L'INNOVAZIONE

BIOHYST



*Produzione di biometano da paglia pretrattata con il sistema Hyst (Nm^3/t_{sv}) *.*

* *Dati: RES, 2011*

Il pretrattamento HYST raddoppia la capacità di produzione di metano da parte delle paglie di cereali.

Dagli scarti si ottengono quindi prodotti più performanti del silomais, largamente utilizzato a scopo energetico in tutta Europa.

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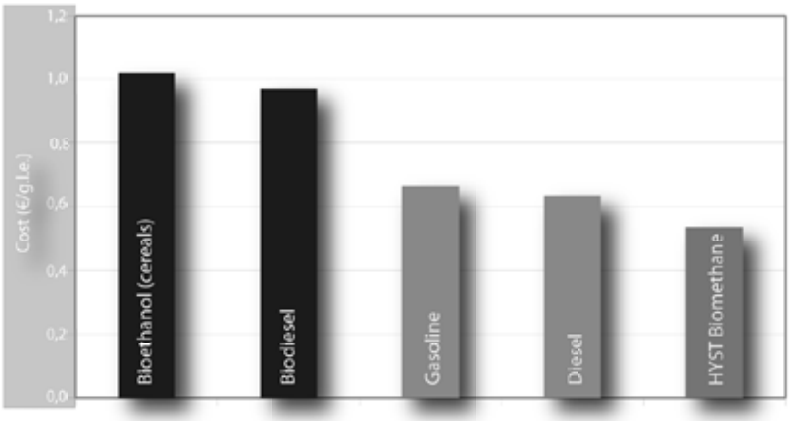
Slide 6

HYST PER I BIOCARBURANTI: L'INNOVAZIONE



Costo di produzione di diversi carburanti (€/l.b.e.)

Le altissime prestazioni e i ridotti consumi energetici fanno stimare un costo di produzione per il biometano Hyst di circa 0,55 €/l.b.e.

HYST è dunque la tecnologia di seconda generazione che tutto il mondo sta cercando.

In Italia, con solo metà dei residui agricoli disponibili, si potrebbe soddisfare il 35% del fabbisogno di benzina

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Slide 7

ALIMENTAZIONE UMANA

SOTTOPRODOTTI DELLA MOLITURA: UNA MINIERA D'ORO DI VITAMINE E PROTEINE

I sottoprodotti della molitura (crusca) sono una miniera d'oro attualmente non sfruttata. Essi sono infatti unicamente destinati al bestiame e portano con loro gran parte dei nutrienti presenti nella cariosside:

- proteine ad alto valore biologico (ricche di lisina)
- oltre il 70% della vitamina B6
- oltre il 50% della vitamina B5
- oltre il 33% della vitamina B1
- la maggior parte di Fe, Zn, Mg, K

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Slide 8

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ALIMENTAZIONE UMANA

BIOHYST

HYST: FARINE NATURALI AD ALTO PROFILO NUTRIZIONALE

FLOUR COMPOSITION [% DM]

			labelling under CE n. 1924/06
Protein	21-24	%	high protein content

VITAMINS AND MINERALS [% s.s.]

			labelling under CE n. 1924/06
Vitamin A	64	µg/100 g	
Vitamin E	1,3	mg/100 g	source of Vitamin E
THiamin (Vit. B1)	0,87	mg/100 g	source of Vitamin B1
Niacin (Vit. B3)	18,3	mg/100 g	source of Vitamin B3
Panthotenic Ac. (B5)	2,4	mg/100 g	source of Vitamin B5
Folic Acid (Vit. B9)	39	µg/100 g	source of Vitamin B9
Iron	9,7	mg/100 g	source of iron
Zinc	6,6	mg/100 g	source of zinc
Magnesium	305	mg/100 g	source of magnesium

** Dati: Università degli Studi di Milano – DSA, 2011*

100 g di farina Hyst contengono la dose giornaliera raccomandata di vitamina B3 e più del 60% della dose raccomandata di vitamina B1, riconosciuta dalla *European Food Safety Authority* come promotrice dello sviluppo cerebrale dei bambini.

Si ottiene quindi per via completamente naturale un prodotto che in molti programmi di aiuto alimentare viene ottenuto fortificando artificialmente la farina.

Il prodotto si colloca inoltre al vertice del mercato funzionale, ritenuto uno dei settori trainanti dell'economia del futuro.

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Slide 9

ALIMENTAZIONE ANIMALE

BIOHYST

Una delle caratteristiche del sistema Hyst è quella di poter processare alimenti scadenti da un punto di vista nutrizionale, ricavandone una frazione in cui vengono concentrati i nutrienti, che risulta quindi molto più digeribile e con un potere nutrizionale nettamente incrementato.

stocchi di mais UFL = 0,48*	stocchi di mais proteine = 4,3%	stocchi di mais amido = 4,7%
HYST **+33%**	HYST **+100%**	HYST **+148%**
stocchi di mais UFL = 0,64	stocchi di mais proteine = 8,6%	stocchi di mais amido = 11,8%

** Dati: Università degli Studi di Milano – DSA, 2011*

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Slide 10

In terms of outlook the International Energy Agency predicted that in order to develop an appropriate technology approximately another ten years would be needed. Instead Hyst has been successfully applied in this field and has produced very interesting results.
Slide 6 explains why, at present, residues from agricultural activities (the ones in orange) are not being used. The reason is that when they are converted into biofuels – in this case methane – they have an extremely low transformation yield compared to that of food crops (the blues ones), hence not economically worthwhile. But if we pretreat these residues with Hyst technology (in green), their ability to produce biofuels – also in this case methane – practically doubles. Therefore, with this Hyst instrument it is possible to use agricultural residues (for example straw) and obtain the same performance in terms of biofuels as we would with corn. If we combine this result, in itself of considerable importance, with the extremely reduced operating costs of Hyst units, we achieve the possibility of producing a second generation biomethane at a cost of about 55 cents per liter of gasoline equivalent. A very low cost: not only lower than the production cost of first generation biofuels (about half), but even lower than that of traditional fossil fuels (gasoline or diesel) [slide 7]. An example of the scope of this instrument is that with just half of the agricultural residues available in Italy it is possible to meet 35% of the domestic demand for gasoline.
Another very important field of application for Hyst technology is the food sector. Here are some results related to the production of flours with high nutritional value from cereal milling by-products. From the point of view of food, bran is a gold mine because it contains a vast amount of proteins of high biological value, vitamins and essential minerals [slide 8]. This resource has never been fully exploited because there was no instrument that could separate the nutrients from the fibrous part in order to obtain flour.
As you can observe in slide 9, with the Hyst system a food flour has been produced that, according to the European Food Law, can be defined as high in protein content because it contains about twice the protein of a standard wheat flour. Furthermore, it is the source of essential minerals such as iron, zinc and magnesium, and it is extremely rich in vitamins (it can be defined a source of vitamins E, B1, B3, B5, etc.).
To get an idea of the scope of this product let us bear in mind that in many food aid programs flour is artificially enriched. That is to say that, to increase the content of essential vitamins or minerals, synthesized products are used. With the Hyst system we obtain a completely natural food with improved characteristics to boot.
From a commercial point of view, Hyst flour is decidedly very important in the functional market, that is the market of foods that have a beneficial effect on our health. A market that is considered a driving force for the economy of the future.
One final look should be directed at the results obtained in the animal feed sector. A peculiar feature of the Hyst system is that of producing very interesting feed from the nutritional standpoint by using raw materials which at present are absolutely unusable as food. Slide 10 shows an example of what happens when corn stalks are treated with the Hyst system. In this case a food is obtained whose nutritional capacities have increased by over 30%; the protein content has practically doubled compared to the raw material and the content of digestible carbohydrates, particularly starch, has increased by about 150%. This is a significant achievement, especially in the light of the first contacts we had with African countries interested in this technology. In fact, one of their requests made to us was that of finding a system able to maximize, for food purposes, abundant resources that are practically unused, such as residues from peanut processing industries and cotton stalks. From here we started to develop our first projects for introducing Hyst technology in Africa. Apart from maximizing resources, these projects have the following objectives: creating small industries solidly connected to agricultural activities, creating new jobs, producing feed to be made available to local livestock farmers in order to increase performance in this sector, producing electricity and, finally, providing organic fertilizers for use in agriculture.

SCIENZA PER AMORE

LE PRIME REALIZZAZIONI NEI PAESI AFRICANI

BioHYST

L'Associazione Scienza per Amore e la società BioHyst hanno sviluppato dei progetti per una prima introduzione della tecnologia HYST in Africa.

Questi progetti nascono da precise richieste in merito alla valorizzazione di risorse abbondanti ma, al momento, prive di utilizzo come residui della lavorazione delle arachidi, della frutta, paglie di cotone e cereali.

I principali obiettivi sono:

- creare una solida piccola industria collegata alle attività agricole
- creare nuovi posti di lavoro
- produrre mangimi per migliorare le prestazioni del settore dell'allevamento
- produrre energia elettrica per migliorare le condizioni di vita
- fornire fertilizzanti organici per migliorare le produzioni agricole e contrastare fenomeni di impoverimento dei suoli agricoli.

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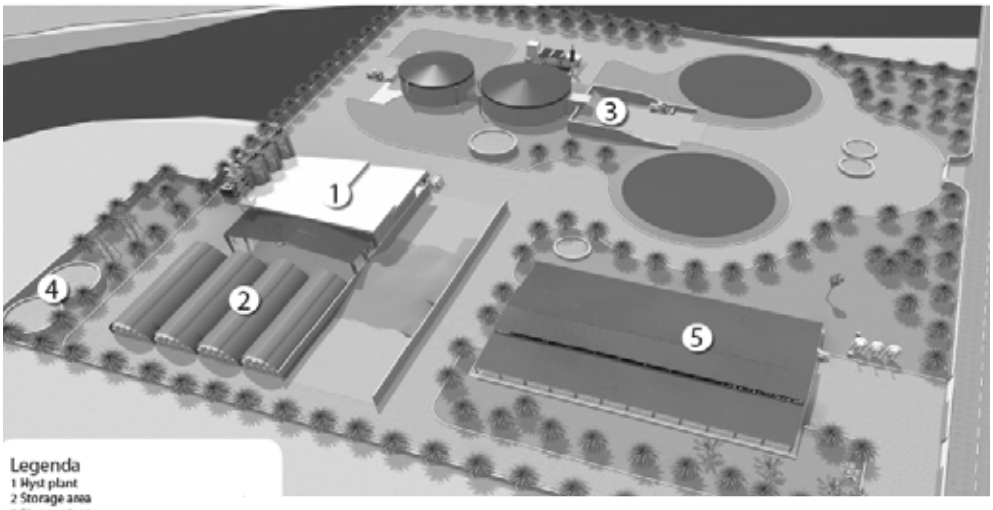
Slide 11

UN IMPIANTO PILOTA

BioHYST



Il cuore funzionale dell'installazione è una unità Hyst in grado di processare i residui agricoli e separarne una frazione ad alto valore nutrizionale idonea a produrre mangimi.

La restante parte servirà per la produzione di energia elettrica nell'impianto di digestione anaerobica.

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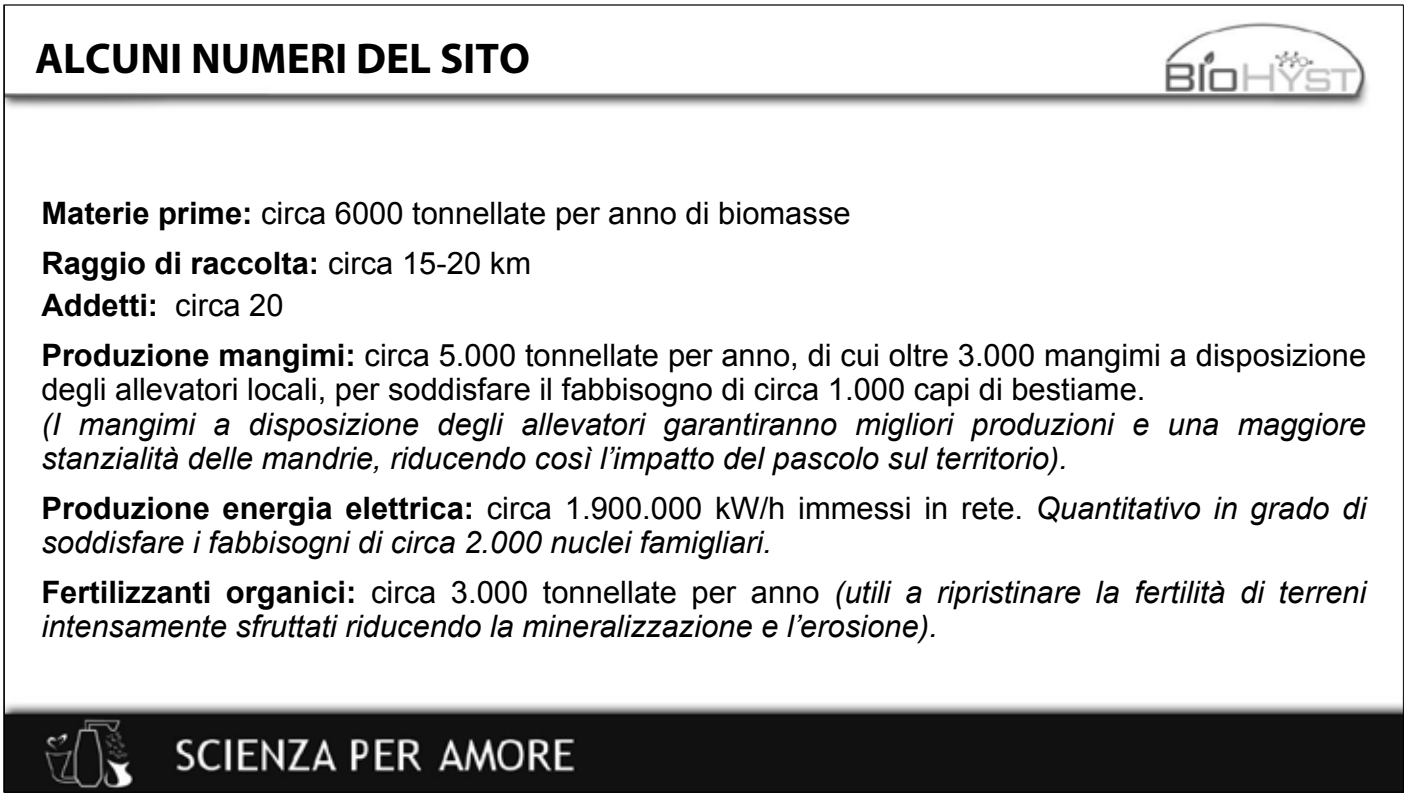
Slide 12



Slide 13

Slide 12 is an example of one of our first projects. Basically it is an industrial site developed around a Hyst plant (you can see it indicated with number 1 in the slide).
What does this plant unit do? It uses cotton stalks or residues from the peanut processing industry and extracts digestible components, which are used to produce animal feed.
The inedible part, instead, is fed into a plant for the production of biogas, the one marked with number 3, which is then used to produce electricity. The electricity not only serves to power the entire site, but it also powers the pumps that draw water up from the wells. The site, therefore, can become a center where water reserves are available, those indicated with number 4. In addition, excess electricity can be fed into the network and distributed to the population.
To optimize everything we included an area to be allocated to farming, indicated with number 5, where livestock make use of part of the feed produced. The excrement of these animals can be used in the plant that produces biogas to improve fermentation processes and, therefore, performance. Slide 13 shows the figures of a site that can approximately work 6.000-7.000 tons of biomass yearly. From the data we have been given and the data we have collected ourselves, this biomass is found within a radius of 15-20 km from the plant. We estimated that about 20 workers can be employed directly; the production of feed should be about 5000 tons per year, most of which, about 2/3, would be available to local livestock farmers. This supply of feed has a dual purpose: to improve production and encourage semi-sedentary farming practices. In fact, this would ease pressure on the land if animals are not constantly grazing in the same area.
As regards the production of electricity, indicatively 1.900.000 kWh should be available for the network – a quantity able to meet the needs of about 2000 families. Finally we have organic fertilizers, residues from the production of biogas, which are extremely useful in restoring soil

fertility. Many soils intensively exploited for agricultural purposes tend to mineralize and being deficient in organic matter are subject to erosion.
I believe I have given an overview of this technical instrument and of how we intend to apply it to implement our project. I would like to conclude by stressing that the project illustrated here was also presented to the Executive Directors of the World Bank, who expressed appreciation for its innovative approach and transverse impact across multiple sectors: small industries, farming, agriculture and energy. I have finished my speech and thank you for your attention.

FRANCO DEL MANSO

Unione Petrolifera (Head of International Environmental and Technical Affairs)

Good morning to you all. I am Franco Del Manso and I work for the Unione Petrolifera. Unione Petrolifera is the oil industry trade association which is present in Italy and it is interested in this project above all with regard to the energy aspects, particularly biofuels.
The oil industry at present is subject to regulations concerning the use of biofuels. The previous speaker mentioned earlier that present-day biofuels, first generation ones, are biofuels that are not always sustainable nor compatible because they are in conflict with the use of raw materials for food production.
This aspect has been examined in depth both at a national and international level. The European Union has set very specific rules to identify sustainability of biofuels and has also indicated that certain biofuels deserve more appreciation than traditional ones. Indeed, the European Union had set a blending mandate for renewable fuels (therefore biofuels) for the transport sector equal to 10% of the energy being used in that sector. This means that of the total energy being used in the transport sector 10% must derive from renewable energy. Very recently, as I said, the EU has set strict rules regarding biofuels. In essence, it has acknowledged that certain biofuels are not compatible with food requirements and has established that of this 10% of energy only 5% can be achieved by using first generation biofuels. First generation biofuels are biodiesel, bioethanol, produced mainly from crops which are often in competition with food. Therefore, the orientation the EU is giving is very precise: limited recourse to first generation fuels and, at the same time, promotion of second generation biofuels.
With Hyst technology it is possible to produce a second generation biofuel whose characteristics are fully compatible with the technical requirements of the transport sector and of car engines as well as those of commercial vehicles. This is why the Unione Petrolifera is interested in the development of this technology.
Furthermore, Hyst biofuel is produced from agricultural waste. The European Union intends to promote these products and assigns them a conventional energy value sometimes double and sometimes four times higher than their real value.
Therefore, if we have a liter of gasoline equivalent of biogas produced by this technology, its actual usability value is at times two liters and at times four liters. All this is of great interest to the oil industry because it is thus possible to meet obligations with more manageable quantities of biofuels.
The oil industry, I repeat, is bound to certain regulations and we are in contact with those who are advancing this initiative. Oil companies have shown a certain interest in Hyst technology because this biogas is even better than first generation biofuels because it does not cause technical problems to engines. Therefore, we are waiting to see developments and look forward to being able to contribute to the development of this technology with regard to the energy aspect, which is intended to support the more noble aspect, that of food security and the fight against hunger and poverty.
I will not continue further except to assure the availability of the oil industry to follow you in all future steps and I look forward to seeing the first real experimentations of this product.

ALESSANDRA COSTA

General Director of BioHyst

Good morning everyone. Once again I wish to thank you all for being here today. After hearing in detail the potentials of Hyst technology and the characteristics of the humanitarian project Bits of Future: Food for All, we will look at how to implement the project. First I want to specify that the BioHyst company, which I represent, works in collaboration with the Scienza per Amore Association: it is its operational arm.
As was mentioned by Eng. Dell'Omo, on November 12th we met representatives of the Office of the Executive Director (EDS21) of the World Bank in Washington. The reason for the visit to Washington was to inform one of the most important international organizations that support developing countries of our cooperation program with several African countries. As part of this initiative it was our intention to investigate the possibility of a World Bank involvement.
The outcome of the meeting was extremely positive and gave us the opportunity to organize today's meeting. Both the project and the technology proved of great interest to the World Bank. Our intent to provide this technology free of charge to interested countries was supported by the World Bank, which could provide financial support to the African countries that do not have sufficient economic resources to set up a complete industrial hub like the one illustrated by Eng. Dell'Omo.
Apart from complete availability on the part of Scienza per Amore and BioHyst and the financial support that may be given by the World Bank, the start up of the project can take place only with concrete action from the Governments concerned.
It is, in fact, the Government or the competent Minister who will have to inform the Country Manager of the World Bank present in their own country of their interest in the project and their will to implement it.
From this official request begins the procedure for notifying the Executive Director of the Bank. It will be followed by a working party with the Country Manager, the representatives of the Government of the interested country and one of our teams, which, in the capacity of technical consultants, will follow all the stages of implemetation of the project.
It is therefore essential now for the Governments concerned to express their determined will to avail themselves of this opportunity. This determination will be the real driving force of the project.
We therefore ask all the Government Representatives present here today to make themselves available for a meeting with our representatives in order to define together future steps to undertake.
As far as we are concerned, all commercial activities which BioHyst intends to start up in Italy and in Europe, with possibile openings to other markets, will be in support of the humanitarian project, because it is these activities that will make it possible to provide Hyst plants for free.
It is clear that the commercialization of the systems will start contemporarily with the humanitarian program since one of our company's priorities, in line with the objectives of Scienza per Amore, is commitment to ethics as the basis for a healthy development of our company within the program itself. Thank you all.

DANIELE LATTANZI

Business Development Manager of BioHyst

With my discourse I would like to reiterate that the reason this project was born is firstly the possibility to use Hyst technology to bring benefit to people dying of hunger. Secondly to enable the use of renewable resources that come from the earth, without any harm to the environment. This makes us rather atypical actors on the market, because we do not seek profits

Slide 15

Slide 16

at the expense of others, but we believe that profits can be produced for everybody, without crushing or penalizing anyone.
Starting from Italy and other industrialized countries, in fact, it is possible to create a value chain in developing countries so that we can maximize the usability of local resources, create new jobs and greater prosperity for the population.
I would like to emphasize, precisely because in the audience there are many representatives of African countries, that we did not wait to get rich with this technology before starting up a humanitarian project, but we have built right from the beginning a double program: industrial development and cooperation.
Hyst technology is the instrument everybody is looking for in the scientific and economic fields to meet the criteria of development, sustainability and renewability. We are not the ones saying it but highly qualified scientific institutions. In fact, Hyst Technology has produced very significant preliminary results which have demonstrated its strategic importance. For this reason, after the first African countries had subscribed to Bits of Future: Food for All, we tried to share our ideas and our programs with Italian governmental institutions. We believe it is fundamental to start from our own country, Italy, since the inventor is Italian, the company is Italian and we are proud to begin this project in Italy. Naturally, apart from national governmental institutions, we also proceeded to involve international organizations such as FAO, IFAD and, finally, the World Bank.
The technology has proved a success with all the interlocutors we have addressed, in Italy and abroad. We are trying in every way to stay in Italy, where we hope to start up the industrial aspect, give new life to some national economic sectors and involve companies in partnerships. It will be precisely these companies which, in a preliminary phase, will help us to further projects in developing countries. We have requests from about 150 companies, amid potential customers and potential partners, that we are keeping on hold with great difficulty. We have developed contacts with big international companies and, at this point, we want to know if the project can begin in Italy, with all its related benefits, or if it will have to begin elsewhere, in the USA for example.
Today, unfortunately, we have to publicly denounce the existence of serious obstacles, in Italy, to the peaceful and smooth unfolding of the project: impediments which we know neither the origin of nor their true nature.
In fact, from the moment we signed the agreement to acquire the technology package – after a long period of funding the research – a series of events created discomfort to the inventor (who told us that he was subjected to various pressures) and the association, which was qualified with ridiculous terms I do not wish to repeat here. An attempt was also made to discredit the very person who initiated this project, Danilo Speranza, who was the first to meet the inventor, the first to finance him and the first to set out the guidelines for the project. According to the usual cliché, Danilo Speranza has been accused of abuse and fraud. It has been said that the technology did not exist, the plant units did not exist and that even the humanitarian project itself did not exist. A ridiculous accusation, which nevertheless caused serious damage, not so much to us as to the recipients of the technology: the African countries and their populations.
For years we have been working on this Project with whatever means at our disposal, despite the escalation of attacks. The embarrassment of having to give answers to companies and Countries asking us the reasons for the delays in starting, today has become pride, because alone we have brought here today this wonderful project.
These difficulties, of course, will not prevent us from starting up production. This is why we continue to dialogue with companies, governmental institutions, with Unione Petrolifera and the various Governments.
The accusations that have been leveled against us have no scientific evidence, there are no real data but just a lot of talk with no foundation. However, rumors alone would not have been sufficient, had someone not endorsed them without verifying them.

We ask the Italian governmental institutions to shed light on a grave injustice that nearly caused the project to go awry. Absolute ignoramuses – the kind of people who are always used in acts of sabotage - made complaints without any scientific proof. Those who were supposed to seek the truth set off with preconceived ideas and will answer for this by taking civil and criminal responsibility: damaging claims made against persons and their work; provocative and persecutory attitudes; a search for the truth carried out in an incomprehensible manner; use and abuse of media friends with whom to make up slander and defamation, and much more which we will bring to the attention of the proper authorities.
In the meantime, what was happening? The first industrial plant, tested and intended for us by contract (slide 15), was stolen while in the care of the inventor and taken to the USA, probably with the foolish ambition of discovering its industrial secrets. It should be pointed out that, as soon as the first unclear situations became evident, we asked the judicial authorities to seize this unit. Our request, as we had imagined, was underestimated and went unheeded, and the unit ended up in the United States. Instead, the plant unit that was to be the heart of the technology center for the study of African biomass, and some people present here today have seen it, (slide 16) was subjected to seizure due to a false accusation, which was never verified by the person who was supposed to assess its reliability. This picture (slide 16), where you'll see many of the guests present today, was taken during a technical demonstration during which the University of Milan worked on verifying the Hyst process and the materials produced. This verification was never taken into account, despite the results that highlighted the validity of the technology.
In summary: we have for years had valid scientific results; we are in contact with a number of government institutions willing to cooperate with us; we have long been ready to start and we have carried forward the project despite the absurd blockage of the plant unit.
Next week the release of the sequestered plant unit will be discussed. Whether it is released or not we will in any case inform the authorities of this serious situation, which is likely to cause Italy to lose a unique opportunity and serious damage to African populations. There are conditions for a parliamentary inquiry to be made. We have once again submitted the current situation to the attention of the Presidency of the Republic and we are also in contact with several journalists to evaluate carrying out an inquiry with national televisions and newspapers.
Recently we have presented a study to the Ministry of Economic Development, which proposed a program for the south of Italy for the revival of the agro-energy sector. The program was well accepted and the first response was: "we need to see a plant unit". We hope shortly to show them the plant which was seized, otherwise we shall proceed in a different manner.
This is the situation.
The representatives of the Embassies here can testify that we have never stopped, and we're certainly not about to do so now: whether the project is launched in Italy or any other place, we're going ahead. Matters of national and international interest are at stake, both of an economic and above all ethical nature. Indeed, we believe that the ethical-cooperation project is far more important than the commercial one, which is marginally interesting to us.
I would like to conclude with an appeal to the Embassies. We need you to continue the work with your governments and with the World Bank, which greatly appreciated the Project and expressed its willingness for a meeting with the countries concerned.
To journalists and those wishing further information we can meet in a few minutes for a small press conference.
To all those present a deep thanks for your attention.
Thank you and have a good day.

DISCUSSION

HIS EXCELLENCY DR. ABREHA ASEFFA
Minister Plenipotentiary of the Federal Democratic Republic of Ethiopia

Thank you very much for inviting us here to learn about this project, we appreciate it very much. Any technology that helps us fight against hunger and malnutrition is indeed very welcome. That said, I have a couple of questions. One question relates to whether this project has been tested here in Italy and what the results have been. And the other is related to what the last speaker was saying about problems and challenges. I'm not quite clear really how those problems arose, but if there are such challenges here in Italy, what are the prospects of getting this project implemented in, for instance, my own country, Ethiopia, and other countries?
However, the project seems to be attractive, and I think that Africa really needs it. You also say it's for free, but if it's for free what benefits are the inventor and the organizers getting out of it? It is not clear to what extent it is possible to take it over to our countries and start implementing it, provided that there are no hiccups or challenges or problems that have been described by the last presenter.

DANIELE LATTANZI: I'll try to answer your question. We are about to set up a research center here in Rome, which we'll use to study biomass from African countries. Once these studies have been completed we will build the plant units for you. It will be possible for us to bring them for free into Africa thanks to gains from the sale of these plants in industrialized countries. This is the model, and we have presented it to the Embassies of many countries, with whom we have already defined a Memorandum of Understanding.
The next step, therefore, will be to establish a research center where the specific local biomass of any given country can be evaluated in order to set targets for the production of animal feed, flour or whatever is required.

PIER PAOLO DELL'OMO: As regards implementation, during the industrial development phase these plant units were used both in the milling industry and in the feed industry. Clearly, since it was a phase prior to that of patent filing, the units were not presented to the public. The result of all that work is represented by the two units we have seen in the pictures. Slide 16 shows the unit in Chignolo Po, which was the last one. The very day it was presented to the diplomatic representatives was also the day that marketing was to begin officially, with the sale of machinery to investors and entrepreneurs. The block mentioned by Daniele Lattanzi stopped the start up of the first industrial activities with the new plant units.

HIS EXCELLENCY DR. HASSAN TCHONAI ELIMI
Ambassador of the Republic of Chad in Italy

Thank you. I am the Ambassador of Chad in Italy, but resident in Berlin. I am interested in the project and have spoken of it to my Government, who told me immediately to attend the meeting today. Listening to Mr. Daniele Lattanzi's speech, it seems to me that the project has been suspended. What is the reason for these obstacles and where do they come from? I would like further clarifications, even if the first interlocutor asked this same question. Are there perhaps industrial groups that are against this project because it provides the means to solve the problem of food security in Africa? Are they against it because they have to sell their own products? Or are there other issues? I would like an explanation.

DANIELE LATTANZI: We do not know exactly the nature of these impediments, nor what is behind them. To date, what we know is that someone said that the inventor did not exist, and that the plant units, the technology and the results did not exist. We arranged a technical demonstration where the inventor, the project for Africa and above all the scientific results were presented: results that many Italian government institutions have found interesting. Thanks to these results we were well received in various Ministries, up to the Presidency of the Republic and the World Bank. Without results you go nowhere. We have the results and the project, and that is clear.
Despite all this, someone said that the technology did not exist, causing, for the time being, the blockage of the plant unit that was to be used to study the biomass of your countries.
This is the situation. We hope it will change after next week. If we resume possession of this facility, we can immediately schedule a real research project to study African biomass and formulate a plan: this will be done together with Universities and ENEA, who has assisted us till now, and in agreement with Governments and Ministries of the Countries concerned. After this preliminary study we will be ready to build machinery to send directly to Africa.

HIS EXCELLENCY DR. HASSAN TCHONAI ELIMI

Ambassador of the Republic of Chad in Germany

I wish to represent the interest of my country, even if... we will do it. We are ready to start up a pilot project in Chad and immediately discuss matters with Ms Alessandra Costa. Thank you.

HIS EXCELLENCY MR. RÉNOVAT NDAYIRUKIYE

Ambassador of Burundi to Italy

I wish to thank all the speakers who have presented and explained this project, illustrating the important benefits and also the drawbacks that have blocked it. It is a project that has multiple positive effects from the industrial point of view, as well as the food and fuel point of view. There are countries that have oil and others that do not; we, who do not have oil, are very interested because this project is also about the environment and renewable energy. It is truly fundamental and we strongly support it. We Africans are ready, as of today, to invite you to start the project in Africa: our people need it because we have food security problems. It is a humanitarian project and if there are individuals or companies who want to block the project, all the African countries will rise to show that it is out of the question and that these individuals are making a mistake. We are ready to support this Project.

ALESSANDRA COSTA: Thank you. I see that you have fully grasped the potentials of this technology. We are eager to proceed and it is this will and this driving force that is needed for the project. The possibility of becoming operative derives from your determination. You will certainly have all our availability, because this is what we have been waiting for. Thank you.

HIS EXCELLENCY MR. BERSANJI ABUCAR

Somalia

Let us hope that this project can soon start because Africa needs it. According to a report by the World Bank, Africa can achieve self-sufficiency in food production, but it needs machinery, facilities and technology. Somalia is particularly in need of these things because for the past twenty years we have been the victims of war and anarchy that have destroyed even the few things we did have. We sincerely hope, therefore, that this pilot project can be set up in our country.

I wish to ask what for me is a very important question. How can the World Bank contribute to this project? Is this project already part of bilateral relations between the World Bank and the African States? Thank you.

DANIELE LATTANZI: In our meeting with the World Bank we made it clear that we were already in contact with many African countries and we explained what we had in mind: to bring into Africa the plant units, create jobs and ensure that the population could produce what it needs independently. We do not want to do "charity", we want to offer a useful tool that can be of help. The plant unit will belong to the population, it will be for the use of the Government, for the use of the people.
We are committed, as we have explained to Governments and the World Bank, to provide you with the core of this technology, which is the most valuable part. The creation of all that goes around it, that is the industrial hub in the country concerned, could be of interest to and concerns the World Bank.
After having heard us, the World Bank is now waiting for the interested countries to indicate their interest in the technology and the project. This way we could create two forces: ours, which gives you the technology, the plant unit, and that of the World Bank, which will support you in the industrial development necessary for such a plant unit. I hope I have explained it clearly.

HIS EXCELLENCY MR. MOHAMMED LAKHAL

Minister Plenipotentiary of the Kingdom of Morocco

This project is undoubtedly important and deserves the support of our countries. I would like to know if there are plants in operation in Italy, even prototypes, or if the project is still on paper. I am asking this because when I present this project to my Government, to my Country and the Ministry of Scientific Research to assess its feasibility they will ask this question. It will be very difficult to involve the Ministries of Food and Agriculture, if there is no plant unit to see in operation. I would also like to know if there are factories for the construction of these plant units. Thank you.

PIER PAOLO DELL'OMO: Clearly this technology is new and what you saw in the slides are industrial plants in all respects. The moment they will once again be available to us, they will also be at the disposal of all those countries that wish to use them for any type of tests. It will be possible to carry out tests at an industrial level – we're talking tons/hour – on the desired biomass and then observe its performance over time. That is, it'll be possible to carry out tests that could last one week, one month … that'll depend on the type of objective and working arrangements we will have. These are industrial plants to all effects and, the moment we will have them at our disposal again, it'll be possible to carry out any type of tests necessary to a future implementation of a plant unit in Africa.
With regard to the commercial aspect, at the present time there are no units in production. Apart from the BioHyst Company, there are no private entities that have plant units in their possession for the simple reason that marketing was blocked the moment the unit was siezed. In fact, working procedures for private entities would have been the same as those we want to pursue with government institutions. The plant units would have been used by companies to carry out all the tests and evaluations they needed, thus providing the basis for starting a commercial dialogue. As the machinery is no longer available, both the institutional dialogue of the cooperation project and the commercial dialogue have been interrupted. These dialogues will be picked up again when the plant units will be available again, or at any rate when we will organize ourselves in a different manner. I repeat that the industrial development of the technology – the plant units can process extremely significant quantities (up to 5 tons/hour) –

was never carried out in a laboratory, it was always done in industries. More specifically, as we progressively carried out our research the units were used in mills and feed mills, which have already gained the necessary know-how for optimal integration of these systems into their production cycle.
With regard to highly innovative sectors, such as the production of biofuels, it will be possible to work with plant units available to us as well as a facility which will be set up by ENEA. Studies will be carried out together with ENEA and our joint assessments will be made available to the government institutions that want to better understand the entire process.