

Reductions Strategies for Institution N Footprints: A Case Study at the University of Virginia

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Introduction

1 An N footprint is a measure of the Nr released to the environment as a result of an entity's resource consumption. The University of Virginia (UVA) developed the institutional N footprint goal and is the first university to set an N footprint reduction goal.

2 UVA aims to reduce the institution's N footprint by 25% by the baseline year of 2010 was 404 MT N to 303 MT N by 2025.

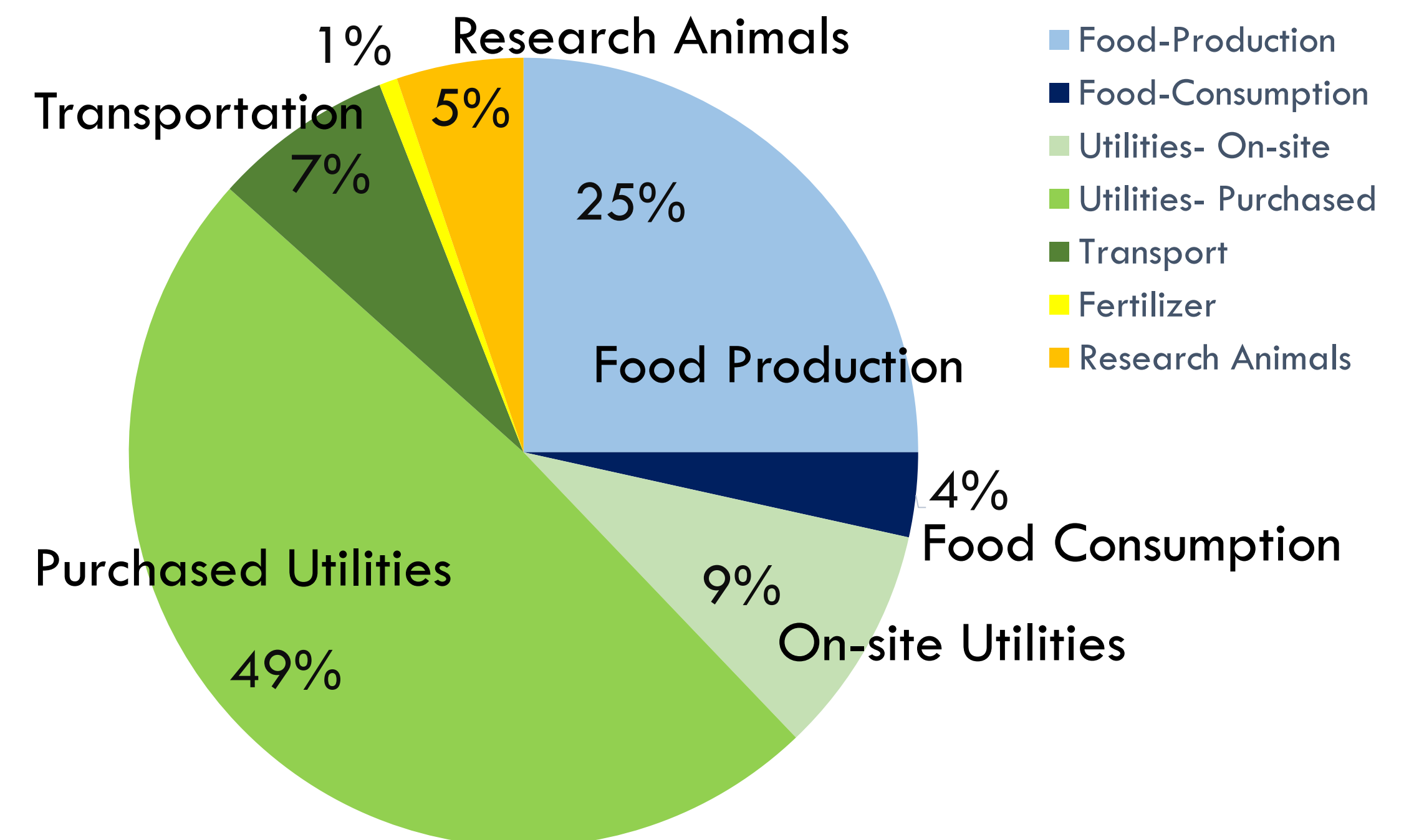


Figure 1 depicts the breakdown of UVA's 2010 baseline N footprint by sector with purchased utilities and food production contributing the largest portion to the total 404 MT N total

Methods

1 Calculation of UVA's N footprint was completed in 2010 to be used as a baseline year.

2 UVA calculated its N footprint again in 2014 to update on the university's reduction progress. Update calculations will continue until the goal year of 2025.

3 Food purchase orders from representative facilities at UVA and utilities data from UVA's facilities management department were used to calculate both footprints.

Results

1 UVA's N footprint did not change significantly between 2010 and 2014 (404 MT N and 405 MT N, respectively).

2 Scenarios which would reduce UVA's N footprint were created and determined in both the food and energy sectors.

3 Energy scenarios include UVA meeting its 25% carbon footprint reduction goal.

4 Food scenarios include implementing a Meatless Monday's program, replacing 25% of the beef with chicken and composting all food waste.

5 Implementation of all suggested scenarios reduces UVA's N footprint significantly but not enough to reach the 25% reduction goal.

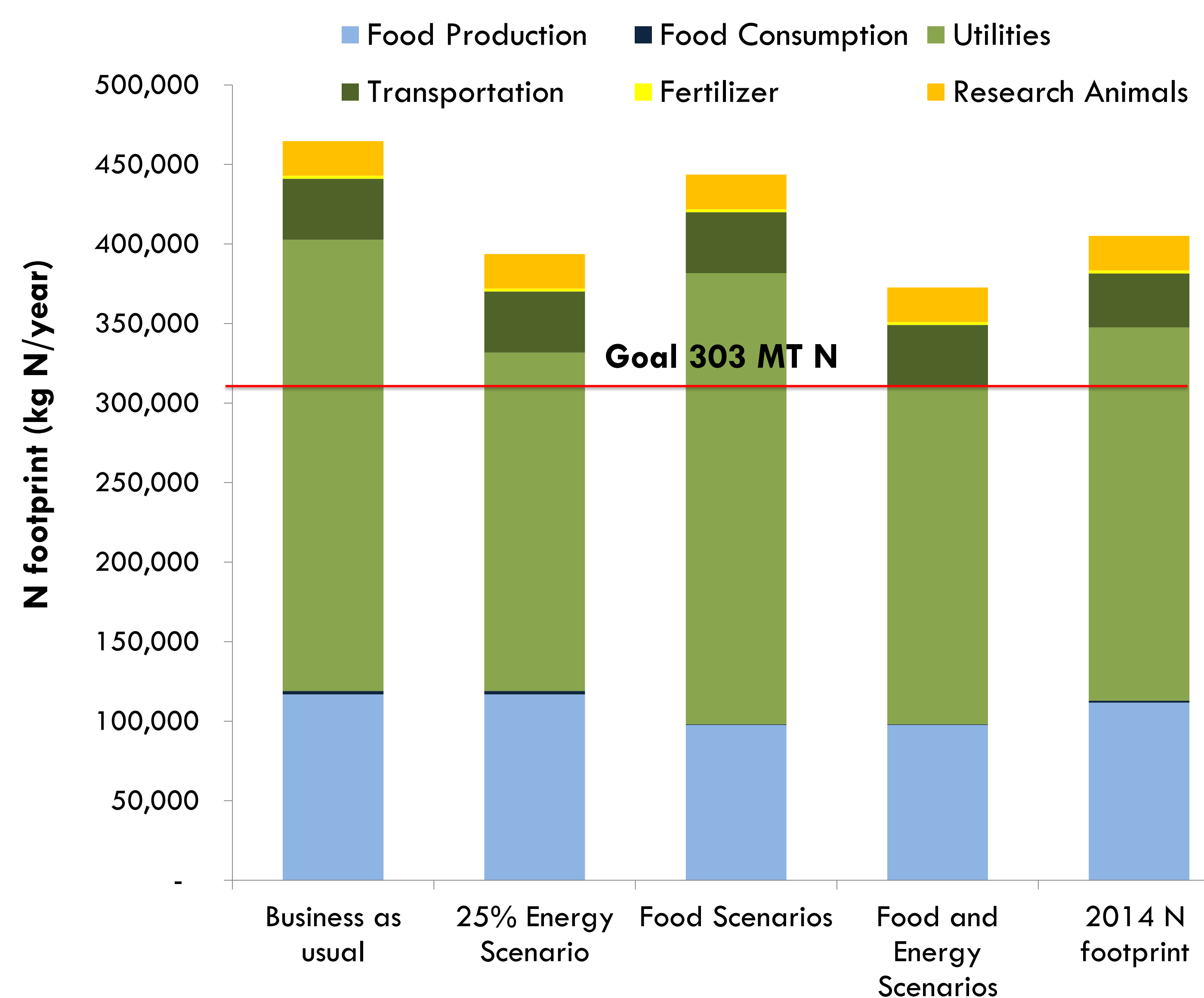
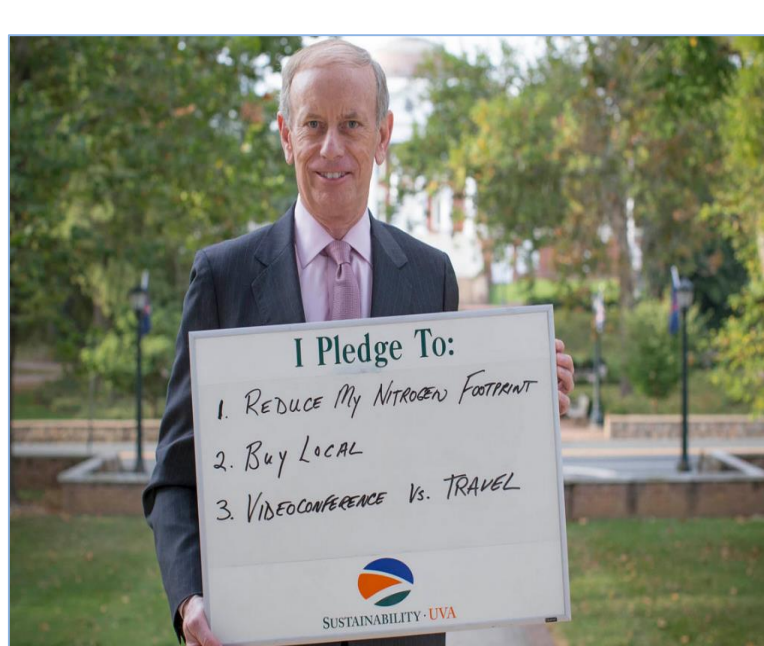


Figure two: Reductions in the metric tons of nitrogen with scenarios implemented. Projections represent different levels of scenarios implemented along with the 25% reduction goal.

Conclusions

Administration



Students



Facilities



Dining



- More expansive reduction strategies such as purchasing N offsets and installing solar panels are being explored in order to reach the 25% N footprint reduction goal.
- Reaching this goal will take a comprehensive, concerted effort from across the university in dining, facilities management, students and faculty efforts.
- Student led sustainability rating food labeling projects and UVA dining's vegetarian theme nights are a few examples of the effort the university community working towards reaching UVA's goal.