## Industrial use

The 2000s have seen a number of important changes in the global commodity landscape. Many of them have originated outside of food and agriculture, but many have had a direct and sometimes massive impact on food and agricultural markets. Rising energy prices, in particular, have made a growing number of agricultural products competitive inputs in non-food markets, and have done so in growing volumes (Figure 20). Arguably, the most important example is the biofuels market, where rising energy prices in conjunction with policies to promote the use of agricultural feed stocks for energy uses have diverted a growing amount of (food) commodities into the fuel market. Maize for bioethanol in the US and rapeseed oil for biodiesel in the EU are the most popular and most important examples, but by far not the only ones. With rising energy prices, many countries have embarked on similar programmes, albeit to a smaller extent.

Figure 20: Vegetable oils: Other uses of FAOSTAT v industrial use of PSD

Much less prominent, but equally important, is a similar trend for industrial use outside the energy sector. Just like the biofuels market, this market affects both starch-rich and oil-rich food commodities. For example, a rapidly rising share of coconut oil and palm kernel oil are now diverted into the production of cosmetics, while many other vegetable oils have become key ingredients for the production of paints, soaps, and other detergents. Similarly, starch-based products have become increasingly important as construction materials and are being used for other, non-food purposes. The non-food use of vegetable oils is particularly important for the food balance sheets. These uses can easily be underestimated in quantity terms and, given their high caloric content (9kcals/g), the impact on food availability and the DES is particularly high.

Unfortunately, the great variety of different uses (energy, paints, detergents, cosmetics, etc.) makes it difficult to gather actual information. What is more, there is no straightforward way of imputing information. Information on industrial uses is included in FAO questionnaires; however, very few countries provide information. The only area where information is readily available is the use of agricultural feedstuffs for biofuels production. This information is collected by the FAO for its medium term outlook work and is taken into account in the new version of the FBS. In the interim, information available from the USDA PS&D database provides the necessary information on industrial use of vegetable oils. The amount of calories implicit in these uses is considerably above the estimates of the FBS system, and will therefore affect food availability and the DES.

#### Imputation and data sources

The existing FBS system does not separately identify industrial use. It is instead part of “other uses”, together with tourist consumption and other residual forms of use. The difference between industrial use and other uses can also be gleaned from figure xx, simply by comparing the industrial use of vegetable oils from USDA (PS&D)[[1]](#footnote-2) and other uses of vegetable oils, as available from the FBS. The latter is nearly twice as high as the former and even when tourist consumption is deducted, other uses in the FBS system remain much above the sum of industrial use and tourist consumption. This implies that a considerable amount of “residual use” is included in the FBS variable “other uses”[[2]](#footnote-3).

This also means that the previous approach included a number of different elements, not all of which have been identified clearly. The fact that other uses are higher in many countries than the sum of the two means that the variable other uses has also been used to absorb other, not always clearly identified, residual uses. This means that there are now three separate elements to be distinguished, namely industrial use, tourist consumption and residual other use.

Both tourist consumption and industrial use enter the new approach with their expected means and a measurement error. The approach for measuring tourist consumption is laid out in section xx of this document. Estimates for industrial use come from FAO questionnaires, the OECD/FAO database used for their medium-term outlook, the USDA PSD database and other sources as available and suitable[[3]](#footnote-4). This leaves only the residual other uses to be defined.

Several imputation methods have been tried out, alas none rendered satisfactory results. The main reason for the lack of good results is that there is no straightforward model that explains the amount of use of agricultural products for industrial purposes. Even energy prices only had limited explanatory power. The conclusion is that estimates for industrial use must come from data collection processes. At the international level, data are collected by US attachés and are made available through the PS&D database, at least for industrial use of vegetable oils. Data are also collected in the context of the OECD/FAO medium-term outlook, for both vegetable oils and biofuels. FBS compilers at country level are encouraged to collect the information on industrial use from by running specific surveys. Auxiliary information could be had by compiling information from biofuel mandates and other policy stipulations that govern the use of agricultural feedstocks for industrial uses.

1. https://apps.fas.usda.gov/psdonline/ [↑](#footnote-ref-2)
2. For cereals such a comparison is not possible as the USDA PSD database does not provide separate information for industrial use. [↑](#footnote-ref-3)
3. Overall, the rapid growth of industrial use suggests more efforts be placed on data collection at country level, both through statistical offices and/or direct industry contacts. [↑](#footnote-ref-4)