$$
\begin{array}{ccc}
S^{2n} & \xrightarrow{\tilde{f}} & S^{2n} \\
\downarrow{p} & & \downarrow{p \circ \tilde{f}} \\
\mathbf{R}\mathrm{P}^{2n} & \xrightarrow{f} & \mathbf{R}\mathrm{P}^{2n}.
\end{array}
$$