Chart 1: RAN Production Overview

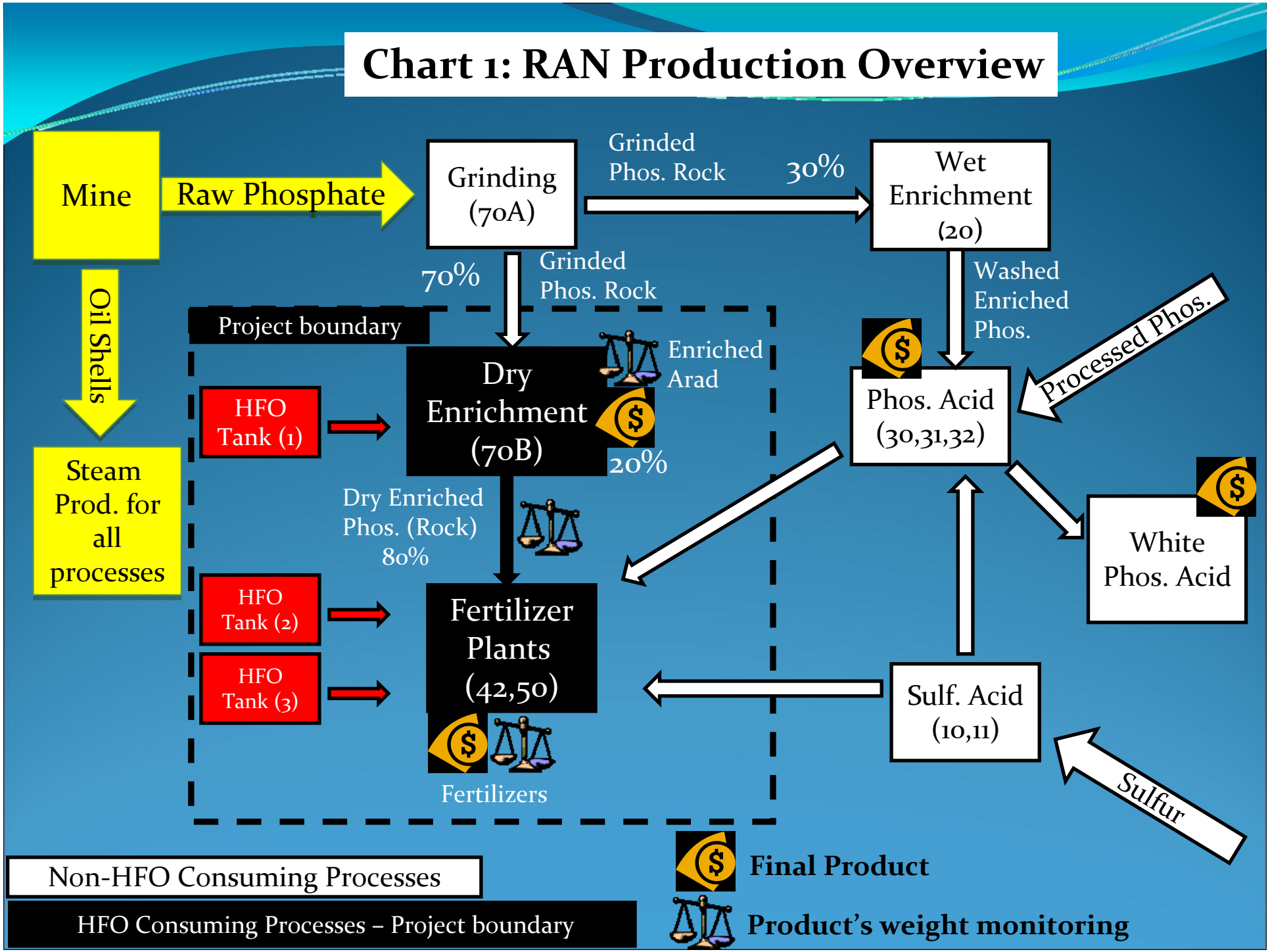


Chart 2: Dry Enrichment Plant(70B)

HFO Tank (1)

Drier

Grinded Phos. Rock

Screening

20%

Dry Enriched Phos.(Rock)

Storage

Commercial name:
"Enriched Arad"

Weighting Devices:

1. Belt conveyor Scale
2. Gate Scale
3. Ship Surveyor measurements
4. Certified Surveyor

80%

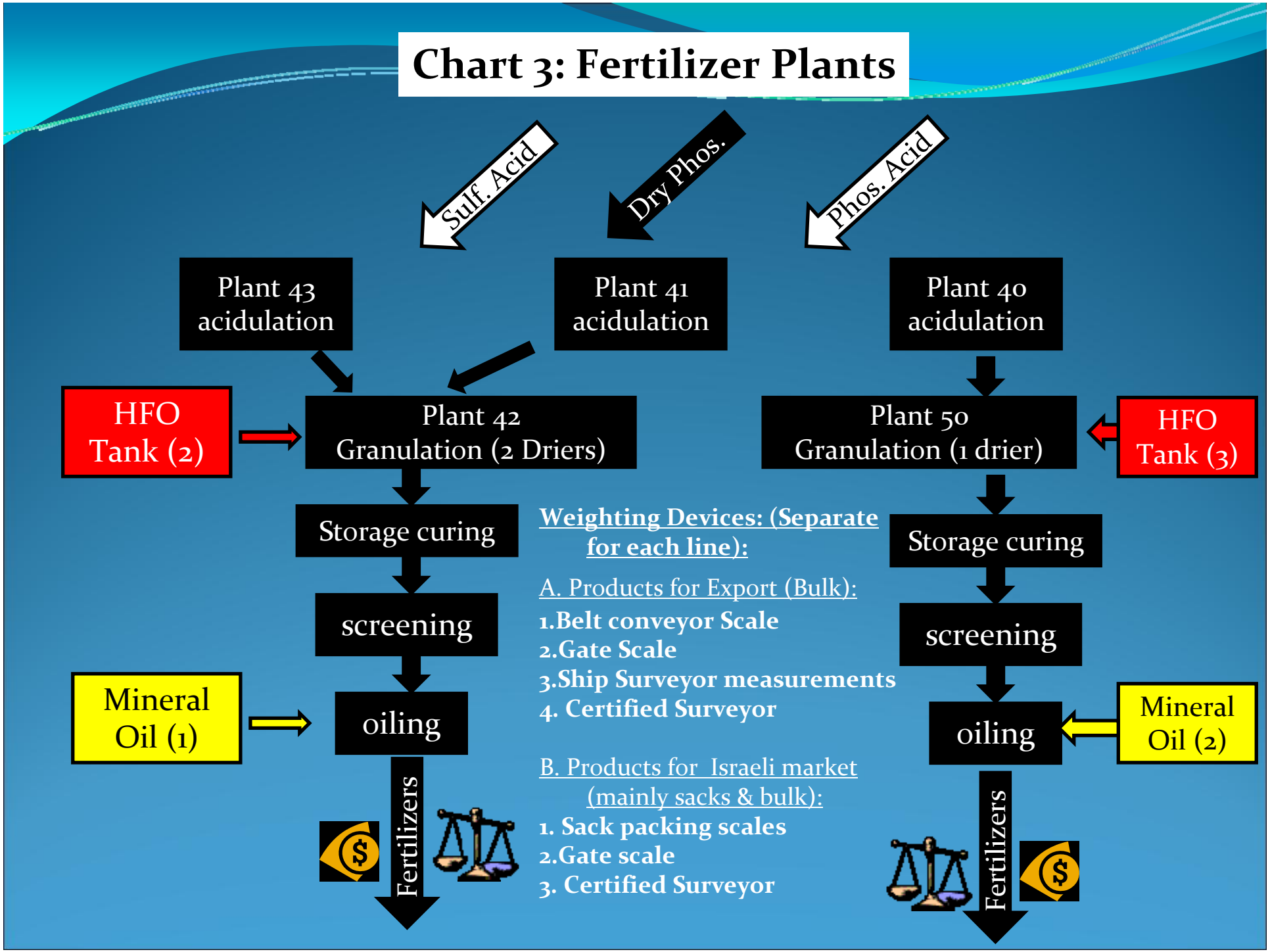
Dry Enriched Phos. (Rock)

Weighting Devices:

1. Belt conveyor Scale
2. Certified Surveyor

Fertilizer Plants

Chart 3: Fertilizer Plants



DETAILED DESCRIPTION OF PROCESS FLOW CHARTS

Chart 1 – RAN Production Overview

i. Raw Phosphate is brought to the plant from the mines and serves as the basic raw material for the production process.
ii. In the initial stage, the material is ground in Plant 70A, producing grinded Phosphate rock. Approximately 30% of the grinded Phosphate rock goes to the wet enrichment plant (Plant 20) while the remainder goes to the dry enrichment plant (Plant 70B) and thus enters the project boundary.
iii. In the wet enrichment plant, the grinded Phosphate rock is converted to Washed Enriched Phosphate, which is then used to produce Phosphoric Acid in Plants 30, 31, and 32. This is a chemical process which does not consume any HFO, as is the production of Sulfuric Acid in Plants 10 and 11. Therefore these processes are not included in the project boundary.
iv. In addition the factory produces White Phosphoric Acid from the phosphoric in a chemical process, which is then sold in liquid form. This process too does not consume HFO and is therefore excluded from the project boundary as well.
v. All of the processes in the factory require steam, which is generated on-site using oil shells mined from the phosphate mine.

Chart 2 – Dry Enrichment Plant (70B)

vi. In Plant 70B the material goes through a drier that currently operates on HFO, producing Dry Enriched Phosphate (Rock). Approximately 20% of this Dry Enriched Phosphate (Rock) is sold as a finished product under the commercial name Enriched Arad.
vii. The remaining 80% of the Dry Enriched Phosphate (Rock) serves as the raw material used in the fertilizers plant.

Chart 3-Fertilizer Plants

i. Dry Enriched Phosphate (Rock) enters the Fertilizer Plants along with Sulfuric and Phosphoric Acids produced in the chemical process shown in Chart 1- RAN Production Overview.
ii. In the first stage, the raw materials undergo a process of acidulation in Plants 40, 41, and 43. The raw materials acidulated in Plants 41 and 43 proceed to Plant 42 and the raw materials acidulate in Plant 40 proceed to Plant 50 where they undergo a process of granulation.

24 Sa'adia Gaon St., 9th Floor, P.O. Box 52016, Tel Aviv 61180 ISRAEL
(t) +972-3-561-6224 ▪ (f) +972-3-561-6225 ▪ (m) +972-54-487-7370
(e) info@ecotraders-global.com ▪ (w): http://www.ecotraders-global.com

iii. In Plant 50 the material proceeds through one drier, while in Plant 42 the material proceeds through two driers, one after the other. The fertilizers that emerge from the granulation process are stored for a few days, then screened and oiled using a mineral oil before being sold as a finished product.

24 Sa'adia Gaon St., 9th Floor, P.O. Box 52016, Tel Aviv 61180 ISRAEL
(t) +972-3-561-6224 ▪ (f) +972-3-561-6225 ▪ (m) +972-54-487-7370
(e) info@ecotraders-global.com ▪ (w): http://www.ecotraders-global.com