



Food and Agriculture
Organization of the
United Nations



The International Treaty
ON PLANT GENETIC RESOURCES
FOR FOOD AND AGRICULTURE

**Scenarios for increased
user-based income
for the Benefit-Sharing Fund
through the enhancement of the
Multilateral System of Access
and Benefit-sharing**

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Special Event on *the Enhancement of the Funding Strategy of the International Treaty*. Saturday 18 March 2017,
German Room (C229), FAO Headquarters, Rome, Italy

The Governing Body established the *Ad Hoc* Open-ended Working Group to Enhance the Functioning of the Multilateral System of Access and Benefit-sharing

To develop a range of measures for the Governing Body to consider, in order to:

- Increase **user-based payments** and **contributions** to the Benefit-sharing Fund in a sustainable and predictable long-term manner, and
- Enhance the functioning of the Multilateral System by additional measures, specifically the **extension of the crop coverage**, potentially to **all PGRFA**

The *Ad Hoc* Open-ended Working Group to Enhance the Functioning of the Multilateral System identified reasons for the failure of user-based income

Avoidance of MLS materials

- Alternative free sources of almost all MLS materials
- Avoidance of materials that require payment (SMTA Article 6.7, for patented products)

Avoidance of the SMTA

- High transaction costs
- Legal uncertainties
- No voluntary payments being made (Article 6.8)

Avoidance of the Article 6.11 option

- The imbalance of payment rates between options

The Governing Body requested some technical studies:
These showed problems with the current SMTA

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Avoidance of the Article 6.11 option

- The imbalance of payment rates between options

The studies showed that there were technical reasons for avoidance, and the failure of voluntary payments

	Company 2 cooperates	Company 2 defects
Company 1 cooperates	0,0	-,+
Company 1 defects	+,-	0,0

Games theory explains the problem

- A company that does not pay always has a strategic advantage over a company that pays.
- No company can afford to be the first to pay, because of the risk that others do not pay.
- The risk is high, because profits in plant breeding are usually low, and the amount the SMTA asks is high.
- If we assume a profit rate of 4% to 6%, 0.77% of sales = 19.26% to 12.83% of profits.

Conclusions — Structural problems

These structural problems will remain for **any** purely **accession**-based, individual **sample**-based SMTA

The over-riding **problem of an accession-based system** would need to be addressed, in one way or another.

Expansion of the crop coverage without resolving the problem of **avoidance** would **not** improve the financial health of the Benefit-sharing Fund.

Conclusions — Can Article 6.11 be made attractive, by changing the rates, alone?

There is much **support** for a revised SMTA Article 6.11 to create a Subscription System, but technical analysis shows that **Article 6.11 cannot be made attractive enough** to become the default option, **by differential payment rates alone**, if a single-access option is retained, because it is impossible to balance payment rates between Articles 6.7 and 6.11.

Elements other than rates
that can make Article 6.11 attractive include:

Expansion of the treaty's crop coverage to all PGRFA would create a coherent **overall international system**, in harmony with the CBD.

Legal overlap with the Nagoya Protocol would be resolved.

Reporting and **tracking** obligations could then be reduced to an absolute minimum.

Overcoming “first mover” problems

	Company 2 cooperates	Company 2 defects
Company 1 cooperates	0,0	-,+
Company 1 defects	+, -	0,0

A system where the great majority of commercial users join at the same time

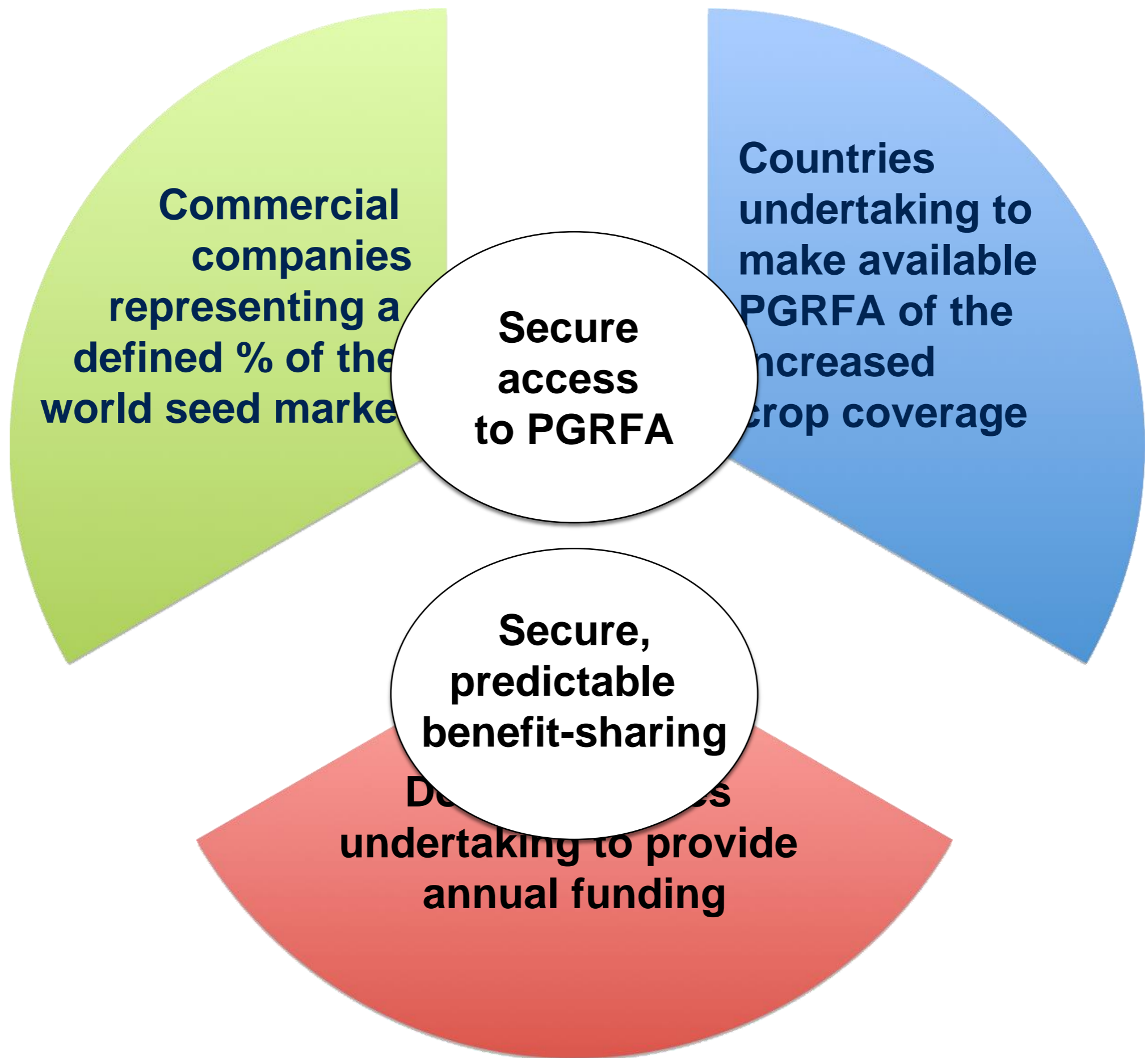
Some countries are not willing to expand the crop coverage before effective benefit-sharing has been shown to work

Commercial users are unwilling to make use of the Multilateral System until the crop coverage has been extended

The launch mechanism

The Launch Mechanism aims to overcome the “first mover problem”, by only initiating the subscription System once three thresholds have been reached:

- 1. Commercial users representing a percentage (value) of the annual sales of the global commercial seed market have undertaken legally binding commitments to join the Subscription System.**
- 2. Countries holding a defined number of valuable plant genetic resources for food and agriculture of the expanded crop coverage have committed themselves to making their plant genetic resources effectively available.**
- 3. Donor countries have undertaken to provide a pre-established annual level of voluntary funding for the Benefit-sharing Fund, in addition to user-based income.**



Commercial companies representing a defined % of the world seed market

Countries undertaking to make available PGRFA of the increased crop coverage

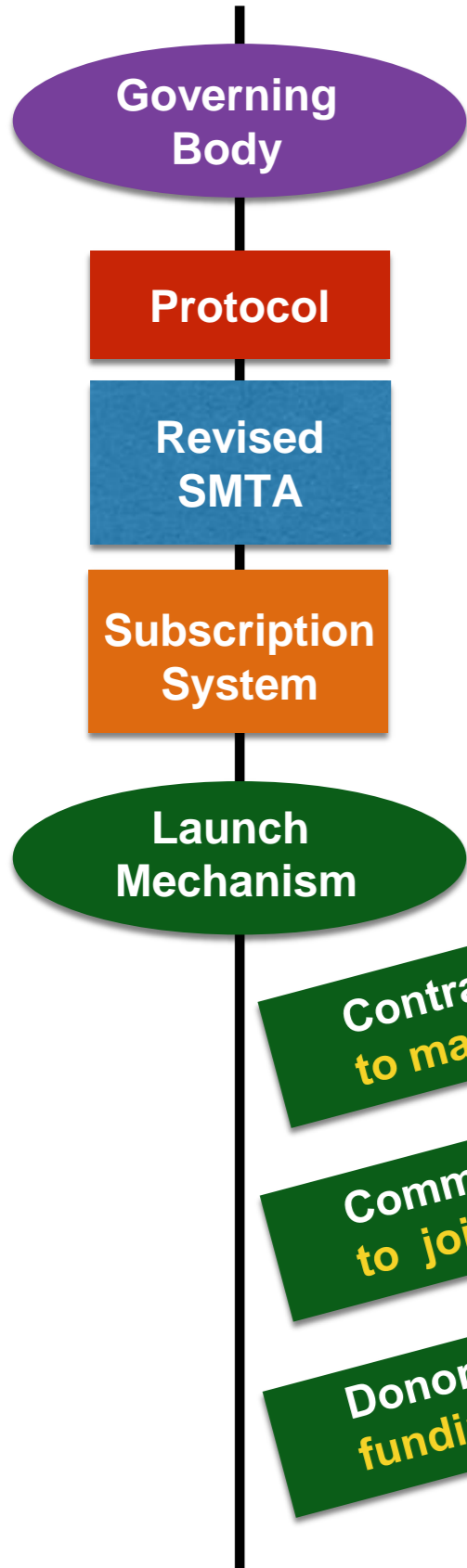
Developing countries undertaking to provide annual funding

Secure access to PGRFA

Secure, predictable benefit-sharing

2017

Deadline: 2019?



Ten years?
Twenty years?

2019?
2034?
2029?
2034?



But commercial Entities are not able to make an open-ended commitment, so a deadline is needed, for all three groups to meet their commitments

This is a **theoretical** analysis!

Non-Annex 1 vegetables account for 10% of value Annex 1 accounts for 67% of value Maize accounts for 47% of value Soy accounts for 27% of value		Payment rate = % of a subscriber's annual seed sales of all crops and potential income (US\$ Millions)			
World seed sales (US\$ Millions)		0.016%	0.064%	0.112%	0.16%
Annex 1 only	32,000	5.12	20.48	35.84	5.20
All crops	47,500	7.60	30.40	53.20	76.00
All crops less maize	25,175	4.03	16.11	28.20	40.28
All crops less maize & soy	14,175	2.27	9.07	15.88	22.68
All crops less maize, soy & Non-Annex 1 vegetables	9,475	1.52	6.06	10.61	15.16



Non-Annex 1 vegetables account for 10% of value	Maize accounts for 47% of value	Soy accounts for 27% of value	Payment rate = % of a subscriber's annual seed sales of all crops and potential income (US\$ Millions)			
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All crops less maize & soy	14,175		2.27			
All crops less maize, soy & Non-Annex 1 vegetables	9,475		1.52	6.06	10.61	15.16

Caveats!

This is a **theoretical** analysis! It assumes:

1. All plant genetic resources are effectively available
2. All seed commercialisers accept the Subscription System
3. There are **no** exemptions from payment
4. All crops/crop groups pay at the same rate



This is a **theoretical** analysis!

If the **Subscription System** is implemented with the **Launch Mechanism**, it is possible to predict annual income by a mathematical formula:

(**Value** of world market = **V**)
X

(**Percentage** of world market to be covered by commercial entities, before the Subscription System is initiated = **P**)
X

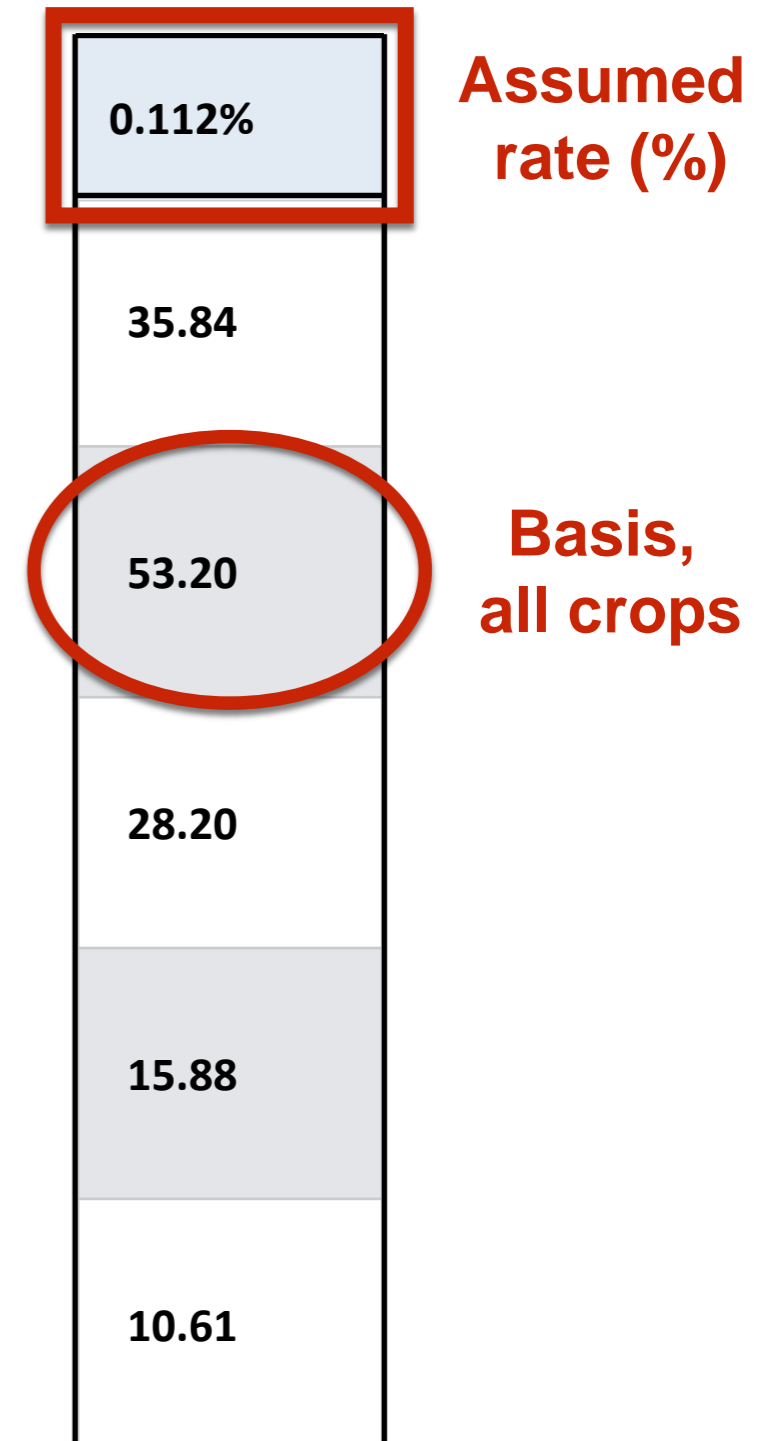
(**Payment rate or rates** = **R**).

Let's try, as a purely theoretical analysis, to try to project from these numbers, assuming that commercial entities representing 50% of the world market join the Subscription System.

$$V * P * R$$

$$\text{US\$ 47.5 billion} * 50\% * 0.112\% = \text{US\$ 26,200,000}$$

The **Launch Mechanism** also assumes that donors will also commit funds: how much? The same as Industry's annual payments?



If the System is implemented with the **Launch Mechanism**, it is possible to calculate income by a mathematical formula:

Caveats!

(v) **This is a theoretical analysis! It assumes:**

1. That there is **only** a **Subscription System**, without an individual access option
2. **All** crops/crop groups pay at the **same rate**, which may not be the final decision
3. There are **no** exemptions from payment
4. **Small producers** are to **unlikely** obliged to pay

NB: The negotiations have not yet agreed payment rates!

US\$ 47.5 bn

The **Launch Mechanism** also assumes... will also commit funds: how much? The same... Industry's annual payments?

Assumed (%)

ps